

**Synopsis of
Nearctic Ichneumoninae
Stenopneusticae with
Particular Reference to the
Northeastern Region
(Hymenoptera)**

Part VI

**Synopsis of the
Ichneumonini (Genus *Plagiotrypes*),
Acanthojoppini, Listrodromini and Platylabini**

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**Synopsis of Nearctic Ichneumoninae Stenopneusticae
with Particular Reference to the
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**Synopsis of the Ichneumonini (Genus *Plagiotypes*),
Acanthojoppini, *Listrodromini* and *Platylabini***

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38. Genus *Plagiotypes* Ashmead

Figs. 17, 19-21

Plagiotypes Ashmead, 1900, U.S. Nat. Mus. Proc., 20:23.

Type-species.—*Ichneumon concinnus* Say. Orig. design.

Neopyga Heinrich, 1930, Mitt. Zool. Mus. Berlin, 15:545.

Type-species.—*Neopyga armata* Heinrich. Design. by Townes, 1944.

Distinguished by several striking structural characters: the sickle-shaped, unidentate mandibles (Figs. 19, 20), the long apophyses of the propodeum (Fig. 17) and the strange structure of the apex of female abdomen as described below (Fig. 21). The shape of mandibles and the long apophyses suggest a relationship to the *Acanthojoppini*, but the clypeus does not show the typical structure of this tribe. The genus was therefore placed here at the end of the tribe *Ichneumonini*.

Flagellum.—Of females subfiliform, slender, ventrally flattened in the apical part only, not widened, scarcely attenuated toward apex.

Head.—Temple profile but slightly narrowed, with curved outline; cheek profile considerably narrowed, with straight outline; malar space fairly short, scarcely as long as width of base of mandible; clypeal foveae comparatively large and deep; mandibles sickle-shaped, unidentate, apically pointed (Figs. 19, 20); apical margin of clypeus straight.

Thorax.—Mesoscutum convex, about as long as medially wide; notauli basally distinct; sternauli on the mesosternum deeply impressed; scutellum convex, somewhat raised above postscutellum, laterally strongly carinate; horizontal part of propodeum shiny and nearly smooth; carination complete, very sharp and clear; area supromedia receiving costulae in the middle, strongly narrowed toward base and apex, hexagonal or almost pentagonal; apophyses narrow and very long (Fig. 17).

Abdomen.—Of females amblypygous, the hypopygium and penultimate sternite long; tergites 5-7 apically membranous and emarginate (Fig. 21), thus permitting the ovipositor to be directed straight upward or even forward toward

¹Parts I and II of this paper were published as Supplements 15 and 18 accompanying Volume XCII, Parts III and IV as Supplements 21 and 23 accompanying Volume XCIII and Part V as Supplement 26 accompanying Volume 94 (volume numbers changed to arabic numerals January 1962) of *The Canadian Entomologist*. The pagination of Part VI is continuous with that of Part V. Unless otherwise specified, footnote, figure and table references apply only to the part in which they are found.

the scutellum; median field of postpetiolus indicated but not clearly defined, smooth, with a few punctures; gastrocoeli shallow and rather small, thyridia fairly distinct.

1. *Plagiotrypes concinnus* (Say)

Figs. 17, 19-21

Icbneumon concinnus Say, 1829, Contrib. Maclur. Lyc. Phila., 1:68, ♀.

Types

Holotype.—♀, lost.

Distribution

According to H. Townes 1951: "Atlantic to 100° West in Upper Austral and Lower Austral Zones." One specimen from Ithaca, New York (C.N.C.), represents probably the most northern record so far.

Female

Black; short, median lines on mesoscutum and the scutella white; pleura and propodeum extensively white marked; basal bands on tergites 2-5 white; femora, tibiae and tarsi pale ferruginous; length 11 mm.

Flagellum.—Subfiliform, slender, scarcely attenuated toward apex, ventrally flattened on apical part only, with 31 segments, the first about 4 times as long as wide, about the fifteenth square. Black, with white annulus on segments 7-15.

Head.—White; the following are black: supraantennal cavities, middle of frons, ocellar region, occipital region, malar space, a longitudinal mark on each side of median field of face.

Thorax.—Black; the following are white: collare, pronotal ridge except base, pronotal base broadly, tegulae, subalarum, two short, median stripes on mesoscutum, postscutellum, areae dentiparae with apophyses, areae posteroexternae, areae metapleurales, areae spiraculiferae in front of spiracles, large apico-median mark on mesosternum, mesopleura (except anterior and upper border and mark below speculum).

Legs.—Pale rufous; coxae and trochanters (not trochantelli) white; trochanters III dorsally and coxae III laterally and dorsally extensively black.

Abdomen.—Tergites 2-5 finely and rather densely punctured. Black; petiolus, base of second tergite and regular, apical bands on tergites 2-5 white.

III. Tribe Acanthojoppini

Morphological characters

Flagellum.—Female flagellum always bristleshaped, long and slender, sometimes widened beyond middle; male flagellum with distinct, transverse ridges, topped by short bristles.

Head.—Temple profile and cheek profile not, or moderately, narrowed, the former with curved outline; carina occipitalis rather strongly curved; frons sometimes concave; clypeus and mandibles presenting the fundamental characters of the genus: apical margin of the former blade-like, thinned so that the borderline between clypeus and labrum is in some cases difficult to recognize (particularly in the median part); middle of apex of clypeus often projecting either in a slight curve or in a lip; base of clypeus tends to be convex or to form a bump, mandibles sickle-shaped, curved, with pointed upper tooth, the lower tooth set more or less far back from the tip of the upper and out of its level toward the inner side of mandible, sometimes entirely wanting.

Thorax.—Mesoscutum longer than wide; scutellum always distinctly, sometimes considerably raised above postscutellum, usually with lateral carinae which in some luxuriant² oriental genera reach considerable height or tend to form long, projecting apophyses on both sides of scutellar apex (*Acanthojoppa* Cameron, *Druscia* Cameron); carination of propodeum usually complete, in some Ethiopian genera obsolete; areae dentiparae usually ending in distinctly to extremely prolonged apophyses.

Legs.—Usually long and slender.

Abdomen.—Of females lanceolate, usually oxygygous, often with ovipositor projecting considerably; gastrocoeli in majority of genera small and shallow or even subobsolete, sometimes transverse, with narrowed interval and rather deep; thyridia obsolete to distinct.

Color

The majority of oriental species ferruginous, and of neotropical species black with rich yellow pattern and yellow-banded apices of tergites; holarctic species black with tricolored abdomen, usually with white anal marks.

Sexual dimorphism

Chromatically inconsiderable; the oriental genus *Acanthojoppa* shows, however, an unusual morphologic dimorphism in the development of the lateral carinae and apical projections of the scutellum and also of the apophyses of the propodeum, all these appendices being, as a rule, considerably reduced in the males.

Distribution

This is clearly a tropical tribe, represented by rather numerous species in the Oriental, Ethiopian and Neotropical regions. Only one genus with a few smaller species has a holarctic distribution (*Pseudoplatylabus*). In America a few species outside of this genus have invaded the United States. The tribe is not recorded so far from Canada where, however, the presence of the holarctic genus *Pseudoplatylabus* can be expected.

Biology

As much as nothing is known about the biology of this group. The single record concerning the rearing of an *Acanthojoppa* species was given by Mell (1931, *Zeitschr. fuer angew. Entom.*, 18:373). The host has not been identified with certainty, but probably was a species of *Rhopalocera* (Hesperiidae). The palaearctic *Pseudoplatylabus violentus* was recorded by Berthoumieu (1894, *Ann. Soc. Ent. France*, 93:516) as having been reared from a Noctuid.

39. Genus *Narthecura* Townes

Figs. 1, 3, 5, 7, 8

Narthecura Townes, 1946, *Bol. Ent. Venezolana*, 5:50.

Type-species.—*Hoplismenus munitus* Cresson. Monobasic.

Among the others of the tribe, this genus is particularly distinguished by the unusually long, cryptine-like projecting ovipositor of the female, the obsolescence of the gastrocoeli and thyridia and the strongly convex, but laterally not carinate, scutellum.

²Luxuriant.—This term is applied here to groups displaying an exuberant growth of appendices of different kinds (as, for example, in the Ichneumoninae, long apophyses of the propodeum, frontal horns, apical spines or highly elevated lateral laminae of the scutellum). The term implies also that such appendices or protuberances represent a "luxury", in other words, that they do not seem to serve the primary needs and necessities of life.

Flagellum.—Of female bristleshaped, widened beyond middle.

Head.—The structure of the clypeus fits well enough into the tribe, but has certain peculiar features: the sides which converge toward mandibles are slightly raised, the base between foveae is slightly convex, and the apex medially depressed, thinned in the way typical for the tribe, and very slightly projecting (Fig. 1). Mandibles as in *Acanthojoppa*, sickle-shaped, with the short lower tooth removed far backward from the tip of the upper and out of its horizontal almost into its vertical level (Figs. 3, 5).

Thorax.—Scutellum considerably raised above postscutellum, laterally not distinctly carinated, sloping down to the postscutellum in a gradual curve; carination of propodeum strong; horizontal part of propodeum much shorter than declivity; apophyses long in both sexes.

Legs.—Long and slender.

Abdomen.—Of female lanceolate, with a very long, projecting ovipositor (Fig. 8); median field of postpetiolus not defined; gastrocoeli subobsolete, thyridia obsolete; the disc of second tergite on each side shallowly concave (as in the oriental genus *Losgna* Cameron); puncturation of most of surface dense and strong.

Biology.—Unknown.

1. *Narthecura invadens*, new species

Figs. 1, 3, 5, 7, 8

Types

Holotype.—♀, Arizona, near Alpine, 30.V.1947, H. & M. Townes. C.H.T.

Allotype.—♂, same locality and data. C.H.T.

Paratypes.—2 ♂♂ from type locality. C.H.T.; 1 ♀, 4 ♂♂, New Mexico, Jemez Springs, 6400 feet. Cornell University, Ithaca.

Distribution

Arizona, New Mexico.

Female

Black, with extremely rich yellow pattern; among other parts, the following are yellow: long, median stripes on mesoscutum, prescutellar carinae, sides of scutellum, all basal areae of horizontal part of propodeum, its declivity (except area posteromedia), mesosternum, pleura extensively, apical bands on all tergites; flagellum with annulus; femora, tibiae and tarsi pale rufous; length (including ovipositor) 18 mm.

Flagellum.—Long, bristleshaped, slender, ventrally flattened and widened beyond middle, considerably attenuated and pointed at apex, with 49 segments, the first about 3.5 times as long as wide, the eleventh square, the widest 2.5 times as wide as long. Black, with white annulus on segments 9-19.

Head.—Temple profile moderately, cheek profile distinctly, narrowed, the former with curved, the latter with almost straight, outline; malar space as long as width of base of mandible; orbital rim on face, frons and vertex somewhat raised above level of rim of eyes; carina occipitalis raised; frons concave; median field of face slightly raised, with lateral longitudinal impressions and apical transverse suture (Fig 1). Yellow; the following are black: supraantennal cavities and frons broadly, ocellar region and occipital region, hind part of temples and cheeks along carina occipitalis.

Thorax.—Mesoscutum convex, sparsely and coarsely punctured; scutellum convex, considerably raised, apically sloping in gradual curve, laterally not

distinctly carinate; carination of propodeum sharp and complete, except carinae coxales and lateral carinae of area basalis which are obsolete; area superomedia receiving costulae immediately behind anterior bordering carina, narrowed toward apex, almost trapezoid; area posteromedia narrow, parallel-sided; apophyses long; declivity of propodeum strongly transversely rugose (Fig. 7). Black; the following are yellow: collare, pronotal ridge, pronotal base, subalarum, tegulae, two long, longitudinal stripes on mesoscutum (reaching from base to apex), prescutellar carinae, apex and sides of scutellum, postscutellum, areae superoexternae, area basalis, areae posteroexternae, apophyses, carinal triangle, metapleura predominantly, apical half of prosternum, mesosternum (except apex and area of sternauli), outer margin of prepectus, about lower half of mesopleura, anterior part of mesopleura and area of speculum.

Legs.—Long and slender. Pale rufous; coxae and trochanters I and II predominantly white, sometimes also trochanters III predominantly; trochantelli III infuscated; coxae III with black, dorsal mark, ventrally partially rufous tinted.

Abdomen.—Ovipositor about as long as petiolus; petiolus slender; median field of postpetiolus not defined, with a few scattered punctures, lateral fields strongly punctured; gastrocoeli subobsolete, thyridia obsolete; tergites 2-5 very densely and strongly punctured, the sixth and seventh with only scattered coarse punctures; disc of second tergite on each side slightly concave. Black; all tergites with regular, laterally somewhat widened, yellow apical bands, base and sides of petiolus yellow.

Male

Agrees almost exactly in color with female, except the slight difference mentioned below; length 15 mm.

Flagellum.—With 45-48 segments and with bacilliform tyloides on segments 12 or 13 to 28 or 29. Black, with white annulus on segments 15 or 16 to 23 or 24; scape ventrally yellow.

Color.—Sterna uniformly, coxae III ventrally entirely, yellow.

40. Genus *Lobaegis* Townes

Figs. 2, 4, 6, 9

Lobaegis Townes, 1946, Bol. Ent. Venezolana, 5:54.

Type-species.—*Ichneumon maritus* Cresson.

A unique character of the mandibles distinguishes this genus from all others known to me: there are two subapical teeth, one normal on horizontal level with the larger upper tooth, and a second, more rudimental one on vertical level with the normal subapical, to be seen only on opened mandibles (Figs. 4, 6).

Flagellum.—Bristleshaped, but slightly widened beyond middle.

Head.—Structure of temples and frons as in *Narthecura* Townes; clypeus depressed, with a distinct, thinned, median, apical lip covering the labrum; basal transverse suture of clypeus strongly developed, the adjacent part of clypeus somewhat raised (Fig. 2); cheeks short, broad in lateral view.

Thorax.—Scutellum moderately raised above postscutellum, gradually sloping backward, laterally carinate; horizontal part of propodeum medially as long as declivity; carination distinct but not very sharply prominent; area superomedia receiving costulae slightly beyond base, considerably longer than wide, almost parallel-sided; apophyses moderately long (Fig. 9).

Legs.—Fairly long and slender.

Abdomen.—Of female lanceolate, slender; ovipositor moderately projecting; gastrocoeli fairly small, but distinctly impressed, with distinct thyridia.

Lobaegis septentrionalis, new species

Figs. 2, 4, 6, 9

Types

Holotype.—♀, South Carolina, McClellanville, 19.V.1944, H. & G. Townes. C.H.T.

Allotype.—♂, same locality and data. C.H.T.

Paratypes.—5 ♀♀, 3 ♂♂ from type locality; 1 ♀, South Carolina, Greenville; 1 ♀, 1 ♂, West Virginia, Bolivar; 1 ♂, New York, Poughkeepsie. C.H.T.

Distribution

South Carolina, West Virginia, New York.

Female

Black with extremely rich yellow pattern; among other parts the following are yellow or whitish: scutellum, usually marks on prescutellar carinae, mesosternum and mesopleura entirely, propodeum (except areae supereoexternae, areae dentiparae and area posteromedia), apical bands on all tergites; flagellum with annulus; femora and tibiae pale rufous; tarsi I and II apically infuscated, tarsi III whitish; length 11-12 mm.

Flagellum.—Long, bristleshaped, slender, ventrally flattened beyond middle and slightly widened, moderately attenuated and pointed at apex, with 38-40 segments, the first about 2.5 times as long as wide, the tenth square, the widest about 2 times as wide as long. Black, with white annulus on segments 8 or 9 to 17 or 18; scape ventrally usually brownish.

Head.—Temples and frons nearly as in *Nartheccura invadens*, new species; malar space short, one third as long as width of base of mandible; structure of clypeus and mandibles: see description of genus (also Fig. 2). White; the following are black: antennal cavities and frons broadly, ocellar and occipital regions.

Thorax.—Mesoscutum slightly convex, sparsely punctured, shiny; notauli at extreme base indicated by a triangular small deepening with small cross-ribs; pronotal ridges somewhat widened; scutellum moderately raised, not truncate apically, gradually sloping, laterally fairly weakly carinate; propodeum: see diagnosis of genus (also Fig. 9). Black; the following are white: collare, pronotal base, subalarum, tegulae, usually marks on prescutellar carinae, scutellum, postscutellum, mesosternum, prosternum, mesopleura (except usually a small mark below subalarum), mesosternum, the entire propodeum (except areae supereoexternae, dentiparae and posteromedia); pleura and mesoscutum slightly rufous tinted.

Legs.—Pale rufous including coxae and trochanters, the latter both close to whitish, apical segments of tarsi I and II infuscated, tarsi III whitish.

Abdomen.—Lanceolate, narrow; ovipositor moderately projecting; median field of postpetiolus not defined, smooth, usually with a few punctures; lateral fields sparsely punctured; gastrocoeli approximately triangular, fairly small, but distinctly impressed, with distinct thyridia; tergites 2 and 3 finely and densely punctured, subopaque, the fourth more sparsely and more finely punctured, shiny. Black: all tergites with laterally widened, regular, yellow apical bands; petiolus laterally and ventrally whitish.

Male

Agrees exactly in color with the female; length 12-13 mm.

Flagellum.—With 39-42 segments and with small, narrow, bacilliform tyloides on segments 7-14 or 15. Black, with white annulus on segments 14 or 15 to 25 or 26; scape ventrally yellow.

41. Genus *Pseudoplatylabus* Smits van Burgst

Pseudoplatylabus Smits van Burgst, 1920, Ent. Ber., 5:282.

Type-species.—(*Pseudoplatylabus caudatus* Smits van Burgst) = *Ichneumon violentus* Gravenhorst. Monobasic.

This is the single genus considered to belong in the tribe Acanthojoppini which occurs in the Temperate Zones of the Old and New Worlds.

Flagellum.—Of females bristle-shaped, long and slender, not widened beyond middle; of males with distinct, transverse, bristle-topped carinae.

Head.—Temple profile slightly narrowed, with curved outline, cheek profile moderately narrowed, with slightly curved outline; malar space longer than width of base of mandible; mandibles as in *Acanthojoppa*, the second tooth set back from the tip of the upper and out of its horizontal level; clypeus apically thinned and slightly depressed, basally very slightly convex, laterally a little raised.

Thorax.—Mesoscutum convex, longer than wide; notauli basally distinct; scutellum considerably raised above postscutellum, laterally carinate; carination of propodeum distinct and complete; area superomedia longer than wide, narrowed toward base, receiving the costulae before middle, with hexagonal outline; no apophyses.

Legs.—Fairly slender.

Abdomen.—Of females narrow, elongate; ovipositor distinctly projecting; postpetiolus almost smooth; gastrocoeli transverse, with narrowed interval, distinctly impressed, with distinct thyridia.

Color.—Ferruginous or black and ferruginous with more or less restricted white pattern; last tergite with white anal mark; tarsi III of males sometimes partially white. Chromatic sexual dimorphism not considerable.

Biology.—Berthoumieu (1894) has reported that *violentus* Gravenhorst was reared by H. du Buysson from a Noctuid. No other host has been reported since as far as I know.

1. *Pseudoplatylabus violentus* (Gravenhorst)

Ichneumon violentus Gravenhorst, 1829, Ichn. Eur., I, p. 613, ♂.

Hoplismenus infaustus Wesmael, 1844, Nouv. Mém. Acad. Sci. Brux., 18:110, ♀ ♂.

Pseudoplatylabus caudatus Smits van Burgst, 1931, Konowia, 10:30.

Types

Holotypes.—*Ichneumon violentus* Gravenhorst, ♂, lost during World War II. *Hoplismenus infaustus* Wesmael, ♀ (by present designation), ?Bruxelles, Musée d'Histoire Naturelle de Belgique. *Pseudoplatylabus caudatus* Smits van Burgst, Laren, Netherlands, Entomological Institute of the "Landboum Hogeschool" at Wageningen, Netherlands.

Host

According to Berthoumieu, 1894: "a Noctuid" (H. du Buysson).

Distribution

Middle Europe. New records: Michigan, Ann Arbor, Oakland and Berrien Co. (C.H.T.). Holarctic.

American specimens seem to differ very little from European populations; at least the available American material (3 ♀♀, 1 ♂) is too restricted to allow to establish subspecific differences.

Female

Head and thorax black, without white pattern; flagellum black with ferruginous base and white annulus; abdomen red, tergites 5-7 (and usually apex of the fourth tergite) black, the sixth and seventh with white anal marks; legs red, all coxae and the trochanters I and II, apex of femora III and of tibiae III, the base narrowly of tibiae III and sometimes tarsi III, black; coxae III or II and III sometimes red; length 8-11 mm.

Flagellum.—Bristleshaped, long and slender, ventrally flattened but not at all widened beyond middle, attenuated and pointed at apex, with 31-32 segments, the first more than 4 times as long as wide, all longer than wide. Black, with ferruginous base and white annulus on segments 9 or 10-11; in one American specimen only the eleventh segment white marked; scape ferruginous, dorsally partially infuscated.

Head.—Apex of clypeus straight; frons and face strongly and densely punctured; temples finely rugose. Uniformly black.

Thorax.—Mesoscutum and scutellum densely punctured, subopaque; apical slope of scutellum and the postscutellum strongly, longitudinally striate. Uniformly black.

Legs.—Coxae III ventrally densely and finely punctured. Red; the following are black: all coxae, trochanters I and II, apex of femora III and of tibiae III, base narrowly of tibiae III; coxae III or II and III sometimes partially or entirely red; tarsi III apically infuscated, sometimes entirely black.

Abdomen.—Second and third tergites finely and moderately densely punctured, shiny. Red; apex of fourth tergite usually, predominant color of tergites 5-7 always, black; tergites 6 and 7 with white anal mark.

Male

On the average more melanistic than female; femora III black; femora I and II often partially to predominantly black; only tergite 7 with white anal mark; fourth tergite always black, usually also the third apically; flagellum black including base and scape, annulus sometimes obsolete; tarsi III black, with narrow, white annulus; length 10-11 mm.

Flagellum.—With 32 segments and with rather indistinct, small tyloides on segments 7-11. Black, including base and scape, usually segments 13-14 with white dorsal marks.

2. *Pseudoplatylabus townesi*, new species

Types

Holotype.—♀, Rhode Island, Westerly. C.H.T.

Allotype.—♂, Rhode Island, Westerly. C.H.T.

Paratypes.—1 ♀, 1 ♂, New York, Farmingdale; 1 ♂ Maryland, Takoma Park. C.H.T. 1 ♀, 1 ♂, New York, Farmingdale. C.G.H.

Distribution

Rhode Island, New York, Maryland (C.H.T.).

Preamble

This species may represent the nearctic vicariant of the second European species of the genus, *uniguttatus* Gravenhorst, as it differs from the type-species, as does the latter species, by the rounded apex of clypeus, and by the presence of a white pattern on head and thorax. It is, however, differentiated from *uniguttatus* chromatically strongly enough to be considered as a distinct species.

Female

Apical border of clypeus not straight cut as in violentus (Gravenhorst), but broadly curved; ferruginous with white pattern; ocellar region black; scutellum, apex of pronotal ridge and other areas white; seventh tergite with anal mark, the sixth with white apical border; flagellum blackish, with white annulus; length 8-9 mm.

Flagellum.—Bristleshaped, long and slender, ventrally flattened, but not at all widened beyond middle, attenuated and pointed at apex, with 33-35 segments, the first more than 4 times as long as wide, all longer than wide. Black, with white annulus on segments 8-12; scape predominantly ferruginous.

Head.—Apex of clypeus broadly curved; frons and face more finely punctured than in *violentus*. Pale ferruginous, ocellar region black; the following are white: facial and frontal orbits broadly up to vertex, outer orbits broadly from below temple region down to base of mandible.

Thorax.—Mesoscutum more finely and less densely punctured than in *violentus*, subopaque; scutellum sparsely punctured, shiny; apical slope of scutellum and postscutellum longitudinally striate, as in *violentus*. Pale ferruginous; the following are white: collare, pronotal base, apex of pronotal ridge, subalarum, scutellum, postscutellum, indistinct mark on lower posterior part of mesopleura.

Legs.—Pale ferruginous; coxae I and II extensively whitish, apex of tibiae III and the tarsi III but slightly infuscated.

Abdomen.—Slender, parallel-sided. Pale ferruginous; sixth tergite with narrowly white apical margin, the seventh with large white anal mark.

Male

Chromatically almost identical with the female, segments 2-4 of tarsi III, however, white, metatarsus III usually blackish; frons below ocellar region, base of prosternum and scutellar sutures usually more or less blackish infuscated; flagellum with white annulus on segments 11-14 or to 16; length 9-10 mm.

IV. Tribe Listrodromini

Morphological characters

Most characteristic for this tribe is the structure of the head and mandibles; the latter are short and wide, with two strong, subequal apical teeth separated by a wide gap (Fig. 12); mandibles of similar shape are found in other tribes too, as, for example, in the genera *Coelichneumon* Thomson (Protichneumonini) and in *Barichneumonites* Heinrich (Ichneumonini). But only the combination of the mentioned mandible character with a peculiar structure of face, clypeus and malar space, which form all together a continuous plain, not interrupted by any sutures or convexities (Fig. 10), determines the Listrodromini (two other known genera, not included in this tribe, show a convergent head and mandible structure: *Ischnojoppa* Cameron and *Trogomorpha* Ashmead).

Flagellum.—Of females bristleshaped, in the genera of the Temperate Zones short and moderately attenuated; in certain larger forms of the Oriental and Ethiopian tropics very long and extremely attenuated; of males in the Holarctic genera without, in the mentioned tropical forms with very distinct, transverse, bristle-topped ridges; tyloides usually obsolete, but distinct in some genera, as, for example, in *Anisobas*.

Head.—Temple and cheek profiles never strongly narrowed, always with curved outlines; malar space comparatively long; face, clypeus and malar space without indication of separating sutures or elevations, forming together one continuous, slightly convex plain; mandibles short, wide, with subequal, strong apical teeth separated by a wide gap.

Thorax.—Mesoscutum about as wide as long, slightly convex; notauli obsolete; scutellum short, strongly elevated above postscutellum, laterally carinate, dorsally convex to (in some tropical forms) pyramidal; propodeum more or less abbreviated, in Holarctic genera with complete carination and distinctly separated horizontal and declivous part, in the mentioned tropical genera usually gradually sloping down toward coxae III.

Legs.—Moderately stout.

Abdomen.—Of females usually semiamblypygous, sometimes amblypygous, usually short-oval, never long and slender; gastrocoeli more or less deeply impressed, thyridia in Holarctic genera subobsolete, in tropical genera usually distinct.

Color

The tribe displays chromatically a special tendency for the development of white anal marks which are present in both sexes in the majority of species of the Temperate Zones as well as of the tropics. White markings on anterior tergites occur also, particularly in all species of the genus *Neotypus*. In the same genus and also in many Ethiopian species the thorax of females shows an erythristic tendency which is often absent, or restricted, in males. Except for such occasional differences in the color of the thorax, the chromatic dimorphism is inconsiderable.

Distribution

Four genera of the tribe, which represent the Listrodromini *sensu stricto*, are found in the Holarctic region; only two of them, *Neotypus* Foerster and *Anisobas* Wesmæl have been recorded so far in North America. While *Anisobas* seems to be restricted to the temperate Zones of the New and Old Worlds, *Neotypus* is distributed, through several species, also over the whole African continent, including Madagascar. *Listrodromus* Wesmæl has not been found in America, but is widely distributed in the Old World, including the Indo-Malayan tropics. *Lycaeniphilos* Heinrich so far is known only from Europe.

Several tropical genera inhabiting the Oriental and Ethiopian life regions are, as mentioned above, different from the Listrodromini *sensu stricto* in flagellar and propodeal structures. They should be separated as a subtribe, and I accordingly name it Compsophorina after *Compsophorus*, an Ethiopian genus of the group, named by Saussure, 1890. No typical Compsophorina have been found in the Neotropics as yet.

Biology

All Holarctic species of the Listrodromini *sensu stricto* are parasites of Lycaenidae. Females do not hibernate. Nothing is known about the biology of the tropical Compsophorina.

42. Genus *Neotypus* Foerster

Figs. 10, 15, 16

Neotypus Foerster, 1868, Naturh. Ver. Rheinlande Verh., 25:194.*Type-species*.—*Ichneumon lapidator* Fabricius. Designated by Ashmead, 1900.*Cillimus* Tosquinet, 1896, Soc. Ent. de Belg. Mém., 5:122.*Type-species*.—*Cillimus adornatus* Tosquinet. Designated by Ashmead, 1900.

The genus is related closely to *Listrodromus* Wesmael, differing from it as follows: (1) apical border of clypeus without small, projecting median tooth, either medially not at all, or scarcely, projecting; (2) abdomen of females not short-oval, apically blunted, but gradually tapering and attenuated toward apex (Fig. 15), the hypopygium, however, prolonged and covering the slit of the ovipositor (amblypygous apex); (3) spiracles of propodeum larger and longer.

Chromatically distinguished by the black, basic color of abdomen, with white apico-lateral marks on the anterior and white anal marks on the apical segments, combined in the females (rarely in males) with partially or entirely ferruginous color of the thorax.

Flagellum.—Of females short, with less than 30 segments, bristleshaped, not, or scarcely, flattened beyond middle and not widened, slightly attenuated toward apex; of males without transverse ridges on segments and without tyloides.

Head.—Wide; apical border of clypeus almost straight or with a minute, median protuberance; malar space long (Fig. 10).

Thorax.—Scutellum scarcely longer than basally wide, with gradually curved apical slope, dorsally strongly convex, laterally sharply carinate; horizontal part of propodeum medially scarcely half as long as area posteromedia; area superomedia usually distinctly wider than long, receiving costulae usually at, or sometimes beyond, middle (Fig. 16).

Legs.—Rather short; usually all claws, sometimes only claws I and II of females pectinate.

Wings.—Areolet in the forewing regularly pentagonal, the intercubiti scarcely converging toward radial vein; nervulus interstitial, often even antefurcal.

Abdomen.—Of females gradually tapering and attenuated toward apex, the ovipositor projecting somewhat; apex of female abdomen nevertheless amblypygous, as the prolonged hypopygium covers the slit of ovipositor; median field of postpetiolus not clearly defined, somewhat convex, shiny, with a few scattered punctures; gastrocoeli fairly large and moderately deep; thyridia indistinct.

Color.—Abdomen black, with white apico-lateral marks on anterior tergites, and with white anal marks or bands on apical tergites; thorax of females partially or entirely ferruginous, of males usually black; otherwise little chromatic sexual dimorphism.

Distribution.—Several species in Africa, including Madagascar; four species in Europe, one from the latter, perhaps introduced, in North America.

Biology.—Parasites of Lycaenidae.

1. *Neotypus nobilitator* (Gravenhorst)

Figs. 10, 15, 16

Ichneumon nobilitator Gravenhorst, 1807, Vergl. Uebers. Zool. Syst., p. 235, ♀.*Neotypus americanus* Cushman, 1926, U.S. Nat. Mus. Proc., 67 (23):1, ♂.*Types*

Holotypes.—*Ichneumon nobilitator* Gravenhorst, ♀, lost during World War

II. *Neotypus americanus* Cushman, ♂, Delaware, Hocking Co. U.S.N.M.

Distribution

According to H. Townes 1951: "Atlantic to Continental Divide in Transition and Upper Austral Zones; Europe. Presumably introduced".

Female

(Description based on material from Alberta.)

Black; mesoscutum, scutella, mesopleura and pronotum partially, ferruginous; tergites 1 and 2 with apico-lateral white marks, tergites 4-7 with white, apico-median bands; frontal orbits and stripe on temple orbits white; length 8 mm.

Flagellum.—Bristleshaped, short, slender, ventrally indistinctly flattened beyond middle, not at all widened, slightly attenuated toward apex, with 25-26 segments, the first fully 3 times as long as wide, the fourteenth square. Black, with white annulus on segments 6 or 7 to 9 or 10.

Head.—Malar space more than 1.5 times as long as width of base of mandible. Black; the following are white: frontal orbits from level of antennal sockets up to level of lower ocellus, gradually narrowed to the upper end, narrow stripe on temple orbits; mandibles predominantly ferruginous.

Thorax.—Black, without white pattern; the following are ferruginous: mesoscutum, scutellum, postscutellum, mesopleura (except lower part), upper part of propleura.

Legs.—Moderately stout; all claws pectinate. Black; anterior side of tibiae I and of apex of femora I ivoryish; tibiae II dark brownish, paler on anterior side.

Abdomen.—Postpetiolus smooth, with very few punctures near apex; gastrocoeli wider than interval, thyridia fairly distinct; second tergite distinctly and moderately densely, the third more finely and sparsely, punctured. Black; first and second tergites with white, apico-lateral marks, tergites 4-7 with white, apico-median bands.

Male

Black, including entire thorax; white frontal orbits prolonged and widened downward over the lateral fields of face, the white band narrowed again at the lower end and pointed toward base of clypeus; sometimes also the clypeus laterally white; sometimes the white apical band on the fourth tergite wanting (specimen from North Carolina); flagellum without annulus; otherwise like female; length 7-8 mm.

Flagellum.—With 24-26 segments. Black, ventrally brownish-black.

Legs.—Claws not pectinate. Femora I dorsally dark brown.

43. Genus *Anisobas* Wesmael

Figs. 11-14

Anisobas Wesmael, 1844, Acad. Sci. Brux. Nouv. Mém., 18:111, 145.

Type-species.—(*Ichneumon cingulatorius* Wesmael) = *Ichneumon cingulatorius* Gravenhorst. Designated by Ashmead 1900.

The median interruption of the transverse furrow between collare and anterior declivity of pronotum by a distinctly elevated bump (Fig. 11) distinguishes this genus at once from all others of the subfamily occurring in the Nearctic Zone.

Flagellum.—Of females short, with less or little more than 30 segments, bristle-shaped, not or scarcely flattened beyond middle, and not widened, moderately attenuated toward apex; of males without transverse ridges on segments, but in contrast to *Neotypus*, with a row of distinct, oval tyloides.

Head.—Wide; apical border of clypeus approximately straight; malar space shorter than in *Neotypus*, in females usually about as long as width of base of mandible and very slightly depressed.

Thorax.—Scutellum apically usually more abruptly sloping than in *Neotypus*, but laterally less extensively carinate (Fig. 13); horizontal part of propodeum medially always considerably shorter than area posteromedia, usually only half as long; area superomedia usually much wider than long (Fig. 14).

Legs.—Rather short; claws in both sexes never pectinate.

Abdomen.—Of females broadly oval, rather short, apically blunt, semiamblypygous; ovipositor not projecting; median field of postpetiolus not clearly defined, somewhat convex, shiny, usually with a few scattered punctures, often with a slight, median deepening; gastrocoeli moderately large, distinctly impressed, with fairly indistinct thyridia.

Color.—Abdomen usually tricolored: red with black apical tergites and white anal marks or bands; rarely predominant color entirely black or entirely red; head and thorax always black, usually with restricted white pattern; chromatical sexual dimorphism inconsiderable.

Biology.—All authentic records of rearing refer to Lycaenidae as hosts; presumably all species of the genus do the same.

Remarks

H. Townes has synonymized (Syn. Cat. 1951, p. (282) *Lycaeniphilos* Heinrich with *Anisobas* Wesmael. I separated the mentioned (palaeartic) genus in 1933 from *Anisobas* on account of a striking difference in the structure of the clypeus and entire head. While in the type of *Anisobas* the apical border of the female clypeus is normal and straight, it is strongly emarginate in the type of *Lycaeniphilos*, with a projecting tooth in the middle. I still consider a difference of such kind and degree as generic, particularly in this case, as the differentiation in clypeal structure between *Anisobas* and *Lycaeniphilos* is even more advanced than in the analogous case of the two genera *Chasmas* and *Ichneumon*.

Key to the Species of *Anisobas* Wesmael of America North of Mexico

Females

1. Predominant color of abdomen black. (Legs predominantly black; facial and frontal orbits white; tergites 4-7 with white apical bands; length 11 mm.) _____ 1. *separatus* (Davis)
- Predominant color of abdomen red. _____ 2
2. Facial and frontal orbits not white marked; scutellum black, rarely with a white apical mark; flagellum without or with a very narrow white annulus. (Abdomen red, or last 2 to 3 segments predominantly black and apically white; length 10 mm.) _____ 2. *bicolor* Cushman
- Facial and frontal orbits white; scutellum extensively white; flagellum with a broad white annulus. _____ 3
3. Femora I and II extensively black. (All tergites, or at least tergites 1-5, of a predominantly red color; only the last tergite white marked; length 7.6 mm.) _____ 3. *coloradensis* (Cresson)
- All femora red. (Tergites 1-3, or 1-4 only, of a predominantly red color, tergites 4-7, or 5-7, with white apical bands.) _____ 4
4. Flagellum with 24 or 25 segments, apically but slightly attenuated, the last five flagellar segments not longer than wide; white stripe on temple orbits short; fourth tergite without, or with an indistinct, white apical band. (Length 8 mm.) _____ 5. *luzernensis* Bradley

Flagellum with 30 segments, apically considerably attenuated, last five flagellar segments longer than wide; white stripe on temple orbits extending over the upper $\frac{3}{4}$ of length of posterior eye-rim; fourth tergite black; with a distinct, white apical band. (Length 10 mm.) 4. *texensis* (Ashmead)

Males

1. Predominant color of abdomen presumably black. 1. *separatus* (Davis)
(♂ still unknown) 2
- Predominant color of abdomen red. 2
2. Femora I and II extensively black; fourth tergite red. 3
- Femora I and II rufous; fourth tergite black. 4
3. Pronotal ridge with a white apical mark only; scutellum with a white apical mark.
(Length 10 mm.) 2. *bicolor* Cushman
- Almost entire length of pronotal ridge white; scutellum more extensively white.
(Length 8 mm.) 3. *coloradensis* (Cresson)
4. Clypeus laterally white; tergite 4 with a narrow, white apico-median line, tergites 5-7
with regular white apical bands. (Length 8 mm.) 5. *luzernensis* Bradley
and ?4. *texensis* (Ashmead)

1. *Anisobas separatus* (Davis)

Eurylabus separatus Davis, 1898, Amer. Ent. Soc. Trans., 24:353. "♂" = ♀.

Types

Holotype.—♀, Illinois, Algonquin. A.N.S.

Distribution

According to H. Townes 1951: "Illinois, Texas, Arizona".

Female

(Description based on type specimen.)

Scutellum laterally not carinate at base; basic color of head, thorax, abdomen and legs black; scutellum and apical bands on tergites 4-7 white; length 11 mm.

Flagellum.—Black, with white annulus on segments 7 (apex) to 13.

Head.—Black; the following are white: lateral marks on clypeus, facial orbits fairly broadly, frontal orbits more narrowly (scarcely up to level of lower ocellus), outer orbits (including temple region, excluding about lower third of length of eye).

Thorax.—Scutellum laterally not carinate at base. Black; the following are white: subalarum, tegulae, scutellum.

Legs.—Black; tibiae and tarsi I ivorish on anterior side.

Abdomen.—Black; second and third tergites with narrow, pale apical margin, tergites 4-7 with white, regular, apical bands.

2. *Anisobas bicolor* Cushman

Anisobas bicolor Cushman, 1926, U.S. Nat. Mus. Proc., 67 (23):2, ♀ ♂.

Types

Holotype.—♀, Idaho. U.S.N.M.

Host

Strymon adenostomatis Hy. Edw. (Lycaenidae).

Distribution

According to H. Townes 1951: "Idaho, Nevada, Utah, Arizona, California".
New record: British Columbia (C.N.C.).

Preamble

Distinct species; slightly bigger than *coloradensis* (Cresson); chromatically distinguished mainly by the restriction of the white pattern on head and thorax, particularly by the inner orbits never being white; scutellum entirely black, rarely with white apical mark; flagellar annulus obsolete or restricted to two, rarely three, flagellar segments.

Female

Head and thorax almost uniformly black, including inner orbits and usually entire scutellum; temple orbits sometimes with inconspicuous white line, scutellum rarely apically white marked; flagellum without or with very restricted white annulus; legs red, except black coxae, trochanters and trochantelli; tarsi II and III and apex of tibiae III infuscated; abdomen predominantly red; length 10 mm.

Flagellum.—With 28 segments, bristleshaped, considerably attenuated at apex, the first segment fully 3 times as long as wide. Uniformly black or (specimens from British Columbia) with white dorsal mark on segments 9 and 10, sometimes also 11.

Head.—Uniformly black, often with an inconspicuous, narrow, white line on temple orbits.

Thorax.—Uniformly black, rarely scutellum with white apical mark.

Legs.—Rather stout; femora III and tibiae III apically in lateral view comparatively wider than in *coloradensis*; dorsal outline of tibiae III in lateral view slightly curved. Red; the following are black: all coxae, trochanters and trochantelli, apex of tibiae III and tarsi II and III.

Abdomen.—Color in type specimen uniformly red; in 3 specimens from British Columbia predominant color of tergites 6 and 7 or 5 to 7 black, the last 3 tergites with white apico-median bands.

Male

(Specimens from British Columbia.)

Facial orbits and lower part of frontal orbits white; white dot on subalarum, on apex of pronotal ridge and on apex of scutellum; tibiae III more extensively black than in female; otherwise like female; length 10 mm.

Remarks

The three females from British Columbia included here under this species differ from the type by the distinctly black predominant color of the last two or three tergites and by the distinctly white apical bands on these tergites. They may perhaps represent a different subspecies.

3. *Anisobas coloradensis* (Cresson)

Amblyteles coloradensis Cresson, 1877, Amer. Ent. Soc. Trans., 6: 193, ♀.

Types

Holotype.—♀, Colorado. A.N.S.

Neallotype.—♂, South Dakota, Black Hills, 24.VIII.1948, H. E. Evans. C.N.C. No. 7387.

Distribution

According to H. Townes 1951: "Colorado, Arizona". New record: South Dakota.

Preamble

Distinguished by the predominant red color of entire or nearly entire abdomen, with white anal markings restricted to the last tergites, and by the extensively black femora I and II; white pattern on head and thorax as in *luzernensis* Bradley.

Female

(Description based on type specimen.)

Head and thorax black with some white pattern; abdomen red, seventh tergite with white mark; scutellum predominantly white; length 7.6 mm.

Flagellum.—With 28 segments (type), bristleshaped, moderately attenuated at apex, the first segment fully 2.5 times as long as wide, about the fourteenth square. Black, with white annulus on segments 7 (apex) to 11.

Head.—Black; the following are white: facial orbits, frontal orbits up to level of lower ocellus, orbits of temples (extending downward over the upper third of eye-length).

Thorax.—Scutellum steeply ascending from basal furrow to apex, apically steeply slanting, laterally carinate at the very base only; area superomedia transverse, apically angularly emarginate. Black; the following are white: pronotal ridge, subalarum, scutellum (except base and apex).

Legs.—Femora, tibiae and tarsi red; femora I and II extensively, tibiae III apically and the tarsi III, black; all coxae, trochanters and trochantelli black; tibiae I and apex of femora I ivory on anterior side.

Abdomen.—Postpetiolus smooth and shiny, with few, scattered punctures at apex and sides, and with median deepening. Red; last tergite with white anal mark.

Male

A series of males from the same date and locality (see neallotype) agrees with the female (type), having the femora I and II partially black and the basic color of abdomen entirely, or almost entirely, red, in both characters differing from the male of *luzernensis*. It seems highly probable that these males are to be associated with *coloradensis* female.

Head and thorax black; the following are white: facial orbits, frontal orbits, frontal orbits, stripe on temple orbits, pronotal ridge, subalarum, scutellum (except base and apex); basic color of tergites 1-7 or 1-5, red, tergites 5-7, or 6 and 7, with white anal bands; femora I and II extensively blackish, femora III red; tibiae and tarsi partially infuscated; length 8 mm.

Flagellum.—With 26-28 segments and with comparatively large, oval tyloides on segments 6-17 or 18.

Legs.—Coxae, trochanters and trochantelli black; femora I and II black, brownish toward apex; femora III red with blackish tip; all tarsi and tibiae brownish infuscated; tibiae I and II ivory on anterior side; tibiae III more or less extensively red toward base.

Abdomen.—Red; petiolus usually more or less extensively black; predominant color of tergites 5-7 between partially black and entirely red; tergites 6 and 7, sometimes 5-7, with white apical bands.

4. *Anisobas texensis* (Ashmead)

Cryptus texensis Ashmead, 1890, U.S. Nat. Mus. Proc., 12:410, "♂" = ♀.

Types

Holotype.—♀, Texas. U.S.N.M.

Host

?*Incisalia nippon* Hbn. (see remarks).

Distribution

Texas.

Preamble

Extremely similar to *luzernensis* Bradley; differing by the larger size, the somewhat longer and apically more attenuated flagellum, the black, apically distinctly white-banded fourth tergite, and the more extensive white stripe on temple orbits.

Female

Head and thorax black with some white pattern; tergites 1-3 red, 4-7 black, 4-7 with white apical bands; scutellum predominantly white; all femora red, femora III with black tip; length 10 mm.

Flagellum.—With 30 segments (type), bristleshaped, considerably attenuated at apex, last 5 segments distinctly longer than wide. Black, segments 6-12 with white annulus.

Head.—Black; the following are white: facial orbits, frontal orbits up to level of lower ocellus, temple orbits (extending downward over the upper $\frac{1}{4}$ of hind eye-rim).

Thorax.—Scutellum and area superomedia as in *coloradensis* (Cresson). Black; the following are white: pronotal ridge, pronotal base, scutellum except base and apex.

Legs.—Femora, tibiae and tarsi red; tip of femora III, tibiae III except reddish part beyond base and the tarsi III black; all coxae, trochanters and trochantelli black.

Abdomen.—Postpetiolus as in *coloradensis*. Red; basic color of tergites 4-7 black, the latter apically white banded.

Remarks

This form may or may not be subspecifically associated with *luzernensis* from northeastern North America. Probably it is not. There are, however, two specimens (♀ ♀) from Manitoba, one of them bred from *Incisalia nippon* Hbn., which both agree in the attenuated apex of flagellum and its greater length (28 and 31 segments) with *texensis*, but differs slightly in color. These may very well represent a northern subspecies of the latter.

5. *Anisobas luzernensis* Bradley

Platylabus luzernensis Bradley, 1903, Canad. Ent., 35:282, ♀.

Anisobas nearcticus Cushman, 1926, U.S. Nat. Mus. Proc., 67:2, ♀.

Anisobas texensis Townes, 1951, Syn. Cat., p. 282, partim.

Anisobas texensis nearcticus Heinrich, 1959, Ent. News, 70:215, ♀.

Types

Holotype.—*Platylabus luzernensis* Bradley, ♀, Pennsylvania. Cornell University, Ithaca, New York; *Anisobas nearcticus* Cushman, ♀, Maine, S.W. Harbor. U.S.N.M.

Neallotype.—♂, Ontario, "ex Eucleidae". C.N.C. No. 7388.

Distribution

Maine, Ontario, Quebec, Pennsylvania.

Preamble

There are a few slight differences between females of *luzernensis* Bradley and *A. texensis* (Ashmead); these may indicate a subspecific differentiation only, as I assumed at first; but within a genus of great structural monotony, as it is *Anisobas*, they may, in spite of their smallness, mean specific distinction as well. At present, convincing indications are available neither for one nor for the other hypothesis, as records and specimens of both species are scarce. I suspect, however, that they may represent different species and am treating them tentatively as such, leaving the possible proof to the contrary to further research. The correspondence of *luzernensis* with *nearcticus* is perfect.

Anisobas luzernensis female differs from *texensis* as follows: (1) size distinctly smaller; (2) white stripe on temple orbits abbreviated (in type of *texensis* covering the upper three quarters of outer length of eye); (3) fourth tergite black at apex only, without (type), sometimes with restricted, or indistinct, white apico-median stripe; (4) flagellum with 24 or 25 segments (type of *texensis* 30), distinctly shorter and less considerably attenuated and pointed at apex than in *texensis*, the last 5 segments not longer than wide (in *texensis* distinctly longer than wide). It is mainly the latter slight difference in flagellar structure which makes me suspect specific distinction.

Female

Head and thorax black, with some white pattern; abdomen red; predominant color of tergites 5-7 and of apex of tergite 4, black; tergites 5-7 with broad white apical bands, sometimes the fourth, too, medially with a restricted, or indistinct, white apical margin; flagellum with a broad, white annulus; legs red, except black coxae, trochanters, trochantelli, apices of tibiae III and tarsi III; length 8 mm.

Flagellum.—With 24 to 25 segments, bristleshaped, slightly attenuated at apex, the first segments fully 3 times as long as wide, the last 5 segments not longer than wide. Black, with white annulus on segments 6 or 7 to 11.

Head.—Black; the following are white: facial orbits, frontal orbits up to nearly level of lower ocellus, short stripe on vertical orbits.

Thorax.—Scutellum as in *coloradensis*. Black; the following are white: pronotal ridge, subalarum, scutellum (except base and apex).

Legs.—Femora, tibiae and tarsi red, including entire femora I and II; apex of tibiae III and the tarsi III blackish; all coxae, trochanters and trochantelli black.

Abdomen.—Median field of postpetiolus comparatively distinct. Red; tergites 5-7 and apex of the fourth tergite black; tergites 5-7 with white apical bands; sometimes the fourth tergite medially with a more or less indistinct, white, apical margin.

Male (Tentative)

Clypeus laterally white; white stripe on temple orbits somewhat longer than in female; other white markings as in female; all femora uniformly red, as in female, except black tip on femora III; tibiae III more extensively infuscated; tarsi III black, tarsi II infuscated; predominant color of entire fourth tergite black; otherwise like female; length 8 mm.

V. Tribe Platylabini

Morphological characters

This is the most clearly defined tribe of the subfamily in structure as well as in biology. The borderlines between it and the other tribes are clear cut and muddled nowhere by linking forms. Only one genus of somewhat difficult position is included here: *Hypomecus* Wesmæl.

The combination of two characters sufficiently determines a Platylabine as a rule: the convex clypeus and the somewhat widened and dorsally flattened petiolus; there are, however, still several other characteristics.

Flagellum.—Of females very long and slender, bristleshaped (so far with one exception only: *Ectopoides* Heinrich, a small palaearctic form), sometimes moderately widened beyond middle, usually extremely attenuated at apex; of males in majority of species without tyloides; in one palaearctic genus (*Pristiceros*) male flagellum extremely specialized, deeply serrate (Fig. 38).

Head.—Temple and cheek profiles usually (distinctly to considerably) narrowed; clypeus convex (Fig. 33); mandibles slender, with delicate teeth, the lower often slightly out of level of upper.

Thorax.—Mesoscutum more or less convex, often mesothorax considerably raised above propodeum; scutellum never flat, always more or less elevated above postscutellum and laterally more or less extensively carinate; notauli and sternaui sometimes distinct; apices of areae dentiparae tend to form apophyses in some genera; spiracles of propodeum from elongate-oval to small and circular; carination of propodeum in some forms complete, in majority of species costulae obsolete.

Legs.—Long and slender; scopa never present; claws never pectinate; tarsi III in females occasionally abbreviated.

Abdomen.—Of females usually comparatively short and approximately oval (Fig. 37); only in *Hypomecus* and some related Himalayan forms elongate and slender; hypopygium of females tending toward prolongation, usually covering at least most of slit of ovipositor, often even surpassing last tergite in length; gastrocoeli of variable structure, varying from deep and transverse with strongly narrowed interval (Fig. 23), to entirely obsolescent; petiolus usually distinctly wider than high, dorsally flattened, postpetiolus with or without defined, median field, never regularly, longitudinally striate, usually almost smooth, or irregularly, finely rugose, in some small forms punctate.

Color

Predominant color black or red, or both colors in combination, or blue; in majority of species no anal marks; tergites rarely yellow banded in arctic species, usually in tropical forms. Chromatical sexual dimorphism inconsiderable.

Distribution

Temperate Zones of the New and Old Worlds, and higher elevations of the tropics. I have not found Platylabini so far in the Ethiopian tropics, but presume that a few forms may occur there too, as one genus was described from Madagascar.

Biology

All Platylabini are parasites of Geometridae; as exceptions, two of the numerous palaearctic species of the genus *Platylabus* Wesmæl (*tenuicornis* Gravenhorst and *histrion* Wesmæl) have been found to feed on *Drepana*. The female deposits the egg into the almost grown larva. During my life I have observed only twice in the field a female of Ichneumoninae in the process of depositing the egg. Both were *Platylabus*. Females do not hibernate.

44. Genus *Platylabus* Wesmael

Figs. 23, 29, 33, 36, 37

Platylabus Wesmael, 1844, Acad. Sci. Bruxelles Nouv. Mém., 18:150, 153.*Type-species.*—*Platylabus rufus* Wesmael. Designated by Ashmead, 1900.*Lamprojoppa* Cameron, 1901, Ann. Mag. Nat. Hist., 7:482, 483^a.*Type-species.*—*Lamprojoppa coerulea* Cameron. Monobasic.

The fairly deeply impressed, transverse gastrocoeli with narrowed interval (Fig. 23) in combination with the oval or elongate spiracles of the propodeum and the lack of long propodeal apophyses distinguish this genus from the others of the tribe. Small forms which otherwise agree with *Platylabus*, but have small, circular, or nearly circular, spiracles of the propodeum are included in the genus *Cyclolabus* Heinrich. There is no very sharp borderline between these two genera. A few forms with well impressed, but not transverse, gastrocoeli which otherwise agree in structure with the type-species are included in *Platylabus*.

Flagellum.—Of females bristleshaped, very long and slender, extremely attenuated, sometimes moderately widened beyond middle; of males, as a rule, without tyloides (sometimes with rudimental, punctiform or with bacilliform tyloides).

Head.—As described for the tribe (Fig. 33).

Thorax.—Mesoscutum convex, more or less densely punctured; scutellum strongly elevated and laterally carinate; costulae usually obsolete; area supero-media approximately square or rectangular (Fig. 29); apices of areae dentiparae usually blunt, tending, however, to form short, tooth-like projections in some species, but not long, real apophyses; spiracles of propodeum long slit-shaped to short-oval.

Legs.—Moderately long and slender; tarsi III of females often somewhat abbreviated.

Abdomen.—Postpetiolus with fairly distinct median field, irregularly finely rugose or almost smooth, its lateral outlines gradually widening toward apex and usually somewhat undulate; gastrocoeli fairly deeply impressed, usually transverse, with narrowed interval (Fig. 23), in a few species not distinctly transverse, with rather wide interval; thyridia distinct; apex of female abdomen blunt, the ovipositor, however, usually projecting slightly, hypopygium long (Fig. 36), in lateral view sometimes surpassing the apex of last tergite.

Color.—Four main color groups can be distinguished: (1) basic color of entire body, including legs, bright metallic blue; largest forms of the genus (*Lamprojoppa* Cameron) represented by two extremely rare species in Europe, by several species in the Himalayas and by several species in the New World; (2) basic color of body black, of legs usually predominantly rufous (*pedatorius* group); many species in the Palaearctis, many in the Nearctis; (3) abdomen entirely, thorax partially or predominantly red or ferruginous (*rufus* group); many species in the New World and one in the Old; (4) abdomen predominantly or entirely red; basic color of thorax black, without red markings (*perkinsi* group); a number of species in the New and Old Worlds.

Biology.—As far as known, all American species are parasites of Geometridae.

^aSee also Townes, Townes and Gupta, 1961, A Catalogue and Reclassification of the Indo-Australian Ichneumonidae, p. 395. American Entomological Institute, 5950 Warren Road, Ann Arbor, Michigan, U.S.A.

Key to the Species of *Platylabus* Wesmael of America North of Mexico

Females

1. Abdomen bright metallic blue. (Basic color of head, thorax and legs metallic blue.) 2
Abdomen colored otherwise. 5
2. Flagellum distinctly to considerably widened beyond middle. 3
Flagellum not at all widened beyond middle. (Continuous white line on inner orbits,
down to base of mandible.) 4
3. Largest species, 13-15 mm. long; apical $\frac{1}{3}$ to $\frac{1}{4}$ of scutellum, usually also post-
scutellum and pronotal ridge white; subalarum white; temple profile almost
straight, occiput and temple region slanting backward immediately from hind rim
of eyes and ocelli in a straight and even slope; femora I and II somewhat less
stout than in alternative species. 1. *clarus* (Cresson)
- Smaller species, 11-12 mm. long; scutellum blue, or sometimes narrowly white at apex;
subalarum rarely white marked; temple profile slightly curved, occiput and
temple region slightly convex; femora I and II somewhat stouter than in alter-
native species. 4. *metallicus* Bradley
4. Smallest species of the metallic-blue group, 9.5-10.5 mm. long; hypopygium long;
temple profile distinctly rounded; femora somewhat stouter than in alternative
species. 2. *hyperetis*, new species
- Somewhat larger species, 10.5-12 mm. long; hypopygium comparatively short, in
natural position not quite reaching apex of last tergite; temple profile with nearly
straight outline; femora slightly slenderer than in the alternative species. 3. *divisatae*, new species
5. Abdomen black, rarely first tergite ferruginous apical margins. 6
Abdomen ferruginous, or at least several entire tergites beyond the first so colored. 26
6. Coxae entirely rufous, sometimes with white, but not with black markings. (Pre-
dominant color of femora, tibiae and tarsi rufous.) 7
Coxae entirely or extensively black. 18
7. At least metapleura partially ferruginous, sometimes metapleura entirely, mesopleura
partially, ferruginous. 8
Meso- and metapleura black. 10
8. Scutellum entirely white, convex, laterally not carinate except at the very base;
gastrocoeli rather shallow, fading toward inner side, their interval not distinctly
narrower than one of them; very small species, 5.5 mm. long. (Spiracles of
propodeum small, oval; horizontal part of propodeum smooth and shiny; meso-
sternum, metapleura and more than lower half of mesopleura ferruginous; last
tergites with very narrowly white apical margins; collar, pronotal ridge, sub-
alarum, tegulae and scutella white.) 6. *rubristernatus*, new species
- Scutellum basally black, laterally carinate to far beyond middle; gastrocoeli clearly
transverse, with narrowed interval; slightly larger species, 6.5-7.5 mm. long. 9
9. Entire propodeum, mesosternum and first segment ferruginous; frontal orbits not
white; pronotal ridge black with white apical dot. (Length 7.5 mm.) 7. *subrubricus*, new species
- Not entire propodeum and neither mesosternum nor first segment ferruginous;
frontal orbits narrowly and whole length of pronotal ridge white. (Apex of
femora III and base of tibiae III narrowly, apex of tibiae III broadly and the
tarsi III black; at least metapleura apically, or meso- and metapleura partially
ferruginous; length 6.5 mm.) 5. *rubricapensis* Provancher
10. Pronotal ridge yellow for its whole length. (Scutellum yellow at apex.) 11
Pronotal ridge entirely black or only apically yellow. 14
11. Legs III rufous, without black pattern; sculpture of mesoscutum very fine, shiny.
(Length 7 mm.) 9. *arizonae*, new species
- Legs III rufous, with black pattern; at least tarsi III and apex of tibiae III more or
less extensively black or blackish, often also apex of femora III; punctuation
of mesoscutum and lower half of mesopleura denser and not so fine as in the
alternative species. 12
12. Spiracles of propodeum very small, short-oval, about twice as long as wide; very
small species, 6 mm. long. 8. *luteatae*, new species
- Spiracles of propodeum more elongate, at least three times as long as wide; somewhat
larger species, 7-10 mm. long. 13

13. Femora distinctly swollen (particularly femora I); flagellum with 38-41 segments, extremely attenuated; tegulae white marked at base only; cheeks considerably narrowed, with straight outline; abdomen on the average stouter and wider than in alternative species; length 9-10 mm. 11. *incabus* Davis, variety
Femora normally slender; flagellum with only 32 segments, not quite so extremely attenuated as in the alternative species; tegulae white; cheek profile with slightly curved outline; abdomen comparatively narrower than in the alternative species; length 7-9 mm. 10. *columbiae*, new species
14. Apex of femora III, entire tibiae III and the tarsi III uniformly deep black, or sometimes the tibiae III with restricted ferruginous area beyond base. (Scutellum with white apical mark; outer orbits not white marked; temple profile considerably narrowed; length 7-8.5 mm.) 12. *erythrocoxa*, new species
Femora III usually uniformly rufous, sometimes with inconspicuous infuscation at the very tip; tibiae III apically more or less extensively black or blackish, but not infuscated at the base. (Tarsi III black.) 15
15. Flagellum with 38-41 segments; femora, particularly femora I, distinctly swollen; apical infuscation on tibiae III fairly restricted. (Length 9-10 mm.) 11. *incabus* Davis
Flagellum with 30-35 segments; femora normally slender; apical infuscation on tibiae III more conspicuous. 16
16. Gastrocoeli not transverse and not deeply impressed, their interval not narrowed, about as wide as one of them; temple profile scarcely narrowed, broadly curved; femora III very slender. (Length 7 mm.) 15. *rainieri*, new species
Gastrocoeli transverse, triangular, deeply impressed, with narrowed interval; temple profile more distinctly narrowed; femora III moderately slender. 17
17. Flagellum with 33-34 segments; scutellum with white apical mark; temple profile considerably narrowed with scarcely curved outline; occipital slope of temples not at all convex; length 7-8.5 mm. 13. *permodestus*, new species
Flagellum with 30-32 segments; scutellum entirely black; temple profile a trifle more curved and occipital slope of temples a trifle more convex than in the alternative species; length 6-7.5 mm. 14. *alaskae*, new species
18. Femora III rufous, except sometimes black apex. 19
Femora III entirely or predominantly black. 24
19. Mesoscutum with white median mark; several tergites with narrow light, apical or basal bands (hypothetical). 23. *berndi*, new species
(♀ unknown) 20
Mesoscutum without white median mark; abdomen uniformly black. 20
20. Coxae and trochanters partially black, partially rufous. Inner orbits and thorax without white patterns; apex of femora III narrowly, of tibiae III extensively, black; tarsi III black; length 8 mm.) 16. *tibialis* Ashmead
Coxae and trochanters black, without rufous markings. 21
21. Temple profile not narrowed, broadly curved; lateral carinae of scutellum curved inward at apex. (Petiolus medially nearly three times wider than high; gastrocoeli narrow in longitudinal, wide in transverse measurement, with narrowed interval; thorax without white patterns; femora III narrowly, tibiae III broadly, black at apex; length 9-10 mm.) 17. *foxleei*, new species
Temple profile considerably to moderately narrowed, with straight or slightly curved outline; lateral carinae of scutellum not curved at apex. (Apex of femora III black.) 22
22. Pronotal ridge white. (Apex of scutellum white; length 6.5 mm.) 18. *imitans*, new species
Pronotal ridge black. 23
23. Gastrocoeli not distinctly transverse and rather shallow, their interval approximately as wide as one of them, thyridia relatively indistinct; flagellum very slender, all segments longer than wide; fourth tergite, except basal part, and the following tergites polished. (Length 7 mm.) 19. *duplicans*, new species
Gastrocoeli distinctly transverse, normally deepened, with narrowed interval and distinct thyridia; flagellum not quite as slender as in alternative species, the widest segments square or slightly wider than long; entire fourth tergite not polished, but very finely alutaceous, the following tergite rather smooth and shiny, but not polished as in alternative species. (Length 7 mm.) 20. *melanocoxa*, new species

24. Gastrocoeli superficial, not deepened; scutellum laterally carinated at the base only, entirely white. (Mesoscutum opaque; length 9-10 mm.) see *Asthenolabus agilis* (Cresson)
- Gastrocoeli distinctly impressed; scutellum laterally carinate for its whole length, basally more or less extensively black. 25
25. Mesoscutum fully opaque, with extremely fine and dense sculpture; flagellum with 36-39 segments; femora III much thicker than in alternative species; abdomen more elongate; the third tergite less than 1.5 times as wide as long. (Length 8.5-10 mm.) 21b. *opaculus americanus*, new subspecies
- Mesoscutum subopaque, also very densely, but less finely punctured, with very slight gloss; flagellum with 33-34 segments; femora III slenderer than in alternative species, abdomen shorter-oval, the third tergite about twice as wide as long. (Length 8 mm.) 22. *semiopacus*, new species
26. Predominant color of head and thorax black. (Scutellum entirely or predominantly white; abdomen entirely or predominantly red, often apical margins of last tergites narrowly white or yellowish; frons distinctly and very densely punctured; gastrocoeli often not transverse.) *perkinsi* group 27
- Predominant color of head and thorax ferruginous. *rufus* group 31
27. Spiracles of propodeum very small, circular or nearly circular; puncturation of frons very fine; tergites 5-7 black or blackish, 6 and 7 with white anal marks. see 45. Genus *Cyclolabus* Heinrich
- Spiracles of propodeum of normal size, distinctly oval; puncturation of frons considerably stronger; last tergites sometimes with light apical margins but not with distinct anal marks. 28
28. Pronotal ridge (entirely or extensively) and collare white. 29
- Pronotal ridge and collare black. 30
29. Orbits white all around eye (except narrow interruptions at vertex and malar space); pronotal base extensively lined with white. (Metapleura and mesopleura sometimes partially obscure ferruginous; gastrocoeli fairly shallow, not distinctly transverse; length 7.5 mm.) 36. *sexmaculatae*, new species
- Only an abbreviated line on frontal and on outer orbits, and sometimes vertical marks white; pronotal base black. (Pleura never ferruginous marked; gastrocoeli fairly deep; length 8 mm.) 37. *perkinsi* Walkley
30. Scutellum not abbreviated, considerably narrowed toward apex, with strongly prominent, long lateral carinae; petiolus narrow and long, more than 3 times as long as dorsally wide in the middle; tarsi III and apex of tibiae III infuscated; flagellar annulus subobsolete. (Area superomedia square; length 7.5 mm.) 38. *vafersops*, new species
- Scutellum somewhat abbreviated, not considerably narrowed toward apex, with moderately distinct, shorter lateral carinae; petiolus comparatively shorter and wider, scarcely 3 times as long as medially wide; atrs III not, very apex of tibiae III scarcely, infuscated; white flagellar annulus conspicuous. Area superomedia transverse; length 7.5 mm.) 39. *abbreviatus*, new species
31. Apices of areae dentiparae with distinct, toothlike projections. 32
- Apices of areae dentiparae without toothlike projections. 33
32. Scutellum ferruginous, sometimes narrowly white at apex; fourth tergite polished, with very fine coriaceous undersculpture, and only a few fine, scattered punctures on basal half; smaller species, 8.5-9 mm. long; flagellum with usually 36 or 37 segments. (Usually lateral lobes of mesoscutum, sometimes all three lobes, with blackish, longitudinal bands.) 26. *rufipes* (Provancher) 32a
- Scutellum and postscutellum predominantly white; fourth tergite fairly densely punctured to near the apex; larger species, 11-13 mm. long; flagellum with 38-44 segments. 34
- 32a. Flagellum tricolored, ferruginous, with black apex and white annulus; all three lobes of mesoscutum with infuscated longitudinal bands; mesosternum extensively and the tarsi III infuscated. 26a. *rufipes rufipes* (Provancher)
- Flagellum usually without annulus; median lobe and rarely also lateral lobes of mesoscutum without black longitudinal bands; mesosternum and tarsi III usually not, or less intensively, infuscated. 26b. *rufipes consors* Cresson
33. Abdomen from apex of second tergite on polished, without puncturation, except a few extremely fine, scattered punctures on the basal part of third tergite. (Light ferruginous, without black markings; orbits extensively, entire pronotal ridge and scutella predominantly white; no white median mark on mesoscutum; length 9 mm.) 25. *lineolatus* (Provancher)
- Second and third tergites, often also the fourth, distinctly punctured. 34

34. Mesoscutum with white, oval, median mark. (Usually light ferruginous, with rich, white patterns on head and thorax; melanistic variants with black predominant color of head, pronotum and mesoscutum occur occasionally; cheeks and temples considerably narrowed; length 11-12 mm.) 28. *albidorsus*, new species
 Mesoscutum without white median mark. 35
35. Handsome species, 12-13 mm. long; flagellum with 41-44 segments. (Ferruginous; apex of pronotal ridge, collar and scutella white; clypeus and apices of femora II and of tibiae III black.) 27. *serratae*, new species
 Smaller species, 7.5-9 mm. long; flagellum with 37-39 segments. 36
36. Head black; almost all of the orbits, pronotal ridge and base white; pronotum and sometimes prepectus black. (Gastrocoeli not distinctly transverse, their interval wider, or as wide, as one of them; length 7.5-8 mm.) 35. *ornatus* (Provancher)
 Head, thorax and abdomen ferruginous, without, or with very restricted light or black markings. 37
37. Tarsi III stout and abbreviated, the last segments short and rather straight, the preceding segments somewhat thickened. (Gastrocoeli transverse, with narrowed interval which is rugosely punctate; temple profile but slightly, cheek profile moderately, narrowed; fourth tergite very finely punctured on basal part, becoming smooth beyond middle; length 7.5-9 mm.) 29. *monotonus*, new species
 Tarsi III normal, neither distinctly abbreviated, nor thickened, their last segment longer and slightly curved. 38
38. Gastrocoeli distinctly transverse, their interval narrowed. 29
 Gastrocoeli not distinctly transverse, their interval somewhat wider than one of them. 40
39. Scutellum uniformly ferruginous; temple and cheek profiles considerably narrowed, with almost straight outlines; puncturation of second and third tergites very dense and very fine, intervals between punctures subobsolete; abdomen comparatively slender. (Flagellum black, with white annulus, with 34-36 segments; length 7-9 mm.) 31. *tenuiformis*, new species
 Scutellum with white apical band; temple and cheek profiles distinctly, but less strongly, narrowed; puncturation of second and third tergites coarser and less dense, intervals between punctures distinct, coriaceous and shiny; abdomen broadly-oval. (Flagellum basally ferruginous, with 35 segments; length 8 mm.) 34. *micheneri*, new species
40. Apex of femora III narrowly, apex of tibiae III broadly, and the tarsi III entirely, infuscated. (Scutella and subalarum yellowish; length 7 mm.) 32. *monotonops*, new species
 Legs III uniformly ferruginous. (Length 7 mm.) 33. *gracilicornis* (Viereck)

Males

1. Abdomen bright metallic blue. 2
 Abdomen otherwise colored. 5
2. Flagellum without annulus. 3
 Flagellum with white annulus. 4
3. Outer orbits white from temple region down to base of mandibles, white color gradually widening downward over most of the surface of apical part of cheeks; pronotal ridge always white; length 14-15 mm. 1. *clarus* (Cresson)
 Outer orbits only with short white median stripe; only narrow apex of cheeks at base of mandible white; pronotal ridge not white, except apical mark; length 11-12 mm. 3. *divisatae*, new species
4. Face and clypeus entirely white; occiput rather shiny, finely and sparsely punctured; length 10.5-11 mm. 2. *hyperetis*, new species
 Median field of face and middle of clypeus, at least apically, metallic blue; occiput rather strongly and densely punctured; length 12-14 mm. 4. *metallicus* Bradley
5. Abdomen predominantly black. 6
 Abdomen uniformly red or ferruginous, or at least two entire tergites so colored. 21
6. Coxae III entirely or predominantly red or ferruginous. 7
 Coxae III entirely or predominantly black, sometimes white marked, but never partially red or ferruginous. 13
7. Gastrocoeli not transverse, comparatively shallow, their interval not narrowed. (Face, clypeus and malar space white, also apex of pronotal ridge, tegulae and subalarum; flagellum with 36 segments, sometimes with whitish annulus; length 8 mm.) 15. *rainieri*, new species
 Gastrocoeli distinctly transverse and normally deepened, their interval narrower than one of them. 8

8. Flagellum with more than 38 segments. (Face and clypeus white, sometimes with black markings; pronotal ridge usually entirely white; apex of femora III not black; length 9-10 mm.) 11. *incabus* Davis
- Flagellum with less than 38, usually with 31-34 segments. 9
9. Face and most of clypeus black with white orbits running from below level of lower ocellus continuously down to base of mandible; apex of femora III usually broadly deep black; tibiae III uniformly black or with rufous area beyond base. 10
- Face and clypeus white, the former sometimes medially black marked; apex of femora III not, or more narrowly and indistinctly, infuscated. 11
10. Metapleura and first segment ferruginous; apex of pronotal ridge white; flagellum ventrally pale brown. 7. *subrubricus*, new species
- Propodeum and first segment uniformly black; entire pronotal ridge black; flagellum ventrally black. 12. *erythrocoxa*, new species
11. Pronotal ridge black. (Flagellum with 33-34 segments; tegulae and subalarum white marked; length 8-9 mm.) 13. *permolestus*, new species
- Pronotal ridge white. 12
12. Very small species, 6 mm. long; spiracles of propodeum small, about twice as long as wide; puncturation on lower half of mesopleura fairly dense, space between punctures scarcely as wide as their diameter; apical infuscation of tibiae III more extensive than in alternative species, surpassing their middle. (Face and clypeus uniformly white.) 8. *luteatae*, new species
- Slightly bigger species, 7.5-8 mm. long; mesopleura polished, puncturation on lower half sparser than in alternative species, apical infuscation on tibiae III less extensive, not reaching middle. (Middle of face sometimes black marked.) 9. *arizonae*, new species
13. Femora III predominantly rufous, apically narrowly black. 14
- Femora III predominantly or entirely black. 18
14. Mesoscutum with white median mark; all tarsi white; tergites 2 and 3 with light basal and apical bands; flagellum with white annulus. 23. *berndi*, new species
- Mesoscutum without median mark; tarsi not white; tergites 2 and 3 without light bands; flagellum without annulus. 15
15. Gastrocoeli not transverse, comparatively shallow, their interval not narrowed. (Face medially extensively black; pronotal ridge entirely or almost entirely black; at least apical 2/3 of tibiae III black; flagellum with 33-35 segments; length 8 mm.) 19. *duplificans*, new species
- Gastrocoeli distinctly transverse, normally deepened, their interval narrower than one of them. 16
16. Temple profile not narrowed, broadly curved; temple-slope rather strongly convex. (Face black, except white orbits; scutellum uniformly black, its lateral carinae curved inward at apex; tibiae III narrowly black at base, broadly at apex; flagellum with 31 segments; length 7 mm.) 20. *melanocoxa*, new species
- Temple profile more or less narrowed; temple-slope not distinctly convex. (Face and clypeus uniformly white.) 17
17. Pronotal ridge entirely white; coxae I and II trochanters I and II ventrally extensively white, coxae III usually ventro-apically white marked. (Subalarum, tegulae and apical half or apex of scutellum white; flagellum with 31-33 segments; length 8 mm.) 18. *imitans*, new species
- Pronotal ridge black; coxae I and trochanters not, or scarcely, white marked; coxae III without white mark. (Only tegulae and apical mark on scutellum white; flagellum with 31 segments; length 7 mm.) 20. *melanocoxa*, new species
18. All tibiae with white annulus; apices of areae dentiparae angularly projecting. (Flagellum with white annulus; gastrocoeli deep, transverse, with narrowed interval; scutellum strongly raised, laterally carinate scarcely to the middle; scutellum and pronotal ridge white; length 11 mm.) 24. *pseudohistrio*, new species
- Tibiae without white annulus; apices of areae dentiparae not projecting. 19
19. Gastrocoeli superficial; flagellum with white annulus; scutellum entirely white. Face and clypeus black, laterally white; mesoscutum subopaque; legs II and III black; length 9-10 mm.) see *Asthenolabus agilis* (Cresson)
- Gastrocoeli distinctly impressed; flagellum without annulus; scutellum basally more or less extensively black. 20

20. Face and clypeus black, only the inner orbits white; flagellum with 37-39 segments; coxae not white marked; pronotal ridge black; mesoscutum fully opaque; femora III distinctly thicker than in alternative species; length 9-11 mm. 21b. *opaculus americanus*, new subspecies
- Face and clypeus entirely white; flagellum with 32-33 segments; coxae I and II predominantly white; pronotal ridge white; mesoscutum subopaque; femora III slenderer than in alternative species; length 8-9 mm. 22. *semiopacus*, new species
21. Areae dentiparae with distinct toothlike projections. 21a
- Areae dentiparae without toothlike projections. 22
- 21a. Tarsi white; mesoscutum with white, oval, median mark. (Apical tergites black; length 12-14 mm.) 22
- Tarsi not white; mesoscutum without white median mark. (Predominant color of thorax black, rarely the three mesoscutal lobes separated by ferruginous bands, usually small white apical mark on scutellum; flagellum black, without annulus; length 10 mm.) 26b. *rufipes consors* Cresson
22. Tarsi white; mesoscutum with white, oval, median mark; apical tergites black; length 12-14 mm. 27. *serratae*, new species
- Tarsi brown or blackish; mesoscutum without median mark; apical tergites not black; length 8-10 mm. 23
23. Thorax entirely or predominantly black; in one species mesoscutum and mesosternum extensively ferruginous, but never the pleura. 24
- Thorax entirely or predominantly ferruginous; exceptionally mesoscutum black, but in these cases the pleura never black. 27
24. Frons extremely finely and moderately densely punctured, cheeks polished; mesoscutum and scutellum, mesosternum partially and marks on horizontal part of propodeum often ferruginous; propodeum extremely abbreviated, area superomedia very short, three times as wide as long. (Face and clypeus laterally or sometimes entirely white; flagellum black; length 10 mm.) 30. *lissosculptus*, new species
- Frons and cheeks very densely and rather strongly punctured; thorax never ferruginous marked; propodeum not considerably abbreviated. (Face and clypeus never entirely white.) *perkinsi* group 25
25. Scutellum, collare and pronotal ridge entirely black; gastrocoeli distinctly wider than medially long, triangular, with narrowed interval; length 9-10 mm. (Flagellum black, without or with subobsolete annulus and with tyloides on segments 12 or 14 to 16 or 18.) 38. *polymelas*, new species
- Scutellum, collare and pronotal ridge more or less extensively white; gastrocoeli less distinctly transverse, with less narrowed interval; length 8 mm. (Frontal and facial orbits and marks on vertical orbits white.) 26
26. Flagellum with conspicuous white annulus; pronotal ridge white. 35. *perkinsi* Walkley
- Flagellum without annulus; only apex of pronotal ridge white. 36. *vafersops*, new species
27. Flagellum with conspicuous, white annulus. (Mesoscutum black or ferruginous; orbits almost all around eyes, pronotal ridge and base white; gastrocoeli not transverse, their interval not narrowed; length 8-9 mm.) 33. *ornatus* (Provancher)
- Flagellum without annulus. 28
28. Prosternum and prepectus predominantly, mesosternum extensively, white; propodeum with white pattern; scutella and prescutellar carinae and sometimes longitudinal lines on mesoscutum white. (Usually median lobe of mesoscutum with an infuscated longitudinal band, sometimes also lateral lobes; length 11 mm.) 25. *lineolatus* (Provancher)
- Prosternum, prepectus, mesosternum, propodeum, mesoscutum and prescutellar carinae not white marked. (Face and clypeus white.) 29
29. Temple profile scarcely, cheek profile moderately, narrowed, both with curved outlines; puncturation of tergites 2 and 3 moderately dense and fine, interval of punctures on the average as wide as punctures or wider; flagellum with 37 segments. (Length 8-9 mm.) 29. *monotomus*, new species
- Temple and cheek profiles considerably narrowed, with almost straight outlines; puncturation of tergites 2 and 3 very dense and very fine, intervals between punctures subobsolete; flagellum with 34-36 segments. (Length 7-9 mm.) 31. *tenuiformis*, new species

I. *uranius* group

Species 1-4

This is a chromatically clearly defined group, containing a number of large, beautifully metallic-blue species occurring in the new and Old Worlds. Not more than two species of this group have been recorded from Europe, among these *uranius* Dalm., known so far only by a few specimens from Sweden and the eastern spurs of the Himalayas; other species also occur in the Himalaya region, one of which has been described by Cameron as *Lamprojoppa coerulea*. A group so strikingly distinguished from all the other species of the genus by color and size, and represented by so many species, could very well be considered as a sub-genus which would then have to bear the name *Lamprojoppa* Cameron. The Nearctic Zone especially is rich in forms of this group which, however, represent a very difficult taxonomic problem, analogous to the case of the metallic-blue *Coelichneumon* species. So far, they have been all united under one species name, *clarus* (Cresson). There is no doubt that the latter contains several distinct species which, however, are extremely difficult to distinguish.

General uniformity in color, tendencies for geographical variability, unusual individual mutability in sculpture (as often noticeable in luxuriant² forms), all work together to create a puzzle of extraordinary difficulty. A lot of further research, collecting, and above all rearing, will have to be done before a thoroughly satisfactory clearing of this group is achieved.

1. *Patylabus clarus* (Cresson)

Ichneumon clarus Cresson, 1867, Amer. Ent. Soc. Trans., 6:201, ♀.

Patylabus magnificus Provancher, 1886, Addit. Corr. Faune Ent. Canada Hym., p. 36, ♀.

Types

Holotype.—*Ichneumon clarus* Cresson, ♀, New Hampshire. A.N.S.; *Patylabus magnificus* Provancher, ♀, Canada. Provincial Museum, Quebec. (Not numbered yet.)

Neallotype.—♂, Dryden, Maine. C.G.H.

Host

Abbotana clemataria A. & S. (Ontario).

Distribution

Ontario, Quebec (C.N.C.); Maine (C.G.H.); Pennsylvania, North Carolina, New York (C.H.T.). I have not seen so far any western representatives of this form.

Preamble

This is the biggest of the nearctic species of this group, chromatically distinguished by the richest white markings on head and thorax which, in the type, also include the entire pronotal ridge and the tegulae. Males, as a rule, without flagellar annulus. Hypopygium of the female long, in normal position surpassing the apex of last tergite. Female flagellum distinctly widened beyond middle. In the type specimen the entire pronotal ridge and tegulae are white; in a series of eight females from Dryden, Maine, the color of pronotal ridge varies from entirely white to almost entirely blue, while the tegulae are always blue; also the sculpture of the base of second tergite varies from rather smooth, finely punctate to fairly coarse; the width of the widest segment of flagellum varies from 1.5 to nearly 2.5 times as wide as long. All these differences suggest that perhaps two sibling species are still included in my treatment, but I was unable to distinguish them.

Female

Flagellum distinctly widened beyond middle; metallic blue; apical $\frac{1}{3}$ to $\frac{3}{4}$ of scutellum always white, often also postscutellum always white, often also postscutellum and pronotal ridge; sometimes collare and tegulae white, always stripe on outer orbits, the inner orbits and subalarum; hypopygium long, in position of repose slightly surpassing apex of last tergite; temple profile almost straight; length 13-15 mm.

Flagellum.—Bristleshaped, very long, ventrally flattened beyond middle and distinctly widened, apically extremely long and finely attenuated, with 40-46 segments, the first more than 3 times as long as wide, the fourteenth square, the widest 1.5 to nearly 2.5 times as wide as long. Black, with white annulus on segments 7 or 8 to 12 or 13..

Head.—Occiput slanting down from hind rim of eyes and hind ocelli in a moderately steep, but immediate, even and straight slope; temple profile moderately narrowed, with almost straight, fairly long outline; malar space about as long as width of base of mandible. Metallic blue; the following are white: frontal orbits up to level with lower or with upper ocellus, facial orbits, often prolonged over the malar space onto the apex of cheeks at base of mandible (or this white stripe interrupted on the malar space) and a stripe on outer orbits.

Thorax.—Mesoscutum and scutellum considerably longer than medially wide, the latter distinctly rounded toward apex, with highly raised lateral carinae, its apical slope gradually curved; notauli basally indicated by fairly wide, shallow, longitudinal depressions; area superomedia about as wide as long, quadrangular, usually somewhat narrowed toward apex; areae dentiparae terminated by rather distinctly developed, broad, toothlike projections. Metallic blue; the following are white: always subalarum and apical $\frac{1}{3}$ to $\frac{3}{4}$ of scutellum, usually postscutellum and pronotal ridge, sometimes mark on collare and tegulae.

Legs.—Tarsi somewhat laterally compressed, higher than wide, each segment somewhat swollen at the apex, the metatarsus III distinctly longer than the following four segments together. Metallic blue; the following are ivory on anterior side: tibiae I, nearly apical third of femora I, apex of femora II, often tibiae II partially.

Abdomen.—Hypopygium in lateral view, with apex of abdomen in position of repose, slightly surpassing apex of last tergite; ovipositor distinctly projecting; sculpture of base of second tergite varying from almost smooth with rather fine and sparse puncturation to rather coarsely rugose. Uniformly metallic blue.

Male

Flagellum, in great majority of specimens, without annulus; metallic blue; white stripe on outer orbits gradually widening downward over nearly the entire surface of apex of cheeks down to base of mandible; entire face and clypeus, malar space, pronotal ridge, collare and subalarum, the tegulae partially or entirely, and apex of scutellum, white; coxae I and II predominantly white, usually also a ventro-apical mark on coxae III; femora II white on anterior side, except base narrowly, often tibiae III ventrally white marked or striped; rarely mesoscutum with two short white median lines; length 14-16 mm.

Flagellum.—With 42-45 segments. Black; scape ventrally white; exceptionally, white annulus indicated.

Head.—Malar space more than half as long as width of base of mandible. Metallic blue; the following are white: mandibles except teeth, entire face and clypeus, frontal orbits up to lower or upper ocellus, malar space, outer orbits from

below temple region down to base of mandible, confluent below with white malar space and widening over half, or most of the surface, of apex of cheeks.

Thorax.—Metallic blue; the following are white: collare, pronotal ridge, subalarum, tegulae partially or (usually) entirely, apical $\frac{1}{2}$ to $\frac{3}{4}$ of scutellum, rarely two short median marks on mesoscutum or a line on pronotal base, sometimes border of prepectus.

Legs.—Metallic blue, basic color of tarsi black; the following are white or ivory: coxae I and II ventrally except base, trochanters I and II and usually trochantelli I ventrally, fairly small, ventro-apical mark on coxae III, entire frontal side of tibiae I and II, frontal side of femora I and II except base narrowly, apices of femora I more or less extensively and more restrictedly of femora II on posterior side, tarsi I on both sides extensively, base narrowly and apex of tibiae I, sometimes also of tibiae II, on posterior side sometimes mark or stripe of varying extent on ventral side of tibiae III.

Abdomen.—Uniformly metallic blue.

TABLE I

Distribution of white on six *Platylabus clarus* (Cresson) males from Dryden, Maine.

6	Entire pronotal ridge
6	Collare
6	Subalarum
6	Entire face and clypeus
6	Malar space
6	Outer orbits from below temples to base of mandibles, confluent with white of malar space.
6	Anterior side of tibiae I and II entirely
6	Anterior side of femora I and II except base narrowly
6	Coxae I and II ventrally except base
3	Tegulae partially
3	Tegulae entirely
3	Apical half of scutellum
3	More than apical half of scutellum
1	Mark on postscutellum
1	Ventral stripe on tibiae III about $\frac{1}{2}$ of their length
2	Ventral stripe on tibiae III about $\frac{1}{4}$ of their length
3	No ventral stripe on tibiae III
1	Medium sized apico-ventral mark on coxae III
5	Very small apico-ventral mark on coxae III
2	Border of prepectus partially
1	Two short median stripes on mesoscutum

2. *Platylabus hyperetis*, new species

Types

Holotype.—♀, Maine, New Portland, 21.VIII.1958. C.G.H.

Allotype.—♂, Maine, Mt. Blue, 11.VII.1960. C.G.H.

Paratypes.—2 ♀♀, Maine, New Portland; 1 ♀, Maine, Strong; 1 ♂, Maine, Mt. Blue. C.G.H.; 1 ♂, British Columbia, Edgewood, ex *Hyperetis amicaria*. C.N.C. No. 7390.

Host

Hyperetis amicaria H.-S.

Distribution

Maine (C.G.H.), British Columbia (C.N.C.). In contrast to *clarus* (Cresson), this species keeps to the lower level of vegetation, 1-2 yards above ground; usually along the edges of woods.

Preamble

A distinct species and the smallest of the *uranius* group. Distinguished by the curved outline of the temple profile, the slightly convex temple region of the occiput, the small size and particularly by the very slender, not-at-all-widened female flagellum. Male flagellum with white annulus. For a long time I believed that *metallicus* Bradley referred to this species, until I examined the type of *metallicus* and found that it differs from *hyperetis* as a distinct species by the considerably widened flagellum.

Female

Flagellum not at all widened beyond middle; metallic blue; white pattern of head as in clarus, of thorax considerably more restricted: only apical mark on scutellum and subalarum white; hypopygium as in clarus; temple profile with distinctly curved outline; length 9.5-10.5 mm.

Flagellum.—Bristleshaped, long and very slender, ventrally flattened beyond middle but not at all widened, apically extremely attenuated, with 38-40 segments. Black, with white annulus on segments 8-12 or 13.

Head.—Occiput slanting from hind rim of eyes and ocelli in a very slightly convex curve, not in an immediate, even and straight slope; temple profile moderately narrowed, with distinctly curved outline; malar space about as long as width of base of mandible. Metallic blue; the following are white: frontal orbits up to level of lower ocellus, facial orbits, prolonged over the malar space onto the apex of cheeks at base of mandibles, stripe on outer orbits.

Thorax.—Almost as in *clarus*; depressions of notauli scarcely indicated; mesoscutum and scutellum on the average a trifle shorter; areae dentiparae terminated by considerably less prominent, toothlike projections; area superomedia slightly longer than wide, parallel-sided. Metallic blue; only apical mark on scutellum and subalarum white.

Legs.—Tarsi as in *clarus*; femora a little stouter. Metallic blue; the following are ivory on anterior side: tibiae I, about apical third of femora I and tip of femora II.

Abdomen.—Apex and hypopygium as in *clarus*; sculpture of base of the second tergite finely punctured, finely alutaceous between punctures. Uniformly metallic blue.

Male

Flagellum with broad, white annulus; white stripe on outer orbits restricted to a short line at about the middle, not connected with white of malar space; apex of cheeks narrowly, only at base of mandibles white; entire face and clypeus, malar space, the very apex of pronotal ridge, usually small mark on collar, tegulae partially or entirely and the apex of scutellum, white; coxae I and II ventrally white at apex, usually also small ventro-apical mark on coxae III; femora II white on anterior side toward apex only; tibiae III ventrally not white marked; length 10.5-11 mm.

Flagellum.—With 36-39 segments. Black, with white annulus on segments 10 or 11 to 15; scape ventrally white.

Head.—Malar space slightly more than half as long as width of base of mandible. Metallic blue; the following are white: mandibles except teeth, entire face and clypeus, frontal orbits up to lower ocellus, malar space (extending onto apex of cheeks narrowly at base of mandible), a narrow, rather short stripe at about middle of outer orbits.

Thorax.—Metallic blue; the following are white: usually small mark on collare, very apex of pronotal ridge, subalarum, anterior part of tegulae or entire tegulae, apical half or third of scutellum, sometimes border of prepectus.

Legs.—Metallic blue; tarsi III black; the following are white: coxae I and II broadly at apex, trochanters I and II and trochantelli I ventrally, usually small, apico-ventral mark on coxae III, entire frontal side of tibiae I and II, frontal side of femora I except base, apex of femora II on frontal side, basal segments of tarsi I and II predominantly.

Abdomen.—Uniformly metallic blue.

3. *Platylabus divisatae*, new species

Types

Holotype.—♀, British Columbia, Bella Coola, ex *Caripeta divisata*, C.N.C. No. 7389.

Allotype.—♂, Newfoundland, S. Humber, ex *Caripeta divisata*, C.N.C.

Paratypes.—1 ♀, 1 ♂, British Columbia (Crowsnest, Tezzaron Lake), ex *Caripeta* sp.; 1 ♂, British Columbia (Woodfibre), ex *Caripeta divisata*; 1 ♂, Quebec, ex *Caripeta divisata*. C.N.C.; 1 ♀, British Columbia (Bella Coola), ex *Caripeta* sp.; 1 ♂, Quebec, Mt. St. Michel, ex *Caripeta divisata*. C.G.H.

Host

Caripeta divisata Wlk. (Newfoundland, Quebec, British Columbia).

Distribution

Newfoundland, Quebec, British Columbia.

Preamble

A good series of congruent specimens of both sexes, all reared from the same host, *Caripeta divisata* (or "*Caripeta* sp.") in so distant regions as Newfoundland and British Columbia, confirms the distinction of this species. More than that, it shows how amazingly constant, even in the smallest chromatic character, at least some of these blue *Platylabus* can be, and how strongly specialized they are to certain species of hosts. Without this reared series before me, I would probably not have been able to recognize the distinction and diagnostic features of this species. This fact suggests that the complex American part of the *uranius* group will probably include still more species than I would dare to separate at present.

The female agrees with *hyperetis*, new species, in the white color patterns on head and thorax and particularly in the very slender, not widened flagellum; differs from *hyperetis* by the shorter hypopygium which, in lateral view, does not surpass, nor even quite reach, the apex of the last tergite, and also in the structure of temples and by slightly slenderer femora and tarsi. The male differs from *hyperetis* by the lack of a white flagellar annulus.

Female

Flagellum not at all widened beyond middle; white pattern of head as in *clarus*, of thorax considerably more restricted: only apex of scutellum, postscutellum and subalarum white; hypopygium shorter than in *clarus* and in *hyperetis*; temple profile with almost straight outline; length 10.5-12 mm.

Flagellum.—Bristleshaped, long and very slender, ventrally flattened beyond middle, but not at all widened, apically extremely attenuated, with 42-43 segments. Black, with white annulus on segments 9-12 or 13.

Head.—Occiput as in *clarus*, slanting from hind rim of eyes and ocelli in an immediate, even and straight, though moderately steep, slope; temple profile moderately narrowed, with nearly straight outline; malar space about as long as width of base of mandible. Metallic blue; the following are white: frontal orbits up to level of lower ocellus, facial orbits prolonged over the malar space onto the apex of cheeks at base of mandibles, very short stripe on outer orbits.

Thorax.—As in *hyperetis*. Metallic blue; only apical mark on scutellum, postscutellum and subalarum are white; very apex of pronotal ridge, and tegulae in part, ferruginous.

Legs.—Femora and tarsi a little slenderer than in *hyperetis*. Metallic blue; the following are white on anterior side: tibiae I, about apical third of femora I, tip of femora II and a sometimes indistinct mark beyond base of tibiae II.

Abdomen.—Hypopygium shorter than in *clarus* and *hyperetis*, in position of repose, in lateral view, not surpassing, and not even quite reaching, the apex of last tergite; postpetiolus and base of second tergite distinctly, though not strongly, rugose. Uniformly metallic blue.

Male

Flagellum without annulus; otherwise almost identical with hyperetis, except: femora II more extensively white on anterior side; tarsi II entirely, tarsi I dorsally, blackish; postscutellum white; length 11-12 mm.

4. *Platylabus metallicus* Bradley

Platylabus metallicus Bradley, 1903, Canad. Entom., 35:280, ♂ & ♀.

Platylabus clarus Townes, 1951, Syn. cat., p. 280, partim.

Platylabus metallicus Heinrich, 1959, Ent. News, 70:215. ♀.

Types

Holotype.—♀, New Hampshire. A.N.S.

Distribution

Transcontinental in Transition Zone. New Hampshire (type); Maine; Michigan (C.G.H.); Ontario; Quebec; Alberta; British Columbia, Robson, Vancouver, Cultus Lake (C.N.C.); Washington, Longmore (C.H.T.).

Preamble

A smaller species, similar to *hyperetis*, new species, in appearance, differing from it mainly by the rather strongly widened flagellum of the female, furthermore by the stronger punctuation of the occiput and the coarse rugose-punctate sculpture of the base of second tergite. Size, ♂♂ the average, somewhat larger; white pattern on head and thorax more restricted, particularly the white line of inner orbits not, as in *hyperetis*, continuous from level with lower ocellus to base of mandibles, but broadly interrupted on facial orbits; subalarum and apex of scutellum, in majority of specimens, not white marked. Similar in structure to *clarus* (Cresson), though considerably smaller; differing from *clarus* by the slightly convex temples, the relatively somewhat shorter first flagellar segment and by the considerably reduced white pattern on head and thorax. I am convinced that this is a distinct species. I do not feel quite sure, however, about the diagnosis of the male to be associated with it, especially about its separation from *hyperetis* male. Males of both species evidently have a white flagellar annulus.

Female

Flagellum considerably widened beyond middle; white pattern of head and thorax reduced; white band of inner orbits always broadly interrupted on lower part of facial orbits, subalarum rarely, apex of scutellum sometimes narrowly, white; hypopygium and tarsi as in *clarus*; temple profile slightly curved; length 11-12 mm.

Flagellum.—Bristleshaped, long, ventrally flattened and considerably widened beyond middle, apically extremely attenuated, with 39-42 (usually 40-41) segments, the first scarcely 3 times as wide as long, the twelfth square, the widest 1.5 to fully 2 times as wide as long. Black, with white annulus on segments 8-12, exceptionally 9-13.

Head.—Temple profile moderately narrowed, with slightly curved outline; occipital slope on temple region slightly convex; malar space about as long as width of base of mandible. Metallic blue; the following are white: frontal orbits up to level of lower ocellus, uppermost part of facial orbits, usually a small mark on apex of malar space at base of mandible, short median line on outer orbits.

Thorax.—Area superomedia usually square, otherwise as in *hyperetis*. Usually uniformly metallic blue; sometimes apex of scutellum narrowly white, rarely subalarum white marked.

Legs.—Tarsi as in *clarus*; anterior femora a little stouter. Metallic blue; the following are ivory on anterior side: tibiae I, about apical third of femora I, tip of femora II and sometimes a mark beyond base of tibiae II.

Abdomen.—Apex and hypopygium as in *clarus*; sculpture of base of second tergite coarsely rugose-punctate. Uniformly metallic blue.

Male

(Tentative.)

Flagellum with broad, white annulus; chromatically like *hyperetis*, but median field of face predominantly, and apex of clypeus medially, metallic blue; puncturation of occiput stronger, sculpture of first tergite coarser.

II. *pedatorius* group

Species 5-24

The European species *pedatorius* Fabricius is a representative of the largest group of the genus, chromatically distinguished by black basic color of the body combined in the majority of species with predominantly rufous legs. A few species with predominantly black legs are also included. Head and thorax show restricted white markings (the thorax in a few species also ferruginous), and legs III a black pattern of varying extent specifically. The forms of this group are considerably smaller than the species of the *uranus* group, ranging usually between 6 and 12 mm. long. The species of the *pedatorius* group are monotonous in color pattern and often extremely similar. The distinction of the numerous species occurring in the Old World, and in North America as well, is therefore rather difficult. The situation is, however, not quite as complicated as in the *uranus* group, as the chromatic characters are somewhat more differentiated and the individual variability less striking. Nevertheless, even in Europe where ichneumonological research has been done so long and so intensively, J. F. Perkins could recently separate and name two new species of this group from England. Further, still undescribed species occur in southern Europe and the Mediterranean. In North America the *pedatorius* group has been scarcely touched until now.

To the four species already described, I am going to add 15 new species. As, however, the degree of individual and geographical variability of the forms involved is not known and recognizable yet, the premature assumption of sub-specific associations was considered harmful rather than advantageous and therefore not attempted. Consequently, further research may reveal more subspecific status for some of the newly named species, and one or another (as for example *luteatae*) may even turn out to represent only an odd color phase. It is impossible to clear a complicated jungle of forms of this kind in the first attempt. The first reviser has to face the alternative either to pass over in silence the existence of certain differences in structure and color he sees (but has not enough evidence to judge with certainty), or to bring forward such differences, even at the risk of taxonomic misjudgment. I think that the latter way is preferable.

J. F. Perkins has used the height of the carina oralis as an important character in his key for this group. This character has the disadvantage that most of the specimens have to be relaxed and specially prepared in order to see the structure involved. I have therefore tried to stress other characters, visible without loss of time, and thus perhaps preferable for general practical use. I think that at present we can get along with color, sculpture, and structure of flagellum, temples and gastrocoeli. But the character brought forward by Perkins should not be forgotten and may be necessary to apply if further species, doubtlessly existing, are recognized and separated.

5. *Platylabus rubricapensis* Provancher

Platylabus Rubri Capensis Provancher, 1882, Nat. Canad., 13:329, ♀.

Types

Holotype.—♀, Quebec, Provincial Museum, Québec.

Distribution

Quebec; Ontario (C.N.C.); New York, Idaho, South Dakota (U.S.N.M.); the records New York and North Carolina in Townes 1951, Syn. Cat. refer to *rubristernatus*, new species.

Female

Black; metapleura and sometimes mesopleura apically more or less extensively ferruginous; pronotal ridge, tegulae and half of scutellum white; legs rufous, including coxae and trochanters; apex narrowly of femora III, base narrowly of tibiae III, apex of tibiae III broadly and the tarsi III predominantly, black; apex of coxae I whitish; gastrocoeli transverse, their interval narrower than one of them; scutellum laterally carinate to beyond middle; length 6.5 mm.

Flagellum.—Slender, bristleshaped, ventrally flattened, but not widened beyond middle, considerably attenuated toward apex, with 31 segments (specimen from Ontario). Black, segments 10-12 with white annulus.

Head.—Temple profile slightly narrowed, with distinctly curved outline; occiput with shallow depression behind ocelli; slope of temple slightly convex; malar space scarcely half as long as width of base of mandible. Black; the following are white: frontal orbits narrowly, apical border of cheeks at base of mandible and lateral border of clypeus.

Thorax.—Mesoscutum finely and moderately densely punctured, shiny; notauli basally indicated; scutellum laterally carinate to far beyond middle; horizontal part of propodeum finely rugose; spiracles of propodeum rather small, oval; area superomedia narrowed toward base, about as wide as long, or somewhat

wider. Black; the following are white: pronotal ridge, mark on subalarum, regulae, apical half of scutellum and sometimes postscutellum.

Legs.—Rufous, including all coxae and trochanters; apex of coxae I whitish; the following are black: apex of femora III narrowly, base of tibiae III narrowly, their apex broadly, tarsi III predominantly.

Abdomen.—Postpetiolus almost smooth; gastrocoeli distinctly impressed also on inner side, their interval distinctly narrower than one of them; second tergite finely and rather densely punctured, alutaceous between punctures, subopaque. Black; apical margin of second and third tergites sometimes obscure ferruginous; last tergites without white apical margins.

6. *Platylabus rubristernatus*, new species

Types

Holotype.—♀, North Carolina, Mt. Pisgah, H. & M. Townes, 5.IX.1939. C.H.T.

Paratypes.—1 ♀, New York, Ithaca. C.H.T.; 1 ♀, Ohio, Bedford. U.S.N.M. 1 ♀, Illinois, White Heath. C.G.H.

Distribution

North Carolina, New York (C.H.T.); Ohio (U.S.N.M.); Illinois (C.G.H.).

Female

A very small species, rather similar to *rubricapensis* Provancher, the ferruginous color on thorax, however, more extensive, covering more than lower half of mesopleura, the entire metapleura and the entire mesosternum; scutellum entirely white, laterally carinated at the base only; gastrocoeli shallower and not transverse, their interval not narrowed.

Black; more than lower half of mesopleura, the mesosternum and metapleura ferruginous; collare, pronotal ridge, regulae, subalarum and scutella, white; apical margin of last tergites narrowly white; legs rufous, including coxae and trochanters; apex of femora III, base of tibiae III narrowly, their apex broadly and the tarsi III predominantly black; middle of tibiae III pale, almost yellow; gastrocoeli not transverse, rather shallow, their interval not narrowed; scutellum entirely white, carinate at very base only; horizontal part of propodeum smooth and shiny; length 5.5 mm.

Flagellum.—Bristleshaped, slender, ventrally flattened but not widened beyond middle, moderately attenuated at apex, with 28 segments. Black, with white annulus on segments 8 (apex) to 12 or 13.

Head.—As in *rubricapensis*. Black; the following are white: inner orbits narrowly from below level of antennal sockets up to level of lower ocellus, apical border of cheeks at base of mandible, malar space and lateral border of clypeus.

Thorax.—Mesoscutum finely and moderately densely punctured, shiny; scutellum convex, rather smooth and shiny, laterally not carinate except at the very base; horizontal part of propodeum and area posteromedia unusually smooth and shiny; spiracles small, oval. Black; the following are white: collare, pronotal ridge, subalarum, regulae, scutellum, postscutellum and usually an indistinctly defined mark on the lower, anterior (ferruginous) part of the mesopleura.

Legs.—Including coxae and trochanters rufous; the following are black: apex of femora III, base narrowly and apex broadly of tibiae III and the tarsi III; middle of tibiae III pale yellowish.

Abdomen.—Postpetiolus almost smooth; gastrocoeli approximately quadrangular, more distinctly impressed on the exterior side, fading toward middle of tergite, the interval therefore not narrowed. Black, the last two or three tergites with narrowly white apical margins.

7. *Platylabus subrubricus*, new species

Types

Holotype.—♀, Alberta, Alder Flats, ex *Eupithecia ravocostiliata* Pack. C.N.C. No. 7391.

Allotype.—♂, Manitoba, ex *Eupithecia ravocostiliata* Pack. C.N.C.

Paratype.—♀, Saskatchewan. C.N.C.

Distribution

Alberta, Saskatchewan, Manitoba (C.N.C.).

Female

Black, propodeum, more than lower half of mesopleura, mesosternum and first segment ferruginous; head black, except apical border of cheeks at base of mandibles; scutellum basally black, medially ferruginous, apically white; pronotal ridge black, apically white; legs rufous, including coxae and trochanters; tarsi III entirely, tibiae III predominantly and tip of femora III black; length 7 mm.

Flagellum.—Bristleshaped, slender, ventrally flattened and imperceptibly widened beyond middle, considerably attenuated at apex, with 34-35 segments. Black, with white annulus on segments 9 (apex) to 14; base up to annulus ventrally pale.

Head.—Temple profile distinctly narrowed, with curved outline; malar space slightly longer than width of base of mandible. Black; narrow apical border of cheeks at base of mandible white.

Thorax.—Mesoscutum finely and fairly densely punctured, shiny; notauli basally indicated; scutellum distinctly carinated laterally all its length; area superomedia narrowed toward base, as wide as or slightly longer than wide; spiracles of propodeum oval. Black; the following are ferruginous: entire propodeum, more than lower half of mesopleura, entire mesosternum and median part of scutellum; apex of scutellum; mark on tegulae and apex of pronotal ridge white.

Legs.—Ferruginous, including coxae and trochanters; the following are deep black: apex of femora III, apical $\frac{3}{4}$ of tibiae III and the tarsi III; very base of tibiae III and apex of tarsi II infuscated.

Abdomen.—Postpetiolus finely rugose; second tergite densely punctured, basally coarsely rugose-punctate; third tergite moderately densely punctured, alutaceous between punctures, subopaque; gastrocoeli transverse, with narrowed interval. Black, first tergite ferruginous, base and sometimes sides of second tergite obscure ferruginous tinted.

Male

Ferruginous color on thorax restricted to metapleura and lower apical corner of mesopleura; scutellum black with white apex; head black with following white markings: mandibles, sides of clypeus, facial orbits broadly, frontal orbits narrowly (up nearly to level of lower ocellus), two median marks on upper border of face, malar space, apex of cheeks, stripe on lower half of outer ocellus; flagellum black, ventrally brownish, scape ventrally white; second tergite entirely black; otherwise like the female; length 7 mm.

8. *Platylabus luteatae*, new species

Types

Holotype.—♀, Quebec, Knowlton, 2.VIII.1929, L. J. Milne. C.N.C. No. 7394.

Allotype.—♂, Manitoba, ex *Eupithecia luteata* Pack. C.N.C.

Paratypes.—1 ♀, British Columbia, Nanaimo Lks., ex *Eupithecia* sp. C.N.C.; 2 ♀ ♀, Oregon. C.H.T.

Host

Eupithecia luteata Pack. (Manitoba); *Eupithecia* sp. (Ontario).

Distribution

Quebec, Manitoba, British Columbia, Ontario (C.N.C.), Oregon.

Preamble

A very small species and almost a perfect image of *rubricapensis* Provancher, except for the lack of ferruginous markings on meso- and metapleura. In case these markings should be found to be a matter of individual variability, this form would probably have to be considered synonymous with the mentioned species.

Female

Black, pronotal ridge and apex of scutellum white; flagellum with annulus; legs rufous, including all coxae and trochanters; tip of femora III, about apical two thirds of tibiae III and the tarsi III black; scutellum laterally carinate for almost its whole length; spiracles of propodeum very small, short-oval, twice as long as wide; length 6 mm.

Flagellum.—With 30 segments in specimens from Oregon (apices broken in type specimen). Black, with white annulus on segments 9 or 10 to 11 or 12.

Legs.—Femora III apically black in type specimen, uniformly rufous in both specimens from Oregon.

Male

(Manitoba.)

Black; entire face and clypeus, malar space, apical margins of cheeks, frontal orbits narrowly and scape ventrally, white; white are furthermore: collar, pronotal ridge, subalarum, tegulae, apex of scutellum, postscutellum, coxae I extensively, coxae II apically, trochanters I and II ventrally; otherwise legs as in female; flagellum black, without annulus; length 6 mm.

9. *Platylabus arizonae*, new species

Types

Holotype.—♀, Arizona, Sierra Ancha, 5.V.1947, H. & M. Townes. C.H.T.

Allotype.—♂, Arizona, Sierra Ancha, 5.V.1947, H. & M. Townes. C.H.T.

Paratypes.—3 ♀ ♀, 1 ♂, type locality, 19.V.—5.V.1947. C.H.T.

Distribution

Arizona, California (C.H.T.).

Preamble

Chromatically similar to *luteatae*, new species, and to *columbiae*, new species, distinctly differing from the latter by the less attenuated flagellum, from the former by the more elongate spiracles of propodeum and from both by the lack of black pattern on legs III, by the finer, almost polished sculpture on lower part of mesopleura and by the less-narrowed, more-rounded outline of cheek profile.

Female

Black; pronotal ridge and apical half of scutellum white; flagellum with annulus; legs rufous, including coxae, trochanters and entire femora III and tibiae III; scutellum laterally carinate; flagellum not widened beyond middle, slightly attenuated at apex; mesopleura polished, unusually finely and fairly sparsely punctured on lower half; length 7 mm.

Flagellum.—Bristleshaped, slender, ventrally flattened beyond middle and imperceptibly widened, apically but moderately attenuated, the last four segments not, or scarcely, longer than wide, with 30 segments (in type and paratypes as well). Black, with white annulus on segments 10-12.

Head.—Temple profile moderately narrowed, with slightly curved outline; slope of temples somewhat convex; cheek profile moderately narrowed, with slightly curved outline; malar space about as long as width of base of mandible; face and clypeus more finely and sparsely punctured than in *luteatae*. Black; the following are white: inner orbits narrowly from somewhat below level of antennal sockets up not quite to level of lower ocellus, apical margins of cheeks narrowly at base of mandible and a more or less distinct, short line on middle of outer orbits.

Thorax.—As in *luteatae*, except spiracles of propodeum, which are more elongate (fully 3 times as long as medially wide), and except mesoscutum and lower half of mesopleura, which are still more finely and more sparsely punctured than in *luteatae*, and considerably more shiny; scutellum less narrowed toward apex, apically wider, laterally carinate; area superomedia slightly wider than long, shiny. Black; the following are white: collar, pronotal ridge, subalarum, apical half of scutellum, postscutellum, tegulae; propodeum in three specimens partially indistinctly obscure ferruginous.

Legs.—Uniformly rufous, including all coxae and trochanters; legs III without black pattern, the apical margin of tibiae III and the tarsi III partially inconspicuously infuscated.

Abdomen.—Gastrocoeli transverse, their interval narrower than one of them; sculpture as in *luteatae*. Black; in two specimens tergites 1 and 2 partially or predominantly indistinctly obscure ferruginous tinted.

Male

In contrast to the female nearly apical half of tibiae III and the tarsi III blackish infuscated. Thus chromatically almost congruent with *luteatae* male, except for a conspicuous black median mark on face which is absent in the latter (allotype); somewhat bigger than *luteatae* and the mesopleura slightly more polished, the puncturation on their lower half finer and sparser.

Black; face except black median mark and clypeus, malar space, apical margins of cheeks, frontal orbits narrowly, short, median stripe on outer orbits, and scape ventrally, white; white are furthermore: collar, pronotal ridge, subalarum, tegulae, nearly apical half of scutellum, sometimes postscutellum and apical mark on coxae I; length 7.5-8 mm.

10. *Platylabus columbiae*, new species*Types*

Holotype.—♀, British Columbia, Mt. Douglas, ex Geometridae. C.N.C. No. 7395.

Paratypes.—1 ♀, British Columbia, ex Geometridae; 1 ♀, British Columbia, Cultus Lake. C.N.C.; 1 ♀, California, Fish Camp. C.H.T.

Distribution

British Columbia, California.

Preamble

I hesitated long before considering this form as a distinct species, because it is so very similar to certain varieties of *incabus* Davis (with entirely white pronotal ridge) and also shares its distribution. What caused me finally to suppose specific distinction is the great difference in the number of flagellar segments which seems to lie beyond the limits of individual variability. Otherwise differing from *incabus* variety by the slenderer femora (particularly femora I), the narrower abdomen, the entirely white tegulae and the slightly more extensive white color on apex of cheeks (including the malar space). Also extremely similar to *rubricapensis* Provancher, except for the lack of ferruginous markings on the pleura. Possibly a western subspecies of this species.

Female

Black; apex of scutellum, entire pronotal ridge and tegulae white; legs rufous, including all coxae and trochanters; apex of tibiae III and the tarsi III blackish infuscated; flagellum with distinct white annulus; femora not distinctly inflated; length 7-9 mm.

Flagellum.—Bristleshaped, slender, ventrally flattened, but not distinctly widened beyond middle, a trifle less extremely attenuated at the apex than in *incabus*, with 32 segments (6 segments less than minimal number of 10 counted *incabus* flagella), the widest segment of the flattened section about square. Black, with white annulus on segments 11-12 or 13; scape ventrally obscure ferruginous.

Head.—As in *incabus*. Black; the following are white: inner orbits narrowly from about middle of face or from level of antennal sockets up to below level of lower ocellus, apical margin of cheeks at base of mandibles confluent with mark covering malar space, short, median stripe on outer orbits.

Thorax.—As in *incabus*, but pronotal ridge and tegulae always entirely white.

Legs.—Femora more slender than in *incabus*. Uniformly rufous, including all coxae, trochanters, femora and tibiae; tibiae III apically somewhat more extensively infuscated than in *incabus*; tarsi III blackish.

Abdomen.—As in *incabus*, but on the average somewhat slenderer.

11. *Platylabus incabus* Davis

Platylabus incabus Davis, 1898, Amer. Ent. Soc. Trans., 24:3;32, ♀.

Types

Holotype.—♀, Idaho, Moscow. A.N.S.

Neallotype.—♂, California, Camino, 22.VI.1948. C.H.T.

Distribution

According to H. Townes 1951: "Idaho (Moscow)". New records: Arizona, California (C.H.T.); British Columbia (C.N.C.).

Preamble

Evidently a rather common western species, of moderate size, in appearance somewhat similar to *foxleei*, new species, distinctly differing by the considerably narrowed temple profile and by the rufous color of coxae and trochanters. Extremely similar to *columbiae*, new species, but flagellum longer, with 6-9 more segments, femora thicker, abdomen shorter-oval, and white pattern on head and thorax on the average somewhat more restricted.

Female

Black, apex of scutellum more or less narrowly white; pronotal ridge usually with white apical mark, varying occasionally to white for its total length; legs rufous, including coxae and trochanters; tip of tibiae III usually with restricted infuscation, tarsi III infuscated; flagellum with annulus of varying extent, sometimes on two segments only; femora distinctly inflated, particularly femora I; length 9-10 mm.

Flagellum.—Bristleshaped, slender, ventrally flattened, but not distinctly widened beyond middle, extremely attenuated toward apex, with 38-41 segments, the widest of the flattened part approximately square. Black, with white annulus on segments 9 or 10 or (usually) 11 to 12 or 13.

Head.—Fairly wide; temple profile considerably narrowed, with almost straight outline; declivity of temples not convex and rather steep; cheek profile distinctly narrowed with straight outline; malar space about as long as width of base of mandible. Black; the following are white: inner orbits narrowly from about middle of face or from slightly below level of antennal sockets up to below level of lower ocellus, narrow apical margin of cheeks at base of mandibles, usually short median stripe on outer orbits.

Thorax.—Mesoscutum moderately densely punctured and shiny; usually anterior third of notauli fairly well indicated by longitudinal, shallow impressions; scutellum laterally carinate, fairly wide at apex; area superomedia usually distinctly wider than long. Black; the following are white: usually mark on collare, usually narrow apex of pronotal ridge, sometimes also short stripe on its anterior part, occasionally its entire length, mark on subalarum or the entire subalarum, mark on anterior part of tegulae, apex of scutellum and usually postscutellum.

Legs.—Femora stouter than usual, particularly noticeable on femora I which are distinctly inflated (to be seen best in dorso-posterior view); coxae III rather large. Uniformly rufous, including all coxae, trochanters, femora and tibiae, except the apex narrowly or the very tip of tibiae III which is, as the tarsi III, blackish infuscated.

Abdomen.—Fairly broadly oval; postpetiolus finely and irregularly rugose sometimes almost smooth, shiny; second and third tergites rather strongly and densely punctured, alutaceous between punctures, subopaque; gastrocœli wider than their interval. Uniformly black; apical margins of anterior tergites sometimes narrowly obscure ferruginous.

Male

A series of eight males from California (C.H.T.) shows some variability in the color of face and clypeus and of the legs I and II; the femora and tibiae of the latter may be lined with yellowish or not; between clypeus and face a blackish suture tends to develop and on the middle of the face a black, longitudinal stripe of varying extent; there are, however, specimens with uniformly white face and clypeus too; the pronotal ridge is usually white, but the line tends, as in the female, to be interrupted in the middle. The color of some specimens matches *arizonæ* male almost perfectly, and the best, if not the only, way to distinguish both species is to count the flagellar segments, as *incabus* has 39-40 segments, about 9 or 10 more than *arizonæ*. The restriction of the apical infuscation of tibiae III as a rule distinguishes *incabus* male from other similar species.

Black; face and clypeus white, usually except black median stripe or mark on the former and except a black, transverse suture between both; malar space, or at least apical border of cheeks at base of mandible, frontal orbits narrowly,

median stripes on outer orbits and scape ventrally white; white in addition: collar, pronotal ridge (sometimes medially interrupted), subalarum, tegulae except apex, apex of scutellum and postscutellum; legs rufous as in female, tibiae and femora I and II sometimes yellowish on anterior side and coxae I and II sometimes apically yellowish; infuscation on apex of tibiae III restricted, tarsi III black; flagellum black with 39 to 40 segments, scape ventrally white; length 9-10 mm.

12. *Platylabus erythrocoxa*, new species

Types

Holotype.—♀, Maine, Dryden, 6.IX.1951, Gerd H. Heinrich. C.G.H.

Allotype.—♂, Maine, Mt. Blue, 26.VII.1960. C.G.H.

Paratypes.—7 ♀♀, 2 ♂♂, Maine, Dryden and Mt. Blue; 1 ♀, British Columbia, Cultus Lake; 1 ♂, California. C.G.H.; 1 ♂, Nova Scotia; 1 ♂, Northwest Territories. C.N.C. No. 7396.

Distribution

Maine, Nova Scotia, Northwest Territories, British Columbia, California.

Preamble

A rather distinct species of the *pedatorius* group; in the majority of specimens differing from all others by the uniformly pitch black color of tarsi III, tibiae III and apex of femora III, contrasting with the bright rufous color of the rest of the legs, including coxae and trochanters.

Female

Black; scutellum with white apical mark; frontal orbits narrowly and narrow, apical border of cheeks at base of mandibles white; rest of thorax and head usually black, rarely subalarum or tegulae with white dot; legs rufous, including coxae and trochanters; apex of femora III, the tibiae III and the tarsi III usually uniformly deep black, sometimes tibiae III more or less extensively and more or less distinctly red-brown beyond base; flagellum with restricted white annulus; femora and abdomen slender; length 7-8.5 mm.

Flagellum.—Bristleshaped, slender, ventrally flattened, but not at all widened beyond middle, with 33 or 34 segments, all wider than long. Black, with white annulus on segments 8 (rarely) or 9 (usually) or 10 to 11 or (rarely) to 12.

Head.—Temple and cheek profiles considerably narrowed, the former with but slightly curved outline; malar space about as long as width of base of mandible. Black; frontal orbits very narrowly (sometimes) white up to level of upper end of supraantennal cavities; apical margin of cheeks at base of mandible white too.

Thorax.—Mesoscutum fairly sparsely punctured and shiny; basal third of notauli well indicated by shallow depressions; scutellum distinctly narrowed toward apex with straight, considerably converging lateral carinae; area superomedia as wide as long or moderately wider than long; lower part of mesopleura rather densely punctured, the punctures tending to run into indistinct, transverse striae toward lower apex of mesopleura. Black, scutellum with white apical mark; rarely white dot on tegulae or on subalarum or on postscutellum.

Legs.—Femora fairly slender. Legs vivid rufous, including coxae and trochanters, in sharp contrast to the deep black color of the apex of femora III, of the entire tibiae III and tarsi III; tibiae III often beyond base with a restricted more or less distinct ferruginous base with a restricted, more or less distinct ferruginous or red-brown annulus.

Abdomen.—Rather slender; gastrocoeli triangular, transverse, with narrowed interval; base of second tergite between and beyond gastrocoeli rather coarsely, irregularly rugose-punctate; ovipositor projecting a little. Uniformly deep black.

Male

Black; face and clypeus black, facial and frontal orbits white, as are malar space and apex of cheeks narrowly; outer orbits with white median dot or short narrow median line; scutellum with white apical mark; tegulae and subalarum white marked, the latter sometimes entirely white; legs as in female; flagellum without annulus; length 7-9 mm.

Flagellum.—With 31-34 segments. Black, scape usually ventrally white marked.

Head.—Black; the following are white: frontal orbits narrowly up to below lower ocellus, facial orbits more broadly and confluent with white of malar space and with fairly narrow white apex of cheeks at base of mandible, clypeus laterally and sometimes narrowly at apex; outer orbits with very inconspicuous white median dot or short line, often upper part of face with two white median dots.

Thorax.—Scutellum always with white apical mark; tegulae and subalarum more or less extensively white marked; the rest black.

Legs.—As in female; coxae I usually with whitish mark on anterior side.

Abdomen.—As in female.

13. *Platylabus permodestus*, new species

Types

Holotype.—♀, Washington, Mt. Rainier, 2900 ft., 12.VII.1940, H. & M. Townes. C.H.T.

Allotype.—♂, Washington, Mt. Rainier, 2900 ft., 28.VII.1940, H. & M. Townes. C.H.T.

Paratypes.—3 ♀♀, Washington, Elbe; 1 ♂, Washington, Mt. Rainier; 1 ♂, California; 3 ♀♀, Colorado. C.H.T.

Distribution

Washington, Colorado, California (♂) (C.H.T.); British Columbia (C.N.C.).

Preamble

I was much in doubt whether this form should be considered as a western subspecies of *erythrocoxa*, new species, or as a distinct species. Except for an almost imperceptible difference in head structure, females of both forms seem to be congruent in morphology and differ only in the black pattern of legs III. Supposing, however, that my association of sexes, as suggested by occurrence at the same locality and approximate time, should be correct, I would presume that *permodestus* is a distinct species rather than a subspecies of *erythrocoxa*, because males would be too different.

Female

Black; scutellum with small white apical mark; frontal orbits narrowly and narrow, apical border of cheeks at base of mandibles white; rest of thorax and head usually black; legs rufous, including all coxae, trochanters and femora; apical half to two thirds of tibiae III and the tarsi III black; length 7-8.5 mm.

Flagellum.—Bristleshaped, slender, ventrally flattened, but not widened beyond middle, with 33-34 segments. Black, with restricted, often subobsolete white annulus on segments 10-11.

Head.—As in *erythrocoxa*, but temple profile a trifle less strongly narrowed and a trifle longer, temples not quite as steeply declivous; these differences are, however, almost imperceptible and can be noticed only by direct comparison of series of specimens. Black; frontal orbits very narrowly white up to level of upper end of supraantennal cavities; apical margin of cheeks at base of mandible narrowly white; sometimes a short, inconspicuous, white median line on outer orbits.

Thorax.—As in *erythrocoxa*.

Legs.—Rufous, including coxae and trochanters; apical half to three quarters of tibiae III and the tarsi III blackish infuscated; rarely very apex of femora III infuscated.

Abdomen.—As in *erythrocoxa*.

Male

Black; face, clypeus, malar space, apex of cheeks at base of mandibles and frontal orbits uniformly white; outer orbits with a short white median stripe; scutellum apically, tegulae and subalarum white marked; legs as in female but coxae I and II and trochanters I and II partially white; flagellum without annulus; length 8-9 mm.

Flagellum.—With 33-34 segments. Black; scape ventrally white.

14. *Platylabus alaskae*, new species

Types

Holotype.—♀, Alaska, King Salmon, 20.VII.1952, W. R. Mason. C.N.C. No. 7397.

Paratypes.—2 ♀♀, Alaska, King Salmon and Naknek. C.N.C.

Distribution

Alaska.

Preamble

Almost identical in morphology with *permodestus*, new species, but temple profile a little less narrowed and a little more curved, and the thorax or head and thorax uniformly black without any white markings. Probably a northern subspecies of *permodestus*.

Female

Black, in type specimen without white pattern except narrow, white, apical margin of cheeks at base of mandibles; legs rufous including coxae and trochanters; apical two thirds of tibiae III and the tarsi III black; length 6-7.5 mm.

Flagellum.—Bristleshaped, slender, ventrally flattened but not widened beyond middle, with 30-32 segments. Black, with white annulus on segments 10-11 or 12, in one specimen entirely black.

Head.—Temple profile moderately narrowed, with distinctly curved outline. Uniformly black except white apical margin of cheeks; in one specimen also frontal orbits narrowly white.

Thorax.—Almost as in *permodestus*; spiracles of propodeum small and short, about twice as long as medially wide. Uniformly black including scutellum; in one specimen a white dot on apex of pronotal ridge and another on tegulae.

Legs and abdomen as in *permodestus*.

15. *Platylabus rainieri*, new species*Types*

Holotype.—♀, Washington, Mt. Rainier, 5500 ft., 23.VII.1940, H. & M. Townes. C.H.T.

Allotype.—♂, Washington, Mt. Rainier, 5500 ft., 23.VII.1940, C.H.T.

Paratypes.—1 ♂, same locality and data. C.H.T.; 1 ♂, Washington, Orcas I.; 1 ♀, 1 ♂, British Columbia, Vancouver. U.S.N.M.

Distribution

Washington (C.H.T. and U.S.N.M.); British Columbia, (Vancouver) (U.S.N.M.).

Preamble

A distinct species differing from the bulk of other forms of the *pedatorius* group by the less depressed and not transverse gastrocoeli with rather wide interval; distinguished furthermore by the broadly curved, scarcely narrowed temple profile of the female, and the very slender flagellum and femora. The chromatic characters are in both sexes almost identical with *permodestus*, new species.

Female

Black; an indistinct, very narrow stripe on inner orbits, apical margin of cheeks and apex of scutellum white; legs rufous, including coxae and trochanters; apex of tibiae III and the tarsi III infuscated; flagellum very slender, with restricted white annulus; temple profile wide; gastrocoeli not transverse; spiracles of propodeum short-oval; length 7 mm.

Flagellum.—Bristleshaped, very slender, ventrally flattened beyond middle but not at all widened, extremely attenuated at apex, with 34 segments, all longer than wide. Black, with fairly indistinct annulus on segments 11-12.

Head.—Temple profile scarcely narrowed, with broadly curved outline; malar space a trifle shorter than width of base of mandible. Black; the following are white: a very narrow, inconspicuous line on inner orbits (level with antennal sockets and up to above middle of frons), and the apical margin of cheeks at base of mandibles.

Thorax.—Mesoscutum moderately densely punctured, shiny; basal part of notauli fairly well indicated by shallow impressions; lateral carinae of scutellum straight and strongly converging toward apex; area superomedia fairly small, a little wider than long; spiracles of propodeum small and short-oval, about twice as long as medially wide. Black; tegulae and postscutellum ferruginous; apex of scutellum white.

Legs.—Femora slenderer than average. Rufous; apex of tibiae III and the tarsi III infuscated.

Abdomen.—Fairly short-oval, the third tergite twice or nearly twice as wide as long; gastrocoeli about as wide as long, moderately impressed, their interval not narrowed, approximately as wide as one gastrocoelus; second tergite and basal half of the third extremely finely punctured and alutaceous, the following tergites smooth and shiny; base of second tergite between gastrocoeli finely reticulate-rugose. Black.

Male

Black; face, clypeus, malar space, apex of cheeks, frontal orbits, short stripe on outer orbits, apex of scutellum, apex of pronotal ridge, tegulae and subalarum

white; legs as in female but coxae and trochanters I ventrally whitish, apical margin of femora III slightly infuscated; flagellum sometimes with fairly indistinct white annulus; length 8 mm.

Flagellum.—With 36 segments, black, ventrally obscure brownish, in one specimen with fairly indistinct, white annulus on segments 14-16; scape ventrally white.

16. *Platylabus tibialis* Ashmead

Platylabus tibialis Ashmead, 1901, *Psyche*, 9:147, ♀.

Types

Holotype.—♀, New Mexico, Las Vegas Range, 1100 ft. U.S.N.M.

Distribution

New Mexico.

Preamble

This species is not cleared yet. The coxae of the type specimen are partially black, partially rufous and intermediate between *erythrocoxa*, new species, and *melanocoxa*, new species; the latter two species agree with *tibialis* in the black pattern of legs III. It seems quite possible that one of the mentioned two species represents a mere subspecies of *tibialis*, but I would not be able to decide which one, and I would hesitate to assume any subspecific hypothesis at all, unless some further specimens from the type locality are collected to support such a hypothesis and to show the limits of the individual variability of this form.

Female

(Description based on type specimen only.)

Black; no white pattern on inner orbits, on pronotal ridge or on scutellum; only apical margin of cheeks at base of mandibles and median stripe on outer orbits white; legs predominantly rufous, coxae and trochanters partially black or blackish; furthermore, apex of femora III, apex of tibiae III extensively, the tarsi III and flagellum, except white annulus, are black; length 8 mm.

Flagellum.—Bristleshaped, slender, ventrally flattened beyond middle, scarcely widened, the widest segment square. Black with white annulus on segments 10-12.

Head.—Temple profile moderately narrowed, with curved outline; slope of temples slightly convex. Black; only narrow apical border of cheeks and median stripe on outer orbits white.

Thorax.—Mesoscutum medially fairly sparsely punctured, shiny; area superomedia slightly narrowed toward base, almost twice as wide as long. Uniformly black, tegulae obscure ferruginous.

Legs.—Coxae I extensively blackish, coxae II black particularly laterally and apically, coxae III on interior side, ventrally at base and dorsally at apex; trochanters I and II dorsally infuscated, trochanters III entirely blackish; femora III apically narrowly black, tibiae III extensively, tarsi III entirely.

Abdomen.—Rather stout; gastrocoeli transverse, with narrowed interval. Uniformly black.

17. *Platylabus foxleei*, new species

Types

Holotype.—♀, British Columbia, Robson, 11.V.1953, H. R. Foxlee. C.G.H.

Allotype.—♂, British Columbia, Robson, 14.V.1953, H. R. Foxlee. C.G.H.

Paratypes.—1 ♀, 2 ♂♂, British Columbia, Robson. C.G.H.; 1 ♀, British Columbia, Robson. C.N.C.; 2 ♀♀, 2 ♂♂, Alaska, Cold Bay. C.N.C. No. 7392.

Distribution

British Columbia (Robson), Alaska.

Preamble

Within the *pedatorius* group, this is one of the more robust species, slightly bigger than the majority, in appearance similar to *incabus* Davis, but well distinguished in both sexes by its broad, somewhat swollen temples, wide cheek profile, apically curved scutellar carinae, structure of gastrocoeli, which are narrow in longitudinal direction and wide in transverse direction, by the wide petiolus and by the black color of coxae and trochanters.

Female

Black; thorax always without white pattern; inner orbits with short and narrow white line, outer orbits black, sometimes with white, median dot; flagellum with reduced or obsolete annulus; legs rufous except black coxae and trochanters; usually apex narrowly of femora III, more than apical half of tibiae III and the tarsi black; base of tibiae III sometimes narrowly infuscated; length 9-10 mm.

Flagellum.—Bristleshaped, slender, ventrally flattened, but not distinctly widened beyond middle, considerably attenuated toward apex, with 36-37 segments. Black; segments 11 and 12 with indistinct, white, dorsal marks, or dorsally entirely white.

Head.—Wide, temple profile not narrowed, with broadly curved outline; declivity of temples distinctly convex; cheek profile wide, slightly narrowed, with curved outline; malar space longer than width of base of mandible. Black; inner orbits from slightly below level of antennal sockets up to level of upper border of supraantennal cavity narrowly white, sometimes only with short, inconspicuous, longitudinal mark in the middle; apical margin of cheeks at base of mandibles always, rarely dot in the middle of outer orbits, white.

Thorax.—Mesoscutum strongly convex, finely and rather sparsely punctured, somewhat shiny; ventral and lateral lobes separated by shallow longitudinal impressions replacing the notauli; scutellum wide, its lateral carinae not as straight and gradually converging toward apex as usual, but curved at the apex one toward the other; area superomedia slightly wider than long, trapezoid, narrowed toward base, irregularly longitudinally rugose; spiracles rather large and oval. Uniformly black.

Legs.—Rufous; coxae and trochanters (not trochantelli) black, trochanters I and II always ventrally, sometimes entirely rufous; black in addition: usually apex of femora III narrowly, more than apical half of tibiae III and the tarsi III; very base of tibiae III sometimes infuscated, often apical segments of tarsi II ventrally or more extensively ferruginous.

Abdomen.—Petiolus considerably flattened, in the middle almost three times wider than high; gastrocoeli transverse, fairly short in longitudinal direction, wide in transverse direction, with narrowed interval; postpetiolus rather coarsely rugose; second and third tergites finely and fairly densely punctured, alutaceous between punctures, opaque. Uniformly black, sometimes apical margins of tergites 2 and 3 narrowly ferruginous.

Male

Inner orbits from level with upper border of supraantennal cavity (or lower) down over the malar space onto the apical margin of cheeks at base of mandible

white (sometimes this white line interrupted on lower facial orbits); rarely median mark on outer orbits, always ventral mark on scape white; predominant color of head, of the entire thorax and abdomen black; flagellum without annulus; the rest, including structure of head and thorax and color of legs, as in female; length 10 mm.

18. *Platylabus imitans*, new species

Types

Holotype.—♀, Maine, Mt. Blue, 31.VII.1960, Gerd H. Heinrich. C.G.H.

Allotype.—♂, Maine, Dryden, 16.VII.1959, G. H. Heinrich. C.G.H.

Paratypes.—1 ♂, 6 ♀♀, British Columbia, ♀♀ ex *Eupithecia* sp.; 1 ♀ Quebec, M. Lyall. C.N.C. No. 7393; 1 ♂ Washington, 1 ♂ California, U.S.N.M.

Distribution

Quebec, Maine, British Columbia, Washington, California.

Preamble

A rather small species of the *pedatorius* group, closely related and similar in color to *iridipennis* (Gravenhorst) and *pumilio* Holmgren, possibly the vicariant of one of these; in flagellar structure intermediate.

Female

Black; pronotal ridge and apex of scutellum white; flagellum with annulus; legs rufous, coxae and trochanters black; apex of femora III, apical $\frac{2}{3}$ of tibiae III, base of tibiae III narrowly and tarsi III black; scutellum laterally carinate almost its whole length; flagellum scarcely widened beyond middle, the widest segment square; length 6.5 mm.

Flagellum.—Bristleshaped, slender, ventrally flattened beyond middle, scarcely widened, the widest segment square, with 32 or 33, rarely 31, segments. Black with white annulus on segments 9 or 10 or 11 to 12 (sometimes subobsolete).

Head.—Temple profile distinctly narrowed, with slightly curved outline; slope of temples scarcely convex; cheek profile distinctly narrowed, with almost straight outline; malar space about as long as width of base of mandible. Black; the following are white: narrow inner orbits from level of or below level of antennal sockets up to nearly level of lower ocellus, apical margin of cheeks at base of mandibles.

Thorax.—Mesoscutum finely and moderately densely punctured, shiny; scutellum laterally carinate for its whole length (not apically); area superomedia slightly wider than long; spiracles small, oval. Black; the following are white: usually collare, always pronotal ridge, usually subalarum, always apex of scutellum, rarely postscutellum, tegulae partially or entirely, exceptionally short median stripe on outer orbits.

Legs.—Rufous; all coxae and trochanters black, trochantelli III also infuscated; apex of femora III, tibiae III predominantly (about basal third rufous, the very base infuscated) and the tarsi III black.

Abdomen.—Gastrocoeli transverse, their interval narrower than one of them; second tergite finely and rather densely punctured, alutaceous between punctures, subopaque. Uniformly black, apical margins of anterior tergites sometimes narrowly obscure ferruginous.

Male

(Maine.)

Black; entire face and clypeus, malar space, apical margin of cheeks, frontal orbits narrowly, short, narrow stripe on outer orbits and ventral mark on scape

white; white in addition: collar, pronotal ridge, subalarum, tegulae, usually apex of scutellum, postscutellum, coxae I and II except base, usually ventro-apical mark on coxae III, trochanters I and II ventrally and dot near apex of pronotal base; otherwise legs as in female; flagellum black, without annulus; length 8 mm.

The specimen from British Columbia differs but slightly. It has the trochanters I and II also dorsally and the apex of cheeks somewhat more extensively white. Otherwise identical with specimens from Maine. In the specimens from Washington and California, the ventro-apical white mark on coxae III is obsolete, and one lacks also the white apical mark on scutellum.

19. *Platylabus duplicans*, new species

Types

Holotype.—♀, Colorado, Poudre Lake, 1100 ft., 11.VIII.1948, H., M., G., D. & J. Townes. C.H.T.

Allotype.—♂, Colorado, Poudre Lake, 11.VIII.1948. C.H.T.

Paratypes.—2 ♀♀, from type locality; 1 ♀, Colorado, Fall River Pass; 1 ♂, Colorado, Rabbit Ears Pass, 9500 ft. C.H.T.; 1 ♀, Colorado, Ward, 10000 ft. C.G.H.

Distribution

Colorado.

Preamble

Chromatically almost identical with *melanocoxa*, new species, but well distinguished as a distinct species by the structure of the gastrocoeli and flagellum and by the sculpture of the abdomen.

Female

Black, including pronotal ridge; apex of scutellum white marked; annulus of flagellum usually rather indistinct; legs rufous, coxae and trochanters black; apex of femora III, apical two thirds of tibiae III and the tarsi III black; flagellum not at all widened beyond middle, very slender; gastrocoeli rather shallow, not transverse, with wide interval and indistinct thyridia; apical half of tergite 4 and the following tergites polished; length 7 mm.

Flagellum.—Bristleshaped, very slender, ventrally slightly flattened beyond middle but not at all widened, considerably attenuated toward apex, with 32-34 segments, all segments longer than wide. Black, with usually indistinct, sometimes distinct, white annulus on segments 10 or 11 to 12.

Head.—Temple and cheek profiles but moderately narrowed, the former with distinctly curved outline; malar space as long as width of base of mandible. Black; the following are white: inner orbits narrowly from level of antennal sockets or from below that level up to level of upper border of supraantennal cavities, apical margin of cheeks at base of mandibles, sometimes an inconspicuous dot or median line on outer orbits.

Thorax.—Mesoscutum finely and moderately densely punctured, shiny; notauli basally indicated; lateral carinae of scutellum straight and considerably converging toward apex; area superomedia slightly wider than long; spiracles small, oval. Black; the following are white: apical mark on scutellum, and tegulae partially or predominantly.

Legs.—Rufous; the following are black: all coxae and trochanters, trochantelli III, apex of femora III, apical two thirds of tibiae III and the tarsi III.

Abdomen.—Oval, apically blunt; gastrocoeli fairly shallow, not transverse, their interval about as wide as one of them, rugose-punctate; thyridia relatively indistinct; apical part of the fourth and the entire following tergites polished. Uniformly black.

Male

Black; head with characteristic white pattern (see below); tegulae and apex of scutellum white; legs as in female, coxae I and trochanters I, however, white marked and the tibiae III more extensively, in allotype almost entirely, black; length 8 mm.

Flagellum.—With 33-35 segments. Black; scape ventrally white.

Head.—Black; the following are white: apex of cheeks, malar space, sides of face (the white color on the latter gradually widening from clypeal forveae up to upper border of face, thus forming a large, triangular, black, median mark), frontal orbits, short, median stripes on outer orbits, sometimes base of mandibles.

Thorax.—Black; the following are white; apical mark on scutellum, tegulae partially, and in one specimen an apical dot on pronotal ridge.

20. *Platylabus melanocoxa*, new species

Platylabus pedatorius Townes (nec Fabricius), 1951, Syn. Cat., p. 281, ♂.

Types

Holotype.—♀, Washington, Mt. Rainier, 5300 ft., 16.VIII.1940, H. & M. Townes. C.H.T.

Allotype.—♂, Washington, Mt. Rainier, 5300 ft., 16.VIII.1940. C.H.T.

Paratypes.—1 ♀, 1 ♂, California, Yosemite Pk., 8700 ft.; 1 ♀, Colorado, Steamboat Springs. C.H.T.

Host

Eupithecia annulata Hlst. (British Columbia). C.N.C.

Distribution

Washington, Colorado, California (C.H.T.); British Columbia (C.N.C.).

Preamble

Females are extremely similar in color to *duplificans*, new species, but are easy to distinguish by the structure of the flagellum and gastrocoeli; males differ chromatically more considerably by the entirely white face and clypeus.

Female

Black, including pronotal ridge; apex of scutellum white marked; flagellum with white annulus; legs rufous, coxae and trochanters black; apex of femora III scarcely or restrictedly black marked; apical two thirds of tibiae III and the tarsi III black; flagellum slightly but distinctly widened beyond middle; gastrocoeli normally impressed, transverse, with narrowed interval and distinct thyridia; apex of fourth tergite not polished, following tergites not quite as shiny as in *duplificans*; length 7 mm.

Flagellum.—Bristleshaped, slender, ventrally distinctly flattened and slightly widened beyond middle, moderately attenuated toward apex, with 32 segments, the widest segments slightly wider than long. Black, with white annulus on segments 10-12.

Head.—Temple and cheek profiles considerably narrowed, the former with curved, the latter with straight outline. Black; the following are white: inner

orbits narrowly from level of antennal sockets or from below that level up to level of upper border of supraantennal cavities, apical margin of cheeks at base of mandibles narrowly, sometimes a short, median line on outer orbits.

Thorax.—Mesoscutum fairly densely punctured, moderately shiny; notauli basally indicated; lateral carinae of scutellum straight and converging toward apex; area superomedia usually slightly than in *duplificans*, about 3 times as long as medially wide. Black; the following are white. apical mark on scutellum and mark on tegulae, sometimes mark on postscutellum or on subalarum.

Legs.—Rufous; the following are black: all coxae and trochanters, trochantelli III, sometimes apex of femora III narrowly, apical two thirds of tibiae III and the tarsi III.

Abdomen.—Slenderer than in *duplificans*; gastrocoeli normally impressed, transverse, with distinct, somewhat oblique thyridia and with narrowed interval; entire surface of fourth tergite very finely alutaceous, apically not polished; the following tergites rather smooth and shiny, but not really polished as in *duplificans*. Black, apical margins of anterior tergites sometimes narrowly obscure ferruginous.

Male

Black; face, clypeus and malar space white, tegulae and apex of scutellum white; legs as in female, coxae I and trochanters I, however, ventrally white marked; length 7 mm.

Flagellum.—With 31 segments. Black, ventrally blackish-brown, scape ventrally white.

Head.—Black; the following are white: mandibles except teeth, face, clypeus, malar space, narrow apical margin of cheeks at base of mandibles, frontal orbits narrowly, short, median line on outer orbits.

21. *Platylabus opaculus* Thomson

Distribution

Holarctic; ecologically confined to woods with stands of raspberries.

Preamble

The species is particularly distinguished by the extremely dense and fine sculpture of the mesoscutum which is entirely opaque, representing a unique character among all known species of the genus in Europe as well as in North America. Populations from the New World are congruent in sculpture and structure with European populations, differing only in the color of legs.

Female

Black; always apex of scutellum, inner orbits, apical margin of cheeks, usually median dot or mark on outer orbits and postscutellum white, sometimes subalarum or mark on tegulae white; color of femora and tibiae varying geographically from predominantly rufous to predominantly black; flagellum very long and slender, with 36-39 segments and with white annulus; length 8.5-10 mm.

Flagellum.—Bristleshaped, very long and slender, ventrally flattened beyond middle but not at all widened, extremely attenuated at apex, with 36-39 (usually 37) segments, all longer than wide. Black, with white annulus usually from segment 8 (rarely 7) to 12 (rarely 13).

Head.—Temple and cheek profiles considerably narrowed with almost straight outlines; malar space slightly shorter than width of base of mandible.

Black; the following are white: inner orbits narrowly from slightly below level of antennal sockets up to slightly below level of lower ocellus.

Thorax.—Mesoscutum extremely densely and finely punctured and alutaceous, completely opaque; notauli obsolete; scutellum rather highly elevated above post-scutellum, with straight, converging lateral carinae; area superomedia distinctly narrowed toward base, medially usually not, or little wider than long; areae dentiparae forming a rather long declivity. Black; apex of scutellum and usually the postscutellum white, sometimes tegulae or subalarum with white mark; very apex of pronotal ridge and predominant color of tegulae sometimes obscure ferruginous.

Legs.—Femora III rather thick. Black, including all coxae, trochanters and trochantelli; in middle European populations femora and tibiae predominantly rufous, legs III with black pattern; in Nearctic populations legs III black.

Abdomen.—Longish, the second tergite medially slightly longer than apically wide, the third less than 1.5 times as wide as long; gastrocoeli triangular, transverse, with distinctly narrowed interval and oblique thyridia; second tergite very finely (on the basal part somewhat stronger) and rather sparsely punctured, densely alutaceous between punctures, but nevertheless distinctly shiny. Black.

Male

Black; inner orbits (more broadly on face than on frons), continuing over the malar space onto apical margin of cheeks at base of mandibles, white; for other white markings, see below; no white marks on coxae; length 9-11 mm.

Flagellum.—With 37-39 segments. Black; scape usually ventrally white marked.

Head.—Malar space about half as long as width of base of mandible. Black; white stripe on inner orbits extending from below level of lower ocellus continuously over the facial orbits and malar space onto the apical margin of cheeks, including usually the lateral margin of the clypeus; middle of outer orbits usually with white line; sometimes two white dots in the middle of upper border of face, rarely clypeus with white, transverse, basal band.

Thorax.—Area superomedia considerably wider than long. Black; the following are white: apex of scutellum on the average more extensively than in female, often apical two thirds of scutellum, subalarum, usually postscutellum and tegulae partially or predominantly, often apex narrowly of pronotal ridge.

Legs.—As in female.

Abdomen.—Interval of gastrocoeli and base of second tergite coarsely rugose; otherwise as in female.

21a. *Platylabus opaculus opaculus* Thomson

Platylabus opaculus Thomson, 1888, Ann. Soc. Entom. France, 8:124, ♀ ♂.

Types

Holotype.—Probably in collection of the Zoological Institute of the University in Lund, Sweden.

Host

Larentia albicillata L. (In Germany, July 28, 1945, at noontime, I observed a female of this species parasitizing a caterpillar of this looper; this record has not been published before.)

Female and Male

Femora, tibiae and tarsi I and II rufous; femora III rufous with black apex, tibiae III rufous, narrowly black at base, broadly black at apex; tarsi III black.

Remarks

All the numerous specimens from different parts of the European continent I have seen invariably had the color of the legs as described above. In specimens from Britain, however, as recorded by Perkins 1959, the legs are for the most part black. British populations thus approach chromatically the American subspecies.

21b. *Platylabus opaculus americanus*, new subspecies

Types

Holotype.—♀, Maine, Alagash, 25.VIII.1960, Bernd Heinrich. C.G.H.

Allotype.—♂, Quebec, Mt. Lyall, 1500 ft., 12.VIII.1933, W. J. Brown. C.N.C. No. 7398.

Paratypes.—3 ♀♀, Quebec. C.G.H.; 2 ♀♀, British Columbia, 1 ♀, Ontario. C.N.C.; 2 ♀♀, Oregon, 1 ♀, Michigan. C.H.T.

Distribution

Maine, Quebec. (C.G.H.); Ontario, Alberta, British Columbia (Vancouver) (C.N.C.); Michigan, Oregon, Washington, New York (C.H.T.). Transcontinental in Transition Zone.

Female

Legs III always, sometimes also legs II, black; usually femora I and II blackish-brown, the tibiae I and II pale brown; tibiae I and II and apex of femora I and II ivory on anterior side.

Male

Legs III black; femora and tibiae I and II usually pale brown, femora I and II more or less infuscated on ventral or hind side, their apices and the tibiae I and II ivory on anterior side; tarsi I and II slightly infuscated.

22. *Platylabus semiopacus*, new species

Types

Holotype.—♀, Colorado, Phantom Valley, 9400 ft., 10.VIII.1948, H. M. D. & J. Townes. C.H.T.

Allotype.—♂, Colorado, Phantom Valley, 9400 ft., 9.VIII.1958. C.H.T.

Paratypes.—1 ♀, 6 ♂♂, all from type locality. C.H.T.

Distribution

Colorado.

Preamble

Females are chromatically very similar to *opaculus americanus*, new subspecies. They approach *opaculus* Thomson also in the sculpture of mesoscutum which is finely (though not as finely as in *opaculus*) and very densely punctured. It is, however, not absolutely dull as in *opaculus* but a little shiny instead (subopaque). They have a smaller number of flagellar segments, a shorter, more oval abdomen and slightly shallower gastrocoeli with slightly less narrowed interval. Males differ chromatically considerably from *opaculus* by entirely white face and clypeus.

Female

Black; white are: frontal orbits very narrowly, apical margin of cheeks, apex of scutellum, postscutellum, sometimes a median dot on outer orbits and the apex of pronotal ridge more or less extensively; legs black; femora, tibiae and tarsi I and II brown (femora darker than tibiae and tarsi); tibiae III with indistinctly brownish area beyond base; flagellum with 33-34 segments and with white annulus; length 8 mm.

Flagellum.—Bristleshaped, long and slender, ventrally slightly flattened beyond middle but not at all widened, extremely attenuated at apex, with 33-34 segments. Black, with white annulus on segments 8-12.

Head.—Temple and cheek profiles considerably narrowed with nearly straight outlines. Black; the following are white: very narrow stripe on frontal orbits, apical margin of cheeks at base of mandible and sometimes a median dot on outer orbits.

Thorax.—Mesoscutum very densely but more distinctly punctured than in *opaculus*, subopaque; notauli obsolete; lateral carinae of scutellum straight and converging; area superomedia not distinctly narrowed toward base as in *opaculus*, but approximately square, not distinctly bordered anteriorly; spiracles oval. Black; the following are white: apex of scutellum, postscutellum, pronotal ridge narrowly at the very apex or more extensively.

Legs.—Femora III slenderer than in *opaculus*. Black, including coxae and trochanters; femora, tibiae and tarsi I and II brownish, the femora darker than the rest; tibiae III with indistinct brownish area beyond base; femora III narrowly red-brown at base.

Abdomen.—Oval; second tergite medially about as long as apically wide, the third about twice as wide as long; gastrocoeli moderately deepened, their interval scarcely narrower than one of them. Black.

Male

Black; face and clypeus entirely white; other white markings see below; coxae I and II predominantly white; femora, tibiae and tarsi I and II and the tibiae III pale brown, the latter narrowly black at base, broadly at apex; length 8-9 mm.

Flagellum.—With 32-33 segments. Black; scape ventrally white.

Head.—Black; the following are white: mandibles except teeth, face, clypeus, malar space, apex of cheeks, frontal orbits to below level of lower ocellus, median stripe on outer orbits.

Thorax.—Area superomedia usually wider than long, anteriorly not clearly defined (as in female). Black; the following are white: pronotal ridge, subalarum, tegulae, apex of scutellum, postscutellum.

Legs.—Black and brown; coxae I and II predominantly, trochanters I and II ventrally white; the following are pale brown: femora, tibiae and tarsi I and II and the tibiae III, the latter except narrowly black base and broadly black apex.

Abdomen.—Black.

23. *Platylabus berndi*, new species*Types*

Holotype.—♂, Maine, Dryden, 3.VII.1960, Bernd Heinrich. C.G.H.

Paratype.—2 ♂♂, Maine, Mt. Blue, 14.VII.1960. C.G.H.; 1 ♂, Ontario, ex Geometridae. C.N.C.

Host

Geometridae (C.N.C.).

Distribution

Maine, Ontario.

Male

Black; head and thorax with rich white pattern; rounded, median mark on mesoscutum, pronotal ridge, scutella, mesosternum entirely or partially, all coxae partially, flagellar annulus and other markings, white; tergites 2 and 3 with narrow, light apical and basal bands, the following tergites with very narrow, light apical margins; all tarsi white; all femora rufous, femora III apically black; length 11-12 mm.

Flagellum.—With 39-41 segments. Black, with conspicuous white annulus on segments 9 or 10 to 16 or 18; scape ventrally white.

Head.—Temple and cheek profiles considerably narrowed, with straight outlines; malar space about as long as width of base of mandible; frons fairly densely and strongly punctured. Black; the following are white: mandibles, clypeus, face, frontal orbits broadly up to vertex, malar space, cheeks from below temple region broadly down to base of mandibles (except black hind part along carinae occipitalis and genalis); sometimes face and clypeus with black median mark.

Thorax.—Mesoscutum rather strongly and densely punctured, shiny; basal third of notauli distinct; scutellum dorsally usually strongly convex, with strongly raised lateral carinae which are distinctly curved outward at the base; propodeum strongly, irregularly rugose, with strong carination; costulae rather distinct; area superomedia more or less transverse, rectangular; apex of areas dentiparae somewhat projecting. Black; the following are white: collare, pronotal ridge and pronotal base broadly, large, rounded median mark on mesosternum, large mark on scutellum, postscutellum, subalarum, tegulae partially, upper hind edge of mesopleura, apex of prosternum, prepectus extensively, entire mesosternum and lower part of mesopleura (type specimen and one paratype); apex of propodeum and of areae spiraculiferae reddish-white.

Legs.—Predominantly color of coxae and trochanters black, of all trochantelli and all femora rufous, of all tibiae reddish yellowish; all tarsi white; coxae I and II predominantly white, coxae III ventrally white to a varying extent (from apically to entirely); femora III apically black; trochanters I and II ventrally white.

Abdomen.—Gastrocoeli triangular, transverse, with considerably narrowed interval; tergites 2-4 densely and rather strongly punctured, the second tergite irregularly, coarsely rugose between gastrocoeli and on basal part. Black; base of first tergite narrowly, base of second tergite including gastrocoeli more broadly, narrow apical band on second tergite and narrow basal and apical bands on third tergite reddish-yellowish, very narrow apical margins of the following tergites whitish.

Variability

In contrast to the two specimens from Maine, the mesosternum and lower part of mesopleura in the specimen from Ontario are not white, but predominantly black with only restricted white markings on the mesosternum, particularly along sternaui.

24. *Platylabus pseudhistrio*, new species

Types

Holotype.—♂, Maine, Dallas, 18.VI.1937. U.S.N.M.

Distribution

Maine.

Preamble

In the white-banded tibiae, broadly rounded temples and cheeks, and angularly projecting apices of areae dentiparae, this species approaches the European *histrio* Wesmael, but differs from it chromatically, and also by the shape of scutellum and by the sculpture of frons, mesoscutum and postpetiolus. Whether it represents the nearctic vicariant of *histrio* can not be decided until further material is found and the biology known. The species is also somewhat similar to *berndi*, new species, but differs considerably in the structure of head and by its black tarsi and femora III.

Male

Black, all tibiae with white annulus; scutellum, pronotal ridge, subalarum, facial and frontal orbits, white; flagellum with white annulus; apices of areae dentiparae projecting angularly; frons between supraantennal cavities and ocelli not polished but irregularly, finely rugose; gastrocoeli deep, transverse, with narrowed intervals; basal part of postpetiolus with very sharply projecting, narrow median field; scutellum rather strongly ascending from base toward apex, with deep and rather steep apical slope, laterally carinate to about middle; length 11 mm.

Flagellum.—With 36 segments, without tyloides. Black, with white annulus on segments 10-15; scape ventrally white.

Head.—Wide; temple and cheek profiles scarcely narrowed, with broadly curved outlines; malar space shorter than width of base of mandible; supraantennal cavities large, deep and smooth, as in *histrio*, frons between cavities and ocelli, however, in contrast to *histrio*, not polished but with some fine, irregular rugosity. Black; the following are white: frontal orbits (up to level of lower ocellus), facial orbits, malar space, apex of cheeks at base of mandibles, and base of mandibles.

Thorax.—Mesoscutum densely and moderately finely punctured, but slightly shiny, basal fourth of notauli rather distinct, in shape of a shallow, fairly wide deepening; scutellum strongly convex as a whole, ascending gradually from base to apex, with fairly steep and deep apical slope, and with reduced, weak lateral carinae reaching scarcely to its middle; area superomedia somewhat wider than long; apices of areae dentiparae with distinct, short and wide projections. Black; the following are white: pronotal ridge broadly, subalarum, scutellum, and two small marks on propodeum (covering the projections of areae dentiparae and bases of areae posteroexternae).

Legs.—Femora III fairly stout; tarsi III fairly slender; metatarsus III in lateral aspect slightly curved. Black, tibiae and tarsi I and II brownish; all tibiae with white annulus beyond base which on tibiae I is narrow and indistinct.

Abdomen.—Postpetiolus coarsely and irregularly rugose, on the elbow and basal half with unusually strongly prominent longitudinal carinae; gastrocoeli large and deep, transverse, with narrowed interval; basal half of second tergite, including interval of gastrocoeli, coarsely, irregularly rugose, apical half and base of third tergite densely and coarsely punctured. Black; base of second tergite, including gastrocoeli, and its narrow apical margin, obscure ferruginous tinted.

III. *rufus* group

Species 25-36

The type-species of the genus *Platylabus*, the European *rufus* Wesmael, is distinguished by the predominantly ferruginous color of thorax and abdomen, and by the very smooth sculpture of the tergites, with considerably reduced puncturation. In size and in every other regard it agrees well with most of the species of the *pedatorius* group. While the European fauna contains no other species with simultaneously red thorax and red abdomen except *rufus*, the Nearctic Zone is inhabited by a number of forms with corresponding chromatic characters. Only one of them, *lineolatus* (Provancher), seems to be closely related to *rufus*, sharing with it not only the predominant red color but also the smooth sculpture of the abdomen.

In the following the *rufus* group is interpreted merely as a chromatic section of the genus, without consideration of phylogenetic relations. Consequently some species with the gastrocoeli not transverse, and some with short apophyses on the propodeum (for example, *rufipes* (Provancher)) are included. The chromatic diagnosis of the group comprises all species combining an entirely or predominantly ferruginous or red abdomen with a partially or predominantly ferruginous or red thorax.

25. *Platylabus lineolatus* (Provancher)

Ichneumon lineolatus Provancher, 1875, Nat. Canad., 7:24, 82, ♀.

Platylabus pulcher Cushman, 1922, U.S. Nat. Mus. Proc., 60 (21):1, ♀.

Types

Holotypes.—*Ichneumon lineolatus* Provancher, ♀, Canada. Provincial Museum, Quebec. No. 642; *Platylabus pulcher* Cushman, ♀, Michigan. U.S.N.M.

Neallotype.—♂, Maine, Bar Harbor, 19.VII.1936, A. E. Brower. C.H.T.

Host

Hydriomena renunciata columbiata Tayl. (British Columbia).

Distribution

According to H. Townes, 1951: "Maine, Quebec, Michigan." New records: Ontario, British Columbia (C.N.C.).

Preamble

In the nearctic fauna, this species is most closely related to the European type-species (*rufus* Wesmael). Females are distinguished by the uniformly light ferruginous predominant color of the entire body and by the smooth and shiny sculpture of the abdomen. The male probably to be associated is chromatically rather different from the female, showing a melanistic pattern on head, thorax and a considerably more extensive white pattern on head and thorax.

Female

Uniformly light ferruginous; orbits extensively, pronotal ridge, subalarum and apex of scutellum white; no white central mark on mesoscutum; flagellum tricolored; gastrocoeli strongly transverse with considerably narrowed interval; abdomen polished from the apex of second tergite to its end, base of 2nd tergite sparsely and finely punctured, third tergite without distinct puncturation; length 9 mm.

Flagellum.—Bristleshaped, slender, ventrally flattened beyond middle, but not at all widened, with 38 (5 specimens) or 39 (1 specimen) segments, all longer than wide. Tricolored, with white annulus on segments 9 or 10 to 12 or 13; scape and basal 3 to 4 segments ferruginous.

Head.—Temple profile distinctly, but moderately narrowed, slightly curved; cheek profile more considerably narrowed, with almost straight outline. Light ferruginous; the following are white: mandibles except teeth, inner orbits (face and frons), triangular marks on vertical orbits; outer orbits from below temple region downward to lower end of eyes; apex of cheeks and clypeus laterally sometimes yellowish tinted.

Thorax.—Mesoscutum fairly finely and rather densely punctured, shiny; notauli basally indicated; lateral carinae of scutellum becoming gradually less distinct toward apex; area superomedia square or slightly wider than long, often not clearly bordered anteriorly; entire surface of meso- and metapleura densely and finely punctured. Light ferruginous; the following are white: collare (usually), pronotal base partially (usually predominantly), pronotal ridge broadly, subalarum, apex of scutellum, postscutellum.

Legs.—Femora III fairly stout. Uniformly light ferruginous; coxae I yellow marked, tibiae I ivory on anterior side.

Abdomen.—Postpetiolus finely, irregularly rugose, shiny; second tergite sparsely and finely punctured on anterior part, its apical part and the following tergites without distinct puncturation, shiny and smooth; gastrocoeli triangular, strongly transverse, with considerably narrowed interval. Uniformly light ferruginous.

Male

The description below is based on one specimen in C.H.T. and on two in C.N.C.; this is the single male I have seen so far which could with some probability be associated with *lineolatus* female.

Ferruginous, head and thorax with rich white and also with black pattern; abdomen ferruginous, black at base; flagellum black, without annulus; legs I and II with extensive white pattern; mesoscutum without white median mark but sometimes with white longitudinal lines; length 11 mm.

Flagellum.—With 37 segments, black; scape ventrally white.

Head.—White; the following are black: supraantennal cavities, middle of frons broadly, ocellar region and occipital region, the black area of the latter gradually narrowed downward toward the base of mandibles.

Thorax.—Sculpture, lateral carinae of scutellum and area superomedia approximately as in female; areae dentiparae, as in female, without toothlike projections. Ferruginous; the following are white: collare, pronotal base and ridge broadly, subalarum, tegulae, scutellum (except base narrowly), postscutellum, prescutellar carinae, hind upper edge of mesopleura, prosternum predominantly, prepectus (except inner central part), large wedge-shaped marks on mesosternum along mesolcus and along sternaui, a band on propodeum following the apical border of areae dentiparae and areae superomedia and the exterior border of areae posteroexternae; sometimes mesoscutum with white longitudinal lines (separating the median lobe from the lateral lobes), and also with short white lateral lines near tegulae; the following are black: base of prosternum, rest of mesosternum, band on upper hind border of mesopleura, base of median lobe of mesoscutum and sometimes also lateral lobes partially, propodeum except areae metapleurales and coxales.

Legs.—Ferruginous with white and black pattern; the following are white: coxae and trochanters I and II almost entirely; anterior side of femora, tibiae and tarsi I and II, ventro-apical mark on coxae III, apex of trochanters III ventrally, sometimes tibiae III ventrally; apex of femora III and of tibiae III and all of tarsi III infuscated; coxae III partially and trochanters III (not trochantelli) black.

Abdomen.—In contrast to female, sculpture rather coarse, and anterior tergites densely punctured. Ferruginous; the following are black: first tergite entirely or extensively and base of the second narrowly. In type specimen also tergites 5-7 predominantly blackish. But this seems to be due to accidental discoloration.

26. *Platylabus rufipes* (Provancher)

Distribution

Record from Quebec and Maine in the east, from Alaska, British Columbia, California and Arizona in the west.

Preamble

In the strongly transverse gastrocoeli with considerably narrowed interval and in the polished sculpture of tergites, females equal *lineolatus* Provancher; they differ distinctly, however, by the toothlike projecting apices of areae dentiparae and considerably coarser puncturation of the mesoscutum. In contrast to *lineolatus* the basal part of third tergite is finely but distinctly punctured, the vertical orbits bear no yellow mark, and the lateral lobes of mesoscutum (sometimes all three lobes) are usually longitudinally black banded. No eastern males are known so far and only two eastern females, the type specimen and another one which I recently collected in Maine on Mt. Blue. Both have a white flagellar annulus in contrast to the majority of known western specimens. No structural differences have been found between the eastern and western females. The difference in color of flagellum has been regarded therefore as subspecific. There are, however, two females from British Columbia with white banded flagellum among the 11 western specimens I have examined. The relationship of eastern and western populations thus needs further attention and observation, as it does not seem fully impossible that we are dealing here with two extremely similar sibling species instead of with two subspecies. The discovery of the eastern male would be important for solving the problem.

Female

Ferruginous; usually lateral lobes of mesoscutum (rarely all three lobes) with black, longitudinal band; inner and outer orbits narrowly, often the very apex of scutellum white; tarsi III and mesosternum sometimes (eastern specimens) black; flagellum ferruginous, black toward apex, sometimes with white annulus, tricolored; propodeum with short, toothlike projections; abdomen polished, second tergite, except apex, and base of third tergite sparsely and finely punctured; mesoscutum coarsely punctured; length 8.5-9 mm.

Flagellum.—Bristleshaped, slender, ventrally flattened beyond middle, but not at all widened, with 36 or 37 segments. Ferruginous with black apex or tricolored, with white annulus on segments 9 or 10 to 12 or 13.

Head.—Temple profile moderately narrowed with slightly curved outline; cheek profile less considerably narrowed than in *lineolatus*, with nearly straight outline. Ferruginous; the following are white: upper part of facial and the frontal orbits, long, narrow stripe on outer orbits.

Thorax.—Mesoscutum and scutellum coarsely and rather densely punctured; notauli basally indicated (distinct in specimen from Maine), scutellum dorsally

fairly strongly convex, laterally carinate; area superomedia usually transverse, rectangular; areae dentiparae terminated by short, toothlike projections. Ferruginous; usually apex of pronotal ridge and mark on subalarum, often also very apex of scutellum white; the following are black: usually a broad, longitudinal band on each lateral lobe on mesoscutum (in the eastern specimens also the median lobe black banded), sometimes (as in both eastern specimens) the mesosternum extensively, the prosternum partially.

Legs.—Moderately stout, tarsi III relatively shorter than in *lineolatus*. Ferruginous, including coxae and trochanters tarsi III in eastern specimens infuscated.

Abdomen.—Gastrocoeli triangular, short in longitudinal measure, strongly transverse with considerably narrowed interval; tergites polished, basal part of second and of third tergites sparsely and finely punctured. Uniformly ferruginous.

Male

See subspecies *rufipes consors* Cresson.

26a. *Platylabus rufipes rufipes* (Provancher)

Phygadeuon rufipes Provancher, 1875, Nat. Canad., 7:24, 82, ♀.

Platylabus rufipes Heinrich, 1959, Can. Ent., 91: 806, 807, ♀.

Types

Holotype.—♀, Quebec. Provincial Museum, Quebec.

Distribution

Quebec. New record: Maine (C.G.H.).

Female

Flagellum tricolored, ferruginous, with black apex and white annulus; not only lateral lobes of mesoscutum but also median lobe with black or infuscated longitudinal band; propodeum partially, mesosternum predominantly and the tarsi III infuscated or black.

Male

Unknown.

26b. *Platylabus rufipes consors* Cresson

Platylabus consors Cresson, 1877, Amer. Ent. Soc. Trans., 6:200, ♂.

Platylabus californicus Cresson, 1877, Amer. Ent. Soc. Trans., 6:201, ♀.

Platylabus rufipes consors Heinrich, 1959, Ent. News, 70:215, No. 52, ♂; 216, No. 53, ♀.

Types

Holotypes.—*Platylabus consors* Cresson, ♂, California. A.N.S.; *Platylabus californicus* Cresson, ♀, California. A.N.S.

Host

"*Hydriomena* sp." by three different rearings in British Columbia (Mt. Breton, ♂; Maiden Creek, ♀; Loom Lake, ♀); by one rearing in Alberta (Faucett, ♂); *Hydriomena renunciata* Wlk. by one rearing in British Columbia (Cascade, ♂).

Distribution

California. New records: British Columbia, Alberta, Alaska (C.N.C.); Arizona (C.H.T.).

Female

Flagellum usually without annulus; median lobe of mesoscutum, tarsi III and mesosternum not black (the latter sometimes with restricted infuscated area).

Male

(Association confirmed by the rearings mentioned above.)

Head and thorax black with white pattern; sometimes mesoscutal lobes separated by longitudinal ferruginous lines (as in type specimen of consors); face and clypeus white, usually with black median pattern, abdomen and legs red, legs I and II with white pattern, flagellum uniformly black; length 10-10.5 mm.

Flagellum.—With 34-36 segments, black; scape ventrally white.

Head.—Black; the following are white: mandibles except teeth, face and clypeus (sometimes uniformly, sometimes except a black, median pattern of varying size and shape), frontal orbits, stripe on outer orbits, usually a small, or very small, mark on apex of cheeks at base of mandibles.

Thorax.—Toothlike projections of propodeum distinct. Black, rarely the three mesoscutal lobes separated by ferruginous, longitudinal lines; the following are white: apex of pronotal ridge more or less extensively, more or less extensive mark on tegulae, usually small apical mark on scutellum and subalarum partially.

Legs.—Black; usually at least femora III, often all femora red (exceptionally all femora black), femora I, sometimes I and II white on anterior side; coxae I on anterior side and apex of coxae II white; trochanters I and II ventrally white; coxae III and trochanters III black; tibiae and tarsi I and the tibiae II white on anterior side; tibiae III, tarsi II and III and posterior side of tibiae I and tarsi I usually black or blackish.

Abdomen.—Usually uniformly red; exceptionally first tergite black.

Remarks

The above description of males applies to ten examined specimens (including type specimen of *consors* Cresson) from Alaska, British Columbia, California and Arizona which without doubt all belong to one and the same species. Three of these specimens were reared in British Columbia from *Hydriomena*, along with typical females of *Platylabus californicus* Cresson. The association of sexes seems therefore satisfactorily confirmed. There is, however, one male from California in C.H.T. which is uniformly ferruginous and which could not be regarded as the same species, unless we presumed that it represents a chromatic intersex, a combination of the female's color with the male's structure. Vice versa, there is one female from Arizona in C.H.T. with almost entirely black head and thorax. Whether this represents a distinct subspecies, differing from *rufipes consors* in the female (but not in the male) or likewise a chromatic intersex, is a question still to be answered.

27. *Platylabus serratae*, new species*Types*

Holotype.—♀, New Brunswick, Charlotte Co., ex *Euchlaena serrata* Dru. C.N.C. No. 7401.

Allotype.—♂, New Brunswick, Charlotte Co., ex *Euchlaena serrata* Dru. C.N.C.

Paratypes. 3 ♀♀, 2 ♂♂, from type locality and host. C.N.C.; 2 ♀♀, 2 ♂♂ from type locality and host; 1 ♂, Maine, Dryden. C.G.H.

Distribution

New Brunswick, Maine.

Female

Handsome species, 12-13 mm. long; light ferruginous; apex of pronotal ridge and scutella white; flagellum black with white annulus; apices of femora III and of tibiae III black; no light median mark on mesoscutum; gastrocoeli strongly transverse with very narrow interval.

Flagellum.—Bristleshaped, very long and slender, ventrally flattened beyond middle, not widened, extremely attenuated at apex, with 41-44 segments. Black, with white annulus on segments 8 or 9 to 12.

Head.—Temple and cheek profiles strongly narrowed with almost straight outlines; malar space distinctly longer than width of base of mandible. Ferruginous; the following are white: short line on frontal orbits below level of lower ocellus and short median stripe on outer orbits; the following are black: clypeus extensively, apical margin of cheeks narrowly at base of mandible, mandibles, usually apical margin of occiput along carina occipitalis.

Thorax.—Mesoscutum distinctly longer than wide, moderately densely and moderately strongly punctured; notauli subobsolete; scutellum dorsally strongly convex, nearly semiglobular, laterally strongly carinate, with steeply rounded apical slope; costulae distinct; area supermedia wider than long, hexagonal, receiving costulae before middle, with parallel sides; apices of areae dentiparae somewhat pointed. Ferruginous; prosternum laterally and basally black; the following are white: collare, apex of pronotal ridge, subalarum, scutellum, postscutellum; tegulae dark.

Legs.—Moderately long; tarsi III stoutish. Ferruginous, apices of femora III and of tibiae III black; sometimes coxae I, trochanters I and tarsi III partially infuscated.

Abdomen.—Longish; postpetiolus rather wide, irregular rugose, particularly at base; gastrocoeli fairly deep, triangular, much wider than long, with considerably narrowed interval. Uniformly ferruginous.

Male

Flagellum with white annulus; tergites 1-3 and base of the fourth tergite, propodeum and mesopleura ferruginous; basic color of head and rest of thorax black with rich white pattern; apical tergites black; pronotal ridge and base, scutella, rounded median mark on mesoscutum and mesosternum extensively white; all tarsi white, the coxae extensively or predominantly white; femora and tibiae ferruginous, femora and tibiae III apically black; length 12-14 mm.

Flagellum.—With 40-42 segments; without tyloides. Black, with white annulus on segments 9 or 10 to 16; scape ventrally white.

Head.—Malar space about as long as width of base of mandible. Black, the following are white: face and clypeus (in specimen from Maine both with black median mark), malar space, frontal orbits up to vertex, outer orbits from below temple region down to base of mandibles, usually mandibles.

Thorax.—Predominant color of pronotum, prosternum, mesosternum and mesoscutum black, of propodeum and mesopleura ferruginous (in specimen from Maine also mesopleura predominantly black); the following are white: collare, pronotal ridge and base, apex of prosternum, prepectus except basal, median part (in specimen from Maine only border medially, subalarum, tegulae in part, upper hind edge of mesopleura, scutella, oval, median mark on mesoscutum,

mesosternum medially and between sternauli and mesopleura (not in specimen from Maine), and a not clearly defined pattern on propodeum at apex of areae dentiparae and of area superomedia.

Legs.—The following are white: all tarsi, coxae and trochanters I and II always predominantly or even entirely; coxae III varying from ventrally entirely ferruginous (specimen from Maine) to ventrally entirely white (most specimens from New Brunswick); sometimes trochanters III apically white; apices of femora III and of tibiae III black; base of coxae I and II black, usually also apex of coxae III dorsally more or less extensively, rarely coxae III ventrally in part.

Abdomen.—Tergites 1-3 and usually base of fourth tergite narrowly ferruginous, the following tergites black.

28. *Platylabus albidorsus*, new species

Types

Holotype.—♀, Maine, Mt. Blue, 2.IX.1956, Gerd H. Heinrich. C.G.H.

Paratypes.—2 ♀♀, Maine, 1 ♀, Ontario. C.G.H.; 3 ♀♀, Quebec, 1 ♀, Ontario. C.N.C. No. 7402.

Distribution

Maine, Ontario, Quebec.

Preamble

Related in structure and color to *serratae*, new species, and nearly of the same conspicuous size. Distinguished by more extensive white pattern on head and thorax and particularly by a large white median mark on mesoscutum which is absent in the female of *serratae*.

Female

Basic color uniformly light ferruginous; all orbits (except on temples) and malar space broadly white; white also: entire pronotal ridge and base, collare, scutella and a large median mark on mesoscutum; apices of tibiae III narrowly black; apices of femora III and the tarsi III not infuscated; gastrocoeli strongly transverse, with narrowed interval; length 11-12 mm. Mutants with melanistic predominant color of head, pronotum and mesoscutum occur.

Flagellum.—Bristleshaped, very long and slender, ventrally flattened beyond middle, not widened, extremely attenuated at apex, with usually 38 or 39 segments (in one specimen 42). Black, with white annulus on segments 8-12 or 13 or 14; basal segments ferruginous tinted.

Head.—Temple and cheek profiles very strongly narrowed, with straight outlines; malar space considerably longer than width of base of mandible. Light ferruginous; the following are white: mandibles except teeth, orbits broadly (interrupted at temples), malar space with apex of cheeks and clypeus, the latter always with black, median, apical mark; in rare melanistic mutants the basic color of head may be partially black.

Thorax.—As in *serratae*, including scutellar and propodeal structure. Light ferruginous; base of prosternum black; the following are white: collare, pronotal ridge and base broadly, subalarum, scutellum, postscutellum, tegulae partially, large median mark on mesoscutum, apex of prosternum, often margin of prepectus or bands of varying extent on mesosternum (particularly along sternauli and apical part of mesolcus); in rare melanistic mutants the predominant color of mesoscutum and pronotum may be black.

Legs.—Segments 2-5 of tarsi III still a trifle more abbreviated than in *serratae*, together scarcely as long as the metatarsus. Light ferruginous; apex of tibiae III narrowly blackish; apices of coxae I and II and the trochanters I and II ventrally unusually more or less extensively whitish; all trochanters sometimes partially blackish.

Abdomen.—As in *serratae*. Uniformly light ferruginous.

29. *Platylabus monotonus*, new species

Types

Holotype.—♀, New Hampshire, Dixville Notch, 13.IX.1959, Gerd H. Heinrich. C.G.H.

Allotype.—♂, British Columbia, Clearwater, ex *Itame quadrilinearia* Pack. C.N.C. No. 7403.

Paratypes.—1 ♀, British Columbia. C.G.H.; 1 ♀, Nova Scotia, 1 ♀, British Columbia, 1 ♀, Alberta, ex *Itame anataria* Swett. C.N.C.; 4 ♀♀, Arizona. C.H.T. 1 ♀, New York, U.S.N.M.

Hosts

Itame quadrilinearia Pack. and *Oporinia autumnata* Gn. in British Columbia; *Itame anataria* Swett in Alberta.

Distribution

New Hampshire, Alberta, British Columbia, Arizona; Alaska (C.N.C.); New York (U.S.N.M.).

Preamble

An almost uniformly ferruginous species, usually with restricted black markings on coxae, trochanters, prosternum and prepectus, and always without white markings on the thorax; widely spread, with negligible geographical variability.

Female

Ferruginous with very restricted black and without white pattern except sometimes a narrow and indistinct yellowish stripe on frontal and on outer orbits and a small mark on vertical orbits; flagellum in great majority of specimens tricolored, basally ferruginous, apically black, with white annulus; gastrocoeli transverse, with narrowed, rugose interval; tarsi III stout and distinctly abbreviated; length 7.5-9 mm.

Flagellum.—Bristleshaped, slender, ventrally flattened beyond middle but not at all widened, extremely attenuated at apex, with 33-36 (exceptionally 31) segments. Tricolored, the basal 3-6 segments ferruginous, the rest black, segments 9 or 10 to 12 with white annulus; exceptionally basal segments black; scape, at least ventrally, usually entirely ferruginous.

Head.—Rather wide, temple profile but slightly narrowed, with curved outline, cheek profile moderately narrowed, with slightly curved outline; malar space a little longer than width of base of mandible. Ferruginous; sometimes frontal orbits and middle of outer orbits with narrow, faint yellowish line and the vertical orbits with yellowish dot.

Thorax.—Mesoscutum moderately densely and moderately finely punctured, shiny; basal third of notauli rather distinct; scutellum dorsally convex, laterally carinate, with steeply rounded apical slope; area superomedia square, fairly small; spiracles of propodeum fairly large, longish-oval. Ferruginous; the following are

black: in the type specimen prosternum, base of prepectus, median line on mesosternum (widened toward apex) and thoracical sutures; in western specimens black pattern more restricted.

Legs.—Stoutish; tarsi II distinctly abbreviated, the metatarsus about as long as the following three segments together. Ferruginous; base of coxae II and III (sometimes I-III) and of trochanters usually black, in specimen from New York trochanters entirely black.

Abdomen.—Gastrocoeli with approximately triangular outline, transverse, with distinct narrowed, rugose interval; rest of second tergite and the third finely and moderately densely punctured. Uniformly ferruginous.

Male

Flagellum black, without annulus; ferruginous with restricted black pattern on legs, thorax and head; lateral fields of face broadly, frontal and outer orbits narrowly, white; clypeus and median field of face ferruginous, the latter sometimes black; frons, ocellar region and occipital region usually uniformly black; usually collare, apex of pronotal ridge and subalarum, exceptionally middle of scutellum, yellow; length 8-9 mm.

Flagellum.—With 37 segments and with bacilliform tyloides on segments 10 or 11 to 18 or 19. Black, scape ventrally ferruginous.

Head.—Basic color varying from black to ferruginous; frons, vertex and occiput usually entirely or partially black; the following are white: mandibles except teeth, lateral fields of face broadly, frontal orbits and outer orbits narrowly, clypeus laterally indistinctly; median field of face ferruginous or sometimes black.

Thorax.—Ferruginous; collare, apex of pronotal ridge and subalarum usually yellow, exceptionally scutellum partially yellow tinted; the following are black: pronotum behind collare, sometimes propleura, prosternum basally, sometimes entirely, longitudinal central line on mesosternum, widened apically into a triangular mark, thoracic sutures.

Legs.—Ferruginous; coxae I yellow on anterior side; the following are black: all trochanters and trochantelli basally or dorsally, sometimes entirely; usually bases of coxae; apices of tibiae III and the tarsi III more or less infuscated; in specimens from Arizona black pattern on legs subobsolete.

Abdomen.—Uniformly ferruginous.

30. *Platylabus lissosculptus*, new species

Types

Holotype.—♂, California, Leeving, 24.VI.1948, H., M., G. and D. Townes. C.H.T.

Paratypes.—2 ♂♂, same locality, 22 and 24.VI.1948. C.H.T.

Distribution

California.

Preamble

Chromatically and in sculpture somewhat related to *monotonus*, new species, but bigger, predominant color of thorax (except usually ferruginous mesoscutum) black, supraantennal cavities comparatively much larger and deeper, and frons below ocelli less distinctly punctured. Particularly distinguished by the extremely abbreviated horizontal part of propodeum, the area superomedia being about three times as wide as medially long.

Male

Ferruginous, predominant color of head and thorax black, the mesoscutum and scutellum varying from ferruginous to black; flagellum black without annulus; face and clypeus varying from black with narrow, white, lateral stripes to predominantly, or even entirely, white; legs ferruginous, tarsi III and coxae I and II predominantly black; coxae III partially or entirely ferruginous; abdomen ferruginous, petiolus sometimes black; area superomedia extremely short and wide; pleura polished with moderately dense puncturation; length 10 mm.

Flagellum.—Without tyloides, with 37-40 segments. Uniformly black; scape black, ventrally white.

Head.—Wide; temple profile scarcely narrowed with curved outline; malar space a little shorter than width of base of mandible; supraantennal cavities very large and deep, space of frons between their upper border and ocelli short, extremely finely and moderately densely punctured; cheeks and temples polished with extremely fine, sparse punctures. Black, with very variable white patterns; at least lower part of frontal orbits, facial orbits, median stripe on outer orbits, lateral marks on clypeus and apex of cheeks at base of mandible base white; sometimes face and clypeus predominantly white with irregular black median markings, sometimes even entirely white.

Thorax.—Mesoscutum and pleura fairly finely and not densely punctured, space between punctures polished; notauli distinct; scutellum dorsally convex, the lateral carinae strongly prominent, curved inward at the apex and almost surrounding the scutellum; horizontal part of propodeum extremely short, area superomedia abbreviated and about 3 times as wide as long; spiracles of propodeum broadly oval. Black; sometimes mesoscutum, scutellum, mesosternum partially and horizontal part of propodeum partially ferruginous; subalarum usually white.

Legs.—Fairly stout. Ferruginous; the following are black: coxae I and II, sometimes coxae III partially, trochanters basally, tarsi III, apex of tibiae III narrowly; coxae I white marked on anterior side.

Abdomen.—Petiolus and postpetiolus fairly wide; gastrocoeli triangular, rather deep, their interval narrower than one of them; second and third tergites fairly finely and densely, the fourth still more finely and less densely punctured. Ferruginous, petiolus sometimes black.

31. *Platylabus tenuiformis*, new species

Types

Holotype.—♀, Arizona, Sierra Ancha, Parker Creek, 19.IV.1947, H. & M. Townes. C.H.T.

Allotype.—♂, same locality and data. C.H.T.

Paratypes.—1 ♀, 1 ♂, same locality, 19.IV.- and 4.V.1947. C.H.T.

Distribution

Arizona (Sierra Ancha).

Preamble

Chromatically similar to *monotonus*, new species, and *monotonops*, new species, but differing in appearance by the slender, somewhat elongate, shape of the abdomen of female, and considerably differentiated from both by the structure of the head (see below).

Female

Ferruginous, without black patterns; head and thorax sometimes with restricted yellowish markings; flagellum black, with white annulus, scape ferruginous; abdomen narrow, tapering toward apex; legs rather slender, including tarsi III; temple and cheek profiles considerably narrowed, with almost straight outlines; structure of gastrocoeli between monotonus and monotonops, their interval narrower than in the latter, wider than in the former species; length 8-9 mm.

Flagellum.—Bristleshaped, slender, ventrally flattened beyond middle but not at all widened, extremely attenuated at apex, with 35 or 36 segments. Black, with white annulus on segments 8-12; scape and pedicel uniformly ferruginous.

Head.—Temple and cheek profiles considerably narrowed, the former with nearly straight, the latter with straight, outline; cheeks narrow between eye and carina genalis; malar space about as long as width of base of mandible. Ferruginous; frontal orbits and upper part of facial orbits, yellowish.

Thorax.—Mesoscutum finely and fairly densely punctured, shiny; notauli basally distinct; scutellum dorsally convex, laterally carinate; area superomedia square or slightly wider than long; spiracles of propodeum longish-oval. Ferruginous; sometimes (type specimen) tip of scutellum, collare, pronotal ridge partially, and subalarum, yellowish tinted.

Legs.—Rather slender. Uniformly ferruginous.

Abdomen.—In comparison to the bulk of *Platylabus* species, slender and slightly elongate; gastrocoeli approximately triangular, moderately impressed, their interval almost as wide as one of them, coarsely punctured; rest of second and third tergites finely and fairly densely, the fourth tergite very finely, punctured. Uniformly densely, the fourth tergite very finely, punctured. Uniformly ferruginous

Male

Flagellum black, without annulus; ferruginous, without black pattern; face, clypeus, apex of cheeks, frontal, and stripe on outer, orbits pale yellow; sometimes apex of pronotal ridge, subalarum, and apex of scutellum, yellowish; length 7-9 mm.

Flagellum.—With 34-36 segments; without tyloides. Black, ventrally dark brownish; scape ferruginous, ventrally yellowish.

Head.—Ferruginous; supraantennal cavities blackish; the following pale yellowish: mandibles, except teeth, frontal orbits narrowly, narrow stripe on outer orbits, face, clypeus, malar space, apex of cheeks at base of mandible.

Thorax.—Ferruginous; sometimes collare, apex of pronotal ridge, subalarum and apex of scutellum, yellowish.

Legs.—Uniformly ferruginous; coxae I ventrally yellowish marked.

Abdomen.—Uniformly ferruginous.

32. *Platylabus monotonops*, new species*Types*

Holotype.—♀, New York, Long Island, Southold, 6.IX.1942, Roy Latham. U.S.N.M.

Distribution

New York (Long Island).

Preamble

Chromatically and in size rather similar to *monotonus*, new species, differing from the latter distinctly in structure, particularly by the not transverse gastrocoeli with rather wide interval, and by the considerably slenderer femora and tarsi III.

Female

Pale ferruginous without black pattern except on legs III, and without white pattern except yellowish scutella and subalarum; apex of femora III narrowly, of tibiae III broadly, and the tarsi III infuscated; flagellum black with white annulus; gastrocoeli distinct but moderately deep and not transverse, their interval wider than one of them; tarsi III not abbreviated, rather slender; length 7 mm.

Flagellum.—Bristleshaped, slender, ventrally flattened beyond middle but not at all widened, extremely attenuated at apex, with 38 segments. Black, with white annulus on segments 9-12; scape predominantly ferruginous.

Head.—Temple profile slightly narrowed, with curved outline, cheek profile moderately narrowed, with slightly curved outline; malar space a little longer than width of base of mandible. Uniformly ferruginous.

Thorax.—Mesoscutum finely and moderately densely punctured, shiny, notauli basally indicated; scutellum dorsally convex, laterally carinate, with rounded apical slope; area superomedia slightly wider than long; spiracles of propodeum small, short-oval, about twice as long as wide. Pale ferruginous; scutellum, postscutellum and subalarum yellowish.

Legs.—Considerately slenderer than in *monotonus*; tarsi III slender, not abbreviated. Ferruginous; apex of femora III narrowly, apex of tibiae III broadly and the tarsi III entirely infuscated.

Abdomen.—Gastrocoeli moderately impressed, not transverse, approximately as wide as long, their interval considerably wider than one of them, shiny and nearly smooth; second and third tergites fairly finely and not densely, the fourth tergite still more finely, punctured.

33. *Platylabus gracilicornis* (Viereck)

Craticheumon gracilicornis Viereck, Amer. Ent. Soc. Trans., 29:78, ♀.

Types

Holotype.—♀, New Mexico (Dailey Canyon). A.N.S.

Distribution

New Mexico. New record: California (C.H.T.).

Preamble

This form belongs to a group of very similar, monotonous ferruginous-colored, mostly southern, species. I have examined the type twice in order to clear its relationship to the other related forms. *Platylabus monotonus*, new species, doubtlessly differs from *gracilicornis* as a distinct species, as the tarsi of the latter are slenderer; furthermore the interval of gastrocoeli is less narrowed in *gracilicornis*, the sculpture of base of second tergite (especially between gastrocoeli) is less coarse and the puncturation of the fourth tergite is more distinct. *Platylabus monotonops*, new species, and *gracilicornis*, however, may perhaps be mere subspecies of the same species, as they seem to agree in structure, differing mainly by the color of the hind legs.

Female

Uniformly ferruginous; sometimes inner orbits indistinctly yellowish; flagellum black with white annulus; gastrocoeli triangular, close to quadrangular, not wider than long exteriorly, their interval somewhat wider than one of them; tarsi III normal, neither abbreviated nor widened; second and third tergites fairly coarsely, not densely punctured, smooth and shiny between punctures; the fourth tergite distinctly punctured, almost to apical margin; length 8.85 mm.

Flagellum.—Bristleshaped, slender, ventrally flattened beyond middle, but not at all widened, extremely attenuated at apex, with 37-39 (type specimen 38) segments. Black, with white annulus on segments 9-12 or to 13; scape ferruginous.

Head.—Rather wide; temple profile but slightly narrowed, with curved outline; cheek profile moderately narrowed, but a little more so than in *monotonus*; cheeks and frons distinctly and fairly densely punctured. Ferruginous; inner orbits indistinctly yellowish.

Thorax.—Mesoscutum moderately densely and finely punctured, shiny; notauli basally fairly distinct; scutellum dorsally convex, laterally carinate, approximately as in *monotonus*; area superomedia about as wide as long, or slightly wider than long. Uniformly ferruginous.

Legs.—Normal; femora slightly, tarsi distinctly, slenderer than in *monotonus*; segments of tarsi III not abbreviated or widened, the last segment longer than in *monotonus* and slightly curved. Uniformly ferruginous.

Abdomen.—Postpetiolus almost smooth; gastrocoeli nearly quadrangular, somewhat longer exteriorly than medially wide, their interval wider than one of them; second and third tergite rather strongly, moderately densely punctured, smooth and shiny between punctures; fourth tergite less strongly but still distinctly punctured almost to apex. Uniformly ferruginous.

34. *Platylabus micheneri*, new species

Types

Holotype.—♀, California, Inyo Mountains, 7000 ft., 21.V.1937, C. D. Michener. C.H.T.

Distribution

California.

Preamble

Differing from *monotonus*, new species, by the long and slender tarsi III, from *gracilicornis* Viereck by the transverse gastrocoeli with narrowed interval, by the apically white banded scutellum, and by the finer sculpture of the fourth tergite; from *tenuiformis*, new species, by the less narrowed temple and cheek profiles, by the considerably sparser and coarser puncturation of second and third tergites, and by the stouter abdomen.

Female

Almost uniformly ferruginous, apical band of scutellum and postscutellum white; gastrocoeli transverse, with narrowed interval; tarsi III slender; second and third tergites fairly coarsely, but not densely, punctured, smooth and shiny between punctures, the fourth tergite not distinctly punctured, except very finely in basal part; length 8 mm.

Flagellum.—Bristleshaped, slender, ventrally flattened and not widened beyond middle, considerably attenuated at apex, with 35 segments. Black; base

(first and second segments) extensively ferruginous; segments 9-12 with white annulus; scape ferruginous.

Head.—Temple and cheek profiles somewhat more narrowed than in *monotonus* (but much less in *tenuiformis*), both with almost straight outlines; cheeks, temples and occiput smooth and shiny, extremely finely and sparsely punctured; also frons shiny and fairly sparsely punctured. Ferruginous; frontal and middle of outer orbits narrowly and indistinctly yellowish.

Thorax.—Mesoscutum fairly finely and not densely punctured, shiny; notauli obsolete; scutellum dorsally moderately convex, somewhat less raised above post-scutellum than in *monotonus* and *gracilicornis*, and less abbreviated, laterally carinate; area superomedia slightly wider than long, rounded anteriorly. Ferruginous; apical band on scutellum and postscutellum white.

Legs.—Tarsi III rather long and slender. Uniformly ferruginous.

Abdomen.—Broad-oval; third tergite fully twice as wide as long; postpetiolus with some scattered, irregular punctures, median field almost smooth; gastrocoeli transverse-triangular, their interval somewhat narrower than one of them; second and third tergites moderately densely and fairly strongly punctured, between punctures shiny and very finely coriaceous; fourth tergite extremely finely punctured and coriaceous in basal part, becoming almost smooth toward apex. Uniformly ferruginous.

35. *Platylabus ornatus* (Provancher)

Phygadeuon ornatus Provancher, 1875, Nat. Canad., 7:181, 183, ♀.

Types

Holotype.—♀, Quebec. Provincial Museum, Quebec.

Neallotype.—♂, Maine, Dryden, 27.VII.1959. C.G.H.

Host

Semiothisa granitata Gn. in Quebec, New Brunswick, Saskatchewan, British Columbia, Alberta; 1 ♂ ex *Semiothisa oweni* Swett in Ontario (C.N.C.).

Distribution

According to H. Townes 1951: "Quebec, Washington, California." New records: Maine (C.G.H.); New Brunswick, Saskatchewan, Alberta, British Columbia (C.N.C.); North Carolina (C.H.T.).

Preamble

A pretty, gay-colored species. In both sexes head and flagellum black, the latter banded, the former with rich white pattern, thorax tricolored (red, white and black), abdomen and legs predominantly red.

Female

Head black, almost all of orbits white; thorax red, pronotum and sometimes prepectus, always scutellar sutures, black; scutellum, pronotal ridge and base, white; abdomen red; legs red, apices of femora and tibiae III, trochanters (at least in part) and often coxae I, black, the latter white marked; flagellum with annulus; gastrocoeli approximately quadrangular, their interval almost as wide as one of them; length 7.5-8 mm.

Flagellum.—Bristleshaped, very slender, ventrally flattened beyond middle, but not at all widened; all segments distinctly longer than wide, extremely attenuated at apex, with 39-42 segments. Black, with white annulus on segments 9 or 10 to 12 or 13.

Head.—Temple profile slightly narrowed, with curved outline, cheek profile distinctly narrowed, with straight outline; malar space about as long as width of base of mandible. Black; the following are white: base of mandibles, lateral marks on clypeus, orbits around eyes (narrowly interrupted at vertex, more broadly at malar space).

Thorax.—Mesoscutum finely and moderately densely punctured, somewhat shiny; notauli basally indicated; scutellum dorsally convex, laterally carinate, apically somewhat abbreviated, with steeply rounded apical slope; area superomedia approximately square; spiracles of propodeum oval. Red; the following are white: collare, pronotal ridge and pronotal base broadly, subalarum, mark on tegulae, scutellum; the following are black: basic color of pronotum, often also prosternum partially and prepectus, band below subalarum, scutellar sutures and postscutellum extensively, often also mesoscutal sutures and mesolcus.

Legs.—Tarsi fairly stout. Predominantly red; coxae I white on anterior side; the following are black: all trochanters and trochantelli partially or entirely, usually apices of femora III and of tibiae III and basic color of coxae I, sometimes coxae II and III partially.

Abdomen.—Fairly slender; second tergite medially longer than apically wide; outline of gastrocoeli approximately quadrangular, their interval wider than one of them; second and third tergite finely and fairly densely punctured. Uniformly red, base of petiolus usually somewhat infuscated.

Male

Flagellum with white annulus; head black, with rich white pattern; thorax red; pronotum, prosternum and prepectus, sometimes also mesoscutum partially or even entirely, black; pronotal ridge and base and scutellum white; abdomen red, petiolus black; legs red with black markings, coxae I and II and trochanters I and II ventrally predominantly white; length 8-9 mm.

Flagellum.—With 39 or 40 segments and with bacilliform tyloides on segments 11-19. Black, with white annulus on segments 12 or 13 to 14 or 15; scape often ventrally white marked.

Head.—Black; the following are white: mandibles except teeth, clypeus (sometimes except middle), face (except black median field or mark), orbits around eyes (interrupted narrowly at vertex, more broadly at malar space).

Thorax.—Area superomedia somewhat wider than long. Melanistic pattern on the average more extensive than in female; the following are, in eastern populations, usually black: predominant color of pronotum, prosternum, prepectus, mesoscutal sutures or mesoscutum partially, rarely entirely, often markings on mesopleura and propodeal sutures; western populations, on the average, less melanistic; the following are white: collare, pronotal ridge and base, subalarum, mark on tegulae, scutellum extensively.

Legs.—Red; coxae I and II and trochanters I and II ventrally extensively white; dorsally black; furthermore black: trochanters and trochantelli III, coxae III ventrally in part or entirely, dorsally usually at apex, apices of femora III and of tibiae III; tarsi III not infuscated.

Abdomen.—Uniformly red, except black petiolus.

Variability

Western populations are, on the average, slightly less melanistic than eastern and could on account of this difference be regarded as a distinct subspecies. One male from New Brunswick without flagellar annulus represents a rare individual mutant.

36. *Platylabus sexmaculatae*, new species*Types*

Holotype.—♀, Maine, Brownsville, 20.IX.1954, ex *Semiothisa sexmaculata* Pack. C.G.H.

Paratype.—1 ♀, Alberta, Harmon Valley, ex *Semiothisa sexmaculata* Pack. C.N.C. No. 7400.

Distribution

Maine, Alberta.

Preamble

Rather similar to *perkinsi* Walkley, but evidently a distinct species, differing mainly by the structure of the gastrocoeli, by the more extensively white colored orbits and an erythristic tendency on pleura and sometimes coxae. The latter tendency arouses the suspicion that this may perhaps be a melanistic mutant of *ornatus* (Provancher). I doubt that, however, because the flagellum is somewhat shorter and the sculpture of the anterior tergites somewhat denser than in *ornatus*. Nevertheless, the possibility of such mutability exists and has to be taken under consideration for further research.

Female

Head and thorax black, metapleura and/or mesopleura sometimes partially obscure ferruginous; orbits all around eyes white, except narrow interruptions at vertex and malar space; pronotal base and pronotal ridge extensively white lined; flagellum with annulus; legs red, coxae and trochanters entirely or extensively black, apices of tibiae III and of femora III infuscated; gastrocoeli fairly shallow and moderately wide, not distinctly transverse, their interval wider than one of them; length 7.5 mm.

Flagellum.—Bristleshaped, slender, ventrally flattened but not widened beyond middle, considerably attenuated at apex, with 37 segments. Black, with white annulus on segments 8 (apex) to 11 or 12.

Head.—Temple profile scarcely narrowed, with curved outline, cheek profile distinctly narrowed, with slightly curved outline; malar space slightly longer than width of base of mandible; frons, face, clypeus and cheeks densely and finely punctured. Black; the following are white: orbits narrowly around eyes with narrow interruption at vertex and at malar space, and base of mandibles.

Thorax.—Mesoscutum densely and finely punctured, scarcely shiny; scutellum dorsally strongly convex, apically somewhat truncate and sloping down in a gradual curve, laterally carinate; area superomedia considerably wider than long; spiracles of propodeum oval. Black; the following are white: collare and pronotal base (except apex), pronotal ridge (except base), subalarum, scutellum, regulae partially; in type specimen metapleura extensively, lower part of mesopleura and mesosternum at sternauli obscure ferruginous; in paratype only the lower part of mesopleura and adjacent part of mesosternum ferruginous.

Legs.—Femora fairly stout; coxae trochanters black, the former in the type specimen extensively, in the paratype restrictedly, obscure ferruginous; apices of femora III and of tibiae III blackish, tarsi infuscated; apex of femora I and the tibiae I ivory on anterior side.

Abdomen.—Gastrocoeli rather shallow, with approximately quadrangular outline, a little wider than long, their interval distinctly wider than one of them; second and third tergite densely punctured, on the space between gastrocoeli punctures partially running into irregular, short, longitudinal striae. Red; last tergites with very narrow, indistinctly yellowish apical margins.

IV. *perkinsi* group

Species 37-40

The species joined in this group differ chromatically from the *rufus* group by combining with the predominantly or entirely red abdomen a black thorax with or without a restricted white pattern, but always without red or ferruginous markings. Besides, the apical margins of last tergites are often narrowly white or yellowish, a feature not found in the *rufus* group. In contrast to the three previous groups, most of the males of the *perkinsi* group show distinct tyloides, and on the average in both sexes the puncturation of frons and cheeks is more distinct and denser than in the majority of other species of the genus. The bulk of the species of this group thus seems to represent a more natural unit than the others.

In Europe the *perkinsi* group is represented by the species *decipiens* Wesmael (which is very closely related to, if not conspecific with, *perkinsi* Walkley) *vibratorius* (Thunberg), *refiventris* Wesmael, *muticus* Thomson, *pallidens* Wesmael and others. In contrast to the American species, the last tergites of most of the European species are predominantly black.

37. *Platylabus perkinsi* Walkley

Ichneumon vafer Cresson, 1877, Amer. Ent. Soc. Trans., 6:178, ♂, preocc.

Platylabus montanus Cresson, 1877, Amer. Ent. Soc. Trans., 6:200, ♀.

Platylabus perkinsi Walkley, 1958, Syn. Cat., 1st Suppl., p. 48, new name.

Platylabus perkinsi Heinrich, 1959, Ent. News, 70:215, No. 51 (synonymy).

Types

Holotypes.—*Ichneumon vafer* Cresson, ♂, New Hampshire, White Mountains. A.N.S.; *Platylabus montanus* Cresson, ♀, New Hampshire, White Mountains. A.N.S.

Distribution

New Hampshire. New records: Massachusetts, Nantucket (U.S.N.M.); Michigan (C.H.T.). Specimens from Washington, Mt. Rainier in C.H.T. are at least subspecifically, perhaps specifically, different from the type specimen of *perkinsi*.

Male

Flagellum with annulus; head and thorax black with restricted white pattern; abdomen red; legs red except the following black parts: coxae and trochanters, apex of tibiae III and of femora III dorsally, the tarsi III; length 8 mm.

Flagellum.—Black, with white annulus.

Head.—Temple profile little narrowed, with curved outline; cheek profile distinctly narrowed with almost straight outline; cheeks fairly wide between eye and carina genalis; malar space fully as long as width of base of mandible. Black; the following are white: frontal orbits up to about middle of frons narrowly, facial orbits more broadly, marks on vertical orbits, lateral marks on clypeus, line on outer orbits, base of mandibles.

Thorax.—Scutellum rather strongly raised above postscutellum. dorsally convex, laterally carinate to beyond middle; area superomedia transverse; no costulae; apices of areae dentiparae not at all projecting; spiracles of propodeum short-oval. Black; the following are white: collare, pronotal ridge, subalarum, tegulae, scutellum.

Legs.—Red; coxae and trochanters black; furthermore black: apices of femora and tibiae III and the tarsi III; tarsi II also somewhat infuscated; coxae I white marked.

Abdomen.—Gastrocoeli rather deep, with moderately oblique thyridia, their interval nearly as wide as one of them; base of second tergite rugose. Uniformly red, except base of petiolus.

Female

Head and thorax black, with restricted white pattern; white are: stripe on frontal and median stripe on outer orbits, sometimes vertical marks, collare, pronotal ridge more or less extensively, subalarum partially and scutellum; abdomen red, last tergites (in type specimen) somewhat infuscated; legs as in male; flagellum with annulus; length 8 mm.

Flagellum.—Bristleshaped, slender, ventrally flattened beyond middle but not widened, the fourteenth segment approximately square. Black, with white annulus on segment 9-12.

Head.—Temple profile slightly narrowed, with curved outline; malar space a little longer than width of base of mandible. Black; the following are white: frontal orbits narrowly up to about middle of frons, median line on outer orbits and in paratype marks on vertical orbits.

Thorax.—Scutellum dorsally convex, laterally carinate nearly to the apex; area superomedia square, in paratype slightly wider than long. Black; the following are white: collare, pronotal ridge (the line medially interrupted in paratype), marks on tegulae, subalarum partially and scutellum.

Legs.—As in male, but coxae I not white marked.

Abdomen.—Postpetiolus nearly smooth; gastrocoeli rather deep, with oblique thyridia, their interval somewhat narrower than one of them. Red, apically somewhat infuscated in type specimen, the last tergites with narrowly and indistinctly yellowish apical margins.

38. *Platylabus vaferops*, new species

Types

Holotype.—♀, Washington, Mt. Rainier, 2900 ft., 28.VII.1940, H. & M. Townes. C.H.T.

Allotype.—♂, Washington, Mt. Rainier, 4700 ft., 9.VII.1940, H. & M. Townes. C.H.T.

Paratypes.—2 ♂♂, Washington, Mt. Rainier; 1 ♂, California, Dardanelle. C.H.T. 1 ♀, British Columbia, Cultus Lake, C.N.C. No. 7464.

Distribution

Washington, California, British Columbia.

Preamble

This form is very closely related to *perkinsi* Walkley, differing from the latter mainly by the restriction of white pattern. Flagellum of males with distinct tyloides; in contrast to *perkinsi*, without annulus; pronotal ridge and collare of females entirely black. The present stage of incomplete knowledge of the numerous extremely similar forms of this group still forbids deciding whether *vaferops* represents a western subspecies of *perkinsi* or a distinct species.

Female

Head and thorax black, with restricted white pattern; white are: stripe on frontal orbits, median stripe on outer orbits, mark on subalarum and apical two thirds of scutellum; pronotal ridge and collar entirely black; abdomen red, except black petiolus; legs red, except black coxae, trochanters, apices of femora III and of tibiae III, and the tarsi II and III; flagellum with subobsolete annulus; length 7.5 mm.

Flagellum.—Bristleshaped, slender, ventrally flattened but not widened beyond middle, extremely attenuated at apex, with 35 segments. Black, with subobsolete, white, dorsal markings on segments 10-12.

Head.—As in *perkinsi*. No vertical marks.

Thorax.—Mesoscutum finely and densely punctured but slightly shiny; notauli basally indicated; meso- and metapleura densely punctured, punctures on metapleura running into dense, irregular, transverse striation; scutellum dorsally convex, strongly narrowed toward apex, with straight, converging, considerably raised lateral carinae reaching almost to the apex; area superomedia relatively small, square; spiracles of propodeum broadly short-oval. Black; mark on subalarum and the scutellum (except basal third and sides) white.

Legs.—Rather long and slender. Red; the following are black: all coxae and trochanters, apex narrowly of femora III, apex of tibiae III more broadly, tarsi II and III; apex of femora I and the tibiae I yellowish on anterior side.

Abdomen.—Relatively slender; second tergite medially distinctly longer than apically wide, third tergite about 1.5 times as wide as long; gastrocoeli fairly deeply impressed and large with about quadrangular outline, not wider than long, their interval, however, somewhat narrower than one of them; second and third tergites densely and finely punctured, the second somewhat rugose between gastrocoeli. Uniformly red, except black petiolus; apical margins of last two tergites very narrowly yellowish.

Male

Flagellum without annulus, with distinct tyloides; head and thorax black, with restricted white pattern as in perkinsi; legs as in perkinsi; very apex of femora III infuscated or not; length 8 mm.

Flagellum.—With 35 or 36 segments and with bacilliform tyloides on segments 11-18. Black.

Head.—As in *perkinsi*. Black; the following are white: frontal orbits up to about middle of frons narrowly, facial orbits more broadly, lateral marks on clypeus, small marks on vertical orbits, median line on outer orbits, base of mandibles.

Thorax.—Mesoscutum and scutellum exactly as in female, the latter also with strongly raised lateral carinae almost to the apex; sculpture on metapleura not quite as dense as in holotype; area superomedia square or somewhat wider than long. Black; the following are white: collar, apical half of pronotal ridge, subalarum, anterior mark on tegulae, scutellum except basal third and sides, sometimes mark on pronotal base.

Legs.—As in *perkinsi*. Apex of femora III may or may not be narrowly infuscated.

Abdomen.—Gastrocoeli as in female, their interval and the base of second tergite more coarsely rugose. Red; petiolus black.

39. *Platylabus abbreviatus*, new species*Types*

Holotype.—♀, British Columbia, Robson, 26.VII.1950, H. R. Foxlee. C.N.C. No. 7405.

Distribution

British Columbia.

Preamble

Another western form of the *perkinsi* group, closely related to *vaferops*, new species, but distinctly differing as a species by the more abbreviated and comparatively wider petiolus, the shorter and less prominently carinated scutellum, the white flagellar annulus and the not infuscated tarsi III. I suspect that either *vaferops* or *abbreviatus* may represent the western vicariant of *perkinsi* Walkley, but in the present stage of defective knowledge of this complicated group any conclusion concerning subspecific connections seems to be premature.

Female

Head and thorax black, with restricted white pattern; white are: short stripe on frontal orbits, mark on tegulae, scutellum predominantly; pronotal ridge and collar entirely black; abdomen red including petiolus, apical margins of tergites 5-7 narrowly whitish; legs red, except black coxae and trochanters, very tip of tibiae III slightly infuscated; flagellum with conspicuous white annulus; petiolus and scutellum comparatively shorter than in vaferops, lateral carinae of scutellum less prominent; length 7.5 mm.

Flagellum.—(Apices broken.) Black with white annulus on segments 8 (apex) to 11.

Head.—Wide, vertex slightly convex in transverse direction, ocelli thus a little raised above level of vertical orbits; frons distinctly and very densely punctured; temple profile and cheek profile but slightly narrowed, with curved outlines; malar space fully as long as width of base of mandible. Black; only short, narrow lines on lower part of frontal orbits and base of mandibles white.

Thorax.—Mesoscutum distinctly and densely punctured, slightly shiny; notauli basally indicated; meso- and metapleura densely punctured; scutellum rather strongly convex, somewhat abbreviated, with oblique apical slope, the lateral carinae not very prominent and fading beyond middle; area superomedia transverse; spiracles of propodeum broadly short-oval. Black; tegulae brownish with white mark; scutellum predominantly white, its base narrowly and basal part of lateral carinae black.

Legs.—Femora III a trifle stouter than in *vaferops*. Red; all coxae and trochanters black; very tip of femora and of tibiae III scarcely infuscated.

Abdomen.—On a whole a little stouter than in *vaferops*; petiolus comparatively shorter and wider, scarcely 3 times as long as medially wide, second tergite medially about as long as apically wide, third tergite almost twice as wide as long; gastrocoeli fairly deeply impressed, in contrast to *vaferops* with approximately triangular outline, a little wider than long, their interval a trifle narrower than one of them; second and third tergites finely and fairly densely punctured. Red, including petiolus; tergites 5-7 slightly infuscated, with narrowly whitish apical margins.

40. *Platylabus polymelas*, new species

Types

Holotype.—♂, Colorado, near Estes Park, 15.VI.1948, H., M., G., D. & J. Townes. C.H.T.

Paratypes.—4 ♂♂, Arizona. C.H.T.; 1 ♂, British Columbia, Robson. C.N.C. No. 7406.

Distribution

British Columbia, Colorado, Arizona.

Preamble

A species of the *perkinsi* group, distinguished by the triangular, distinctly transverse gastrocoeli with narrowed interval, and by the uniformly black thorax, including scutellum (except sometimes a white mark on subalarum).

Male

Head and thorax black, the former with restricted, the latter without, white pattern, except sometimes a white mark on subalarum; flagellum black, without or with a subobsolete white annulus; abdomen usually uniformly red; sometimes first tergite partially or entirely black; last tergites without light apical margins; legs red, all coxae and trochanters (not trochantelli), apex of tibiae III and the tarsi III black; length 9-10 mm.

Flagellum.—With 34-36 segments and with bacilliform tyloides on segments 12 or 14 to 16 or 18. Black; in two out of six specimens with subobsolete annulus on segments 12-13 or to 14.

Head.—Temple profile little narrowed, with curved outline; malar space as long as width of base of mandible; frons finely rugose-punctate. Black; the following are white: base of mandibles, lower part of frontal orbits narrowly, facial orbits more broadly, narrow stripe on outer orbits, marks on vertical orbits.

Thorax.—Mesoscutum moderately densely and strongly punctured, somewhat shiny; notauli basally distinct; scutellum moderately convex, laterally carinate; area superomedia wider than long; spiracles of propodeum broadly oval. Uniformly black; sometimes subalarum white marked.

Legs.—Femora fairly stout; tarsi III a trifle thickened. Red; the following are black: all coxae, all trochanters and tarsi III; very tip of femora III, apex of tibiae III and usually apex of tarsi II infuscated; coxae I white marked; tibiae I and II yellowish on anterior side.

Abdomen.—Postpetiolus irregularly, coarsely rugose with well defined median field; gastrocoeli rather deep, triangular, wider than long, their interval narrower than one of them, coarsely rugose. Uniformly red, sometimes first tergite entirely or partially black; last tergites without light apical margins.

45. Genus *Tropicolabus* Heinrich

Tropicolabus Heinrich, 1959, Ent. News, 70:216.

Type-species.—*Platylabus foxi* Davis. Monobasic.

The genus is related to *Platylabus* Wesmael, distinguished by very long, somewhat upward-curved apophyses on the propodeum. Gastrocoeli transverse, extremely wide and deep, with just a very narrow interval, a character which clearly separates *Tropicolabus* from the two other genera of the tribe with pronounced apophyses (*Ambloplisus* Heinrich and *Hoploplatystylus* Schmiedeknecht). The type-species of *Tropicolabus* is furthermore distinguished by un-

usual sculpture, the mesoscutum being predominantly smooth and shiny, distinctly punctured only in the anterior part, the propodeum being extremely coarsely reticulate-rugose, with extraordinarily prominent carinae. Scutellum highly elevated above postscutellum, nearly perpendicularly rising from the basal furrow and then slanting in a long, steep slope down to the postscutellum, its lateral carinae being unusually prominent.

Color

The type specimen displays a considerable chromatic convergency with *Ambloplitis ornatus* (Cresson), particularly in arrangement of the extremely rich yellow markings on the thorax, which evidently represents one of the typical patterns of the Neotropic Ichneumoninae.

Distribution

The single known specimen comes from New Jersey. It is probably the most northward-advanced post of a neotropical group.

1. *Tropicolabus foxi* (Davis)

Platylabus foxi Davis, 1898, Amer. Ent. Soc. Trans., 24:352, ♂.

Thaumatoletes ornatus Townes, 1951, Syn. Cat., p. 281.

Tropicolabus foxi Heinrich, 1959, Ent. News, 70:216.

Holotype.—♂, New Jersey. A.N.S.

Distribution

New Jersey.

Male

Basic color of head and thorax black with extremely rich yellow patterns; tergites 1-3 piceous, 4-7 red, all with yellow apical bands; petiolus yellow; legs light rufous, all coxae and trochanters and segments 1 and 2 of tarsi III white, coxae III and trochanters III partially rufous, apex of tibiae III and segments 3-5 of tarsi III black; length 8 mm.

Flagellum.—Black with white annulus; scape ventrally yellow.

Head.—Yellow; the following are black: supraantennal cavities, middle of frons broadly, ocellar and occipital regions.

Thorax.—Mesoscutum predominantly smooth and shiny, distinctly punctured only on anterior part; scutellum as described in the treatment of the genus; entire propodeum extremely coarsely reticulate-rugose; carinae extraordinarily raised; area superomedia about as long as wide, with approximately hexagonal outline, slightly narrowed toward anterior border. Black, with extremely rich yellow patterns; the following are yellow: collare, pronotal ridge and base broadly, subalarum, mark on tegulae, two long, longitudinal stripes on mesoscutum, pre-scutellar carinae, scutellum, postscutellum, prosternum (except base), mesosternum (except a dark, longitudinal band on each side), margin of prepectus, lower half of mesopleura (confluent with yellow band along anterior border of mesopleura), crossband on upper part of mesopleura, metapleura, two marks on propodeum (covering the apophyses and the areae posteroexternae, connected one with another over the upper part of area posteromedia).

Legs.—Light rufous; segments 1 and 2 of tarsi III white; apex of tibiae III and segments 3-5 of tarsi III black; coxae and trochanters white; bases of trochanters III and the coxae III ventrally at base, dorsally at apex and laterally, rufous.

Abdomen.—Gastrocoeli very deep and extremely wide, with very narrow interval; postpetiolus sharply separated from petiolus, with prominent, longitudinal carinae and with coarsely rugose sculpture; tergites 2 and 3 very densely and coarsely sculptured, opaque. Tergites 1-3 piceous, 4-7 red; petiolus and continuous apical bands on all tergites yellow.

46. Genus *Cyclolabus* Heinrich

Cyclolabus Heinrich, 1935, Dt. Ent. Zeitschr., p. 198.

Type-species.—*Platylabus nigricollis* Wesmael. Monobasic.

The genus is closely related to *Platylabus* Wesmael, differing mainly by the shape of the spiracles of the propodeum, which are very small and circular, or almost so. Also, the propodeum is more abbreviated than on the average in *Platylabus*, the costulae are usually distinct and the notauli more sharply incised. The gastrocoeli are transverse, with narrowed interval, as in *Platylabus*, distinguishing the genus clearly from *Ectopius* Wesmael and *Limycus* Cameron which likewise have small and circular propodeal spiracles. The borderline between *Platylabus* and *Cyclolabus* is not very sharp, as some small species of the former genus with small and short-oval spiracles approach the latter. In contrast to *Platylabus* almost all known males of *Cyclolabus* have distinct tyloides.

Several species occur in the Old World, and several in the New.

Two of the American species have been reared from species of the genus *Eupithecia* Curt.

Key to the Species of *Cyclolabus* Heinrich of America North of Mexico

Females

1. Abdomen black; all tergites with white apical bands. (Mesoscutum with two short white median lines; length 5 mm.) 9. *albicinctus*, new species
- Abdomen not white banded, except sometimes tergites 5-7. (Abdomen ferruginous, or apically black, in rare mutants even predominantly black.) 2
2. At least the mesoscutum predominantly black, sometimes entire thorax. (Predominant color of apical tergites black.) 3
- At least the mesoscutum predominantly ferruginous, sometimes entire thorax. (Predominant color of abdomen uniformly ferruginous.) 9
3. Scutellum predominantly white. (Sometimes scutellum laterally carinate at the base only.) 4
- Scutellum ferruginous or black, in one species with white apex. (Scutellum laterally carinate for its whole length.) 6
4. Scutellum carinate for its whole length; head uniformly black, without any white markings. (Entire propodeum, mesosternum and mesopleuron pale ferruginous; lateral lobes of mesoscutum with a somewhat indistinct, obscure ferruginous, longitudinal patch; length 5-6 mm.) 2b. *lobatus occidentalis*, new species and new subspecies
- Scutellum carinate at the base only, or at the most to the middle; at least marks on vertical orbits and short stripe on lower half of frontal orbits white. (Sometimes propodeum and mesopleura partially or entirely ferruginous, but not the mesosternum.) 5
5. Small, graceful species, 6 mm. long; flagellum very slender, with 28-32 segments; propodeum not quite as abbreviated as in alternative species, the area superomedia twice as wide as long or less; facial orbits and clypeus never white marked. (Propodeum and mesopleura usually black, rarely partially red.) 8. *dubiosus* Perkins
- Somewhat bigger and stouter species, 7.5 mm. long; flagellum less slender, with 26 segments; propodeum more abbreviated, area superomedia 2-4 times as wide as long; facial orbits entirely or partially and clypeus laterally white. (Propodeum predominantly, mesopleura partially, red.) 7. *signatus* (Provancher)

6. Propodeum not distinctly abbreviated, area superomedia not or scarcely wider than long; very apex of cheeks at base of mandibles, apical stripe on pronotal ridge and apex of scutellum white; abdomen narrow, somewhat elongate. (Spiracles of propodeum short-oval; propodeum, lower part of mesopleura, mesosternum and first segment ferruginous; length 7 mm.) — see *Platylabus subrubricus*, new species
- Propodeum distinctly abbreviated, area superomedia considerably wider than long; head, pronotal ridge and scutellum without white markings; abdomen shorter, oval. _____ 7
7. Thorax and coxae III black. (Length 7-9 mm.) _____ 1b. *impressus infuscatus*, new subspecies 8
- At least propodeum and coxae III red. _____ 8
8. Lateral lobes of mesoscutum with somewhat indistinct, obscure ferruginous, longitudinal patches; entire propodeum, mesopleuron and mesosternum pale ferruginous. (Length 5-6 mm.) _____ 2a. *lobatus lobatus*, new species and new subspecies
- Mesoscutum uniformly black; ferruginous color on thorax less extensive; mesopleuron sometimes partially, but not uniformly, the mesosternum never, ferruginous. (Length 7-9 mm.) _____ 1a. *impressus impressus* (Provancher)
9. Scutellum ferruginous as is the mesoscutum; pronotal ridge and inner orbits never white or yellow marked. (Vertical orbits usually with small yellowish marks; longitudinal carinae of postpetiolus very sharply prominent; apices of areae dentiparae angularly projecting; length 6.5-7.5 mm.) — *gracilicornis* (Provancher) 10
- Scutellum and pronotal ridge white, usually also inner orbits partially white. (Flagellum with annulus.) _____ 11
10. Flagellum with white annulus, basally ferruginous, apically black; black markings on head, thorax and legs more extensive than in alternative subspecies. _____ 3a. *gracilicornis gracilicornis* (Provancher)
- Basal segments of flagellum ferruginous, rest black; no white annulus; black markings on head, thorax and legs reduced. _____ 3b. *gracilicornis subdentatus* (Ashmead)
11. Face and clypeus white; frontal and vertical orbits broadly white, except a narrow interruption at vertex. (Flagellum slightly widened beyond middle, but moderately attenuated, with 29 segments; abdomen short; length 5 mm.) _____ 5. *carolinensis*, new species
- Face and clypeus ferruginous; frontal orbits narrowly or indistinctly white; vertical orbits with small, whitish marks. _____ 12
12. Flagellum long and slender, with 32-33 segments, extremely attenuated at apex; abdomen oval; head and thorax finely and densely punctured, subopaque; cheek profile more narrowed than in alternative species. (Length 6 mm.) _____ 4. *gibsonatae*, new species
- Flagellum somewhat shorter, with 28 segments, moderately attenuated at apex; abdomen distinctly slenderer than in alternative species; head and thorax less densely punctured and distinctly more shiny; cheek profile less narrowed than in alternative species. (Length 6 mm.) _____ 6. *arizonae*, new species

Males

1. All tergites with white apical bands. (Predominant color of entire abdomen black; mesoscutum with two short, white median lines; flagellum without annulus; length 5 mm.) _____ 9. *albicinctus*, new species
- Abdomen not white banded, except sometimes tergites 5-7. (Abdomen ferruginous, or apically black, in rare mutants even predominantly black.) _____ 2
2. Flagellum without annulus. _____ 3
- Flagellum with white annulus. _____ 6
3. Scutellum, pronotal ridge and pronotal base ferruginous, as in the mesoscutum. (Scutellum laterally distinctly carinate for its whole length; longitudinal carinae of postpetiolus strongly prominent; length 7-9 mm.) _____ 3b. *gracilicornis subdentatus* (Ashmead)
- Scutellum, pronotal ridge and pronotal base white. (Face and clypeus uniformly white; scutellum laterally carinate usually at the base only, or to the middle.) — 4
4. Tergites 2-7 uniformly, mesoscutum predominantly or entirely, ferruginous; frons polished, almost impunctate. (Length 6 mm.) _____ 6. *arizonae*, new species
- At least tergites 5-7 and the mesoscutum predominantly or entirely black; frons finely, but distinctly and densely punctured. _____ 5

5. Small species, 6-6.5 mm. long; flagellum with 28-32 segments; propodeum moderately abbreviated, the area superomedia being usually not more than twice as wide as long, often less. (Coxae III red or black; thorax usually uniformly black; apex of abdomen more or less extensively black; in extremely melanistic specimens sometimes almost entire abdomen blackish.) 8. *dubiosus* Perkins
- Slightly bigger species, 7.5 mm. long; flagellum with 25-26 segments; propodeum strongly abbreviated, the area superomedia about 2-4 times as wide as long. (Propodeum predominantly or entirely red, sometimes also mesopleura.) 7. *signatus* (Provancher)
6. Scutellum white. (Mesoscutum black, the lateral lobes partially ferruginous; propodeum, pleura and mesosternum pale ferruginous.) 2b. *lobatus occidentalis*, new species and new subspecies (δ not known yet) 7
- Scutellum ferruginous or black. 7
7. Abdomen uniformly ferruginous; mesoscutum entirely, or at least its median lobe ferruginous. (Scutellum ferruginous; sterna and pronotum partially black; length 7-9 mm.) 3a. *gracilicornis gracilicornis* (Provancher)
- Tergites 4-7 black, 5-7 usually with narrow, white apical margins; mesoscutum entirely or predominantly black. (Facial orbits and usually sides of clypeus and dots on vertical orbits white.) 8
8. Lateral lobes of mesoscutum partially ferruginous; entire mesopleura and mesosternum pale ferruginous. (Length 6 mm.) 2a. *lobatus lobatus*, new species and new subspecies
- Mesoscutum uniformly black; mesopleura not uniformly ferruginous, mesosternum black. (Length 8-10 mm.) *impressus* (Provancher) 9
9. Thorax, including propodeum and mesopleura, and the coxae III, black. (Abdomen more extensively black than in alternative subspecies, sometimes predominantly black.) 1b. *impressus infuscatus*, new subspecies
- Propodeum, mesopleura and coxae III red. (Usually tergites 1-3 red, the following tergites black.) 1a. *impressus impressus* (Provancher)

1. *Cyclolabus impressus* (Provancher)

Distribution

Transition Zone two different subspecies, the eastern recorded, so far, from Quebec and Ontario south to New York, the western from British Columbia and Washington.

Preamble

This species is extremely closely related to the European type-species, *Platylabus nigricollis* Wesmael. It seems to be obvious that *impressus* represents the American vicariant of *nigricollis*, and I am still in doubt whether the former should not be considered as a subspecies of the latter rather than as a distinct species. Chromatically the western subspecies of *impressus* is almost identical with the European *nigricollis*, but there is a slight difference in the shape of gastrocoeli, which in the European form, on the average, are more distinctly transverse and triangular than in the American, and the temple profile seems to be a trifle less narrowed in the latter. So I preferred to postpone the subspecific association for the time being. Perhaps further research will reveal some facts concerning the biology and hosts of both the European and the American forms which would support one or the other conclusion.

Female

Head and thorax black, including scutellum and pronotal ridge; the color of postscutellum, propodeum and coxae varying geographically (and in a minor degree also individually) between black (majority of western populations) and red (eastern populations); anterior tergites (usually 1-3) red, following tergites black, last two tergites usually with white apical margins; in western populations

abdomen more melanistic than in eastern, occasionally almost entire abdomen blackish; legs red, legs III with black pattern; length 7-9 mm.

Flagellum.—Bristleshaped, slender, ventrally flattened beyond middle, but scarcely widened, considerably attenuated at apex, with 31-33 segments. Black, with white annulus on segments 6 or 7 to 10, or 11.

Head.—Transverse; cheek and temple profiles considerably narrowed, the latter with slightly curved outline; temples and occiput sloping fairly steeply and immediately from hind border of eyes and ocelli; malar space about as long as width of base of mandible. Uniformly black.

Thorax.—Mesoscutum strongly and, on lateral lobes, moderately densely punctured, shiny; notauli sharply incised to about middle; scutellum dorsally convex, strongly narrowed toward apex, the straight lateral carinae nearly meeting apically; area superomedia much wider than long; costulae usually distinct; spiracles of propodeum not exactly circular. Black; sometimes subalarum white; propodeum, and sometimes markings on mesopleuron, red in eastern populations, black in majority of western specimens.

Legs.—Coxae and trochanters varying geographically from red to black, coxae I and trochanters I usually black or blackish; apex of femora III, tibiae III extensively toward apex, and the tarsi III infuscated.

Abdomen.—Postpetiolus gradually widening toward apex, with strongly prominent median field and undulating lateral outlines, finely irregularly rugose and shiny; gastrocœli moderately deepened, not narrowed inward to a point (= "triangular"); but of quadrangular outline, widened toward outer side, their interval narrower than one of them and coarsely rugose; rest of second and the third tergite fairly finely and densely punctured. Usually tergites 1-3 red (rarely the first predominantly black), the following black, the last two tergites with white apical margins; in western populations more to entirely melanistic.

Male

Facial orbits, often sides of clypeus, marks on vertical orbits and subalarum white; flagellum with white annulus and oval tyloides; otherwise like the female; length 8-10 mm.

Flagellum.—Black, with white annulus on segments 7-12 or 13 and with distinct tyloides on segments 8-14, the basal ones almost bacilliform, the shape becoming gradually oval toward the end of the row.

1a. *Cyclolabus impressus impressus* (Provancher)

Phygadeuon impressus Provancher, 1874, Nat. Canad., 6:281, ♀.

Ichneumon erythropygus Provancher, 1875, Nat. Canad., 7:24, 79, ♀.

Ectopius impressus Townes, 1951, Syn. Cat., p. 281, ♀.

Cyclolabus impressus Heinrich, 1959, Can. Ent., 91:807, ♀.

Types

Holotypes.—*Phygadeuon impressus* Provancher, ♀, Quebec. Provincial Museum, Quebec. *Ichneumon erythropygus* Provancher, ♂ (nec ♀!), Quebec. Provincial Museum, Quebec. No. 628.

Distribution

According to H. Townes 1951: "Quebec, New Hampshire, Massachusetts, New York, Washington. Transition Zone". New records: Maine (C.G.H.), Ontario (C.N.C.). Washington may have to be transferred to the range of the western subspecies.

Preamble

This eastern subspecies is rather different in appearance from the western by its pronounced erythrism on propodeum and coxae. Among western populations, however, occasionally also specimens with partially, or even entirely, erythristic propodeum and hind coxae occur, clearly linking both forms.

Female

Entire propodeum, coxae and trochanters II and III red often mesopleura red marked; tergites 1-3 red.

Male

In majority of specimens, propodeum, coxae, and trochanters II and III red as in female; in about one third of specimens propodeum and coxae II predominantly or entirely black.

1b. *Cyclolabus impressus infuscatus*, new subspecies

Types

Holotype.—♀, British Columbia, Robson, 31.V.1947, H. R. Foxlee. C.N.C. No. 7409.

Allotype.—♂, British Columbia, Robson, 10.VI.1950, H. R. Foxlee. C.N.C.

Paratypes.—1 ♀, from type locality; 1 ♀, British Columbia, Likely. C.N.C.; 1 ♀, Washington, Mt. Rainier. C.H.T.

Distribution

British Columbia (C.N.C.), Washington, Alberta (C.H.T.).

Female and Male

Propodeum, coxae and trochanters, in majority of specimens, entirely or predominantly black (exceptionally as in *impressus impressus*); abdomen more extensively melanistic than in eastern subspecies, sometimes almost entirely black.

2. *Cyclolabus lobatus*, new species

Distribution

Maine, Quebec, New York, Alberta; western populations evidently slightly but distinctly differing from eastern.

Preamble

Closely related to *impressus* (Provancher). Chromatically mainly distinguished by the black mesoscutum with a ferruginous, longitudinal patch on each lateral lobe, and by the uniformly pale ferruginous mesosternum and mesopleura.

Female

Predominantly pale ferruginous; head uniformly, and prothorax and mesoscutum predominantly, black; tergites 4-7 black, 6 and 7 with white anal pattern; lateral lobes of mesoscutum with longitudinal, ferruginous patch; flagellum black with white annulus; scutellum ferruginous in eastern, yellowish-white in western specimens; apex of femora III black in western specimens; length 5-6 mm.

Flagellum.—Bristleshaped, slender, ventrally flattened beyond middle, but not widened, considerably attenuated toward apex, with 27-31 segments. Black with white annulus on segments 6 or 7 to 10 or 11.

Head.—Cheek and temple profiles moderately narrowed, with slightly curved outlines; malar space nearly as long as width of base of mandible. Uniformly black; sometimes with indistinct, obscure ferruginous dots on the middle of facial orbits, or on vertical orbits, or laterally on clypeus.

Thorax.—Mesoscutum moderately finely and densely punctured, somewhat shiny on lateral lobes; basal third of notauli distinct; scutellum dorsally convex, narrowed toward apex, laterally moderately strongly carinate; propodeum strongly abbreviated, with short, transverse area superomedia; costulae distinct or obsolete. Pale ferruginous; prosternum, mesosternum and pronotum predominantly black; apical part of pronotal base, sometimes lower part of propleura, very apex of pronotal ridge and two longitudinal patches on lateral lobes of mesoscutum ferruginous; scutellum ferruginous (as is the propodeum) in eastern specimens, predominantly white in western; subalarum white.

Legs.—Pale ferruginous; apex of tibiae III and sometimes base of tarsi III infuscated; in western specimens apex of femora III black.

Abdomen.—Postpetiolus with clearly prominent median field and undulating lateral outlines, finely, irregularly rugose and shiny; gastrocoeli as in *impressus*, quadrangular rather than triangular, widened toward outer side, their interval slightly narrower than one of them and coarsely rugose; rest of second tergite and the third fairly finely and densely punctured. Tergites 1-3 pale ferruginous, 4-7 black, 6 and 7 with white apical margins.

2a. *Cyclolabus lobatus lobatus*, new subspecies

Types

Holotype.—♀, Maine, Mt. Blue, 18.VI.1960, Gerd H. Heinrich C.G.H.

Allotype.—♂, New York, Syracuse, 22.V.1938, H. & M. Townes. C.H.T.

Paratypes.—2 ♀ ♀, Quebec, Stoneham. C.H.T.

Distribution

Maine, Quebec, New York.

Female

Femora III uniformly ferruginous (apically not black); scutellum ferruginous.

Male

Femora and scutellum as in the female; flagellum black with white annulus on segments 8-12 and with distinct tyloides on segments 8-14; facial orbits and sides of clypeus white; apex of tibiae III and the tarsi III black; otherwise like the female.

2b. *Cyclolabus lobatus occidentalis*, new subspecies

Types

Holotype.—♀, Alberta, Edmonton, 15.VIII.1945, E. H. Strickland. C.H.T.

Paratypes.—2 ♀ ♀, same locality. C.H.T.

Distribution

Alberta.

Female

Femora III apically black; scutellum predominantly white.

3. *Cyclolabus gracilicornis* (Provancher)

Distribution

Canadian and Transition Zones of North America; two subspecies, the eastern known so far from Labrador south to North Carolina, the western from Alaska south to Oregon.

Female

Predominantly ferruginous; head, thorax and legs with restricted black markings in eastern populations; melanistic patterns in western populations on the average more restricted and not including head and legs; vertical orbits often with yellow marks; flagellum basally ferruginous, apically black, in eastern subspecies with white annulus, in western without; length 6.5-7.5 mm.

Flagellum.—Bristleshaped, slender, ventrally flattened and a trifle widened beyond middle, considerably attenuated toward apex, with 30 or 31 segments. Base more or less extensively ferruginous; apex black; with white annulus in eastern subspecies.

Head.—Temple and cheek profiles distinctly narrowed, with slightly curved outlines; malar space somewhat longer than width of base of mandible. Ferruginous, in eastern populations with restricted black markings; temple orbits usually with more or less distinct yellowish marks.

Thorax.—Mesoscutum finely and densely punctured, scarcely shiny; notauli sharply incised to about middle; scutellum considerably raised above postscutellum, with steep apical slope, fairly short, dorsally convex, laterally carinate; propodeum abbreviated, area superomedia very short, about 3 times wider than long, narrowed toward base; costulae distinct; apices of areae dentiparae usually angularly a little prominent. Ferruginous; mesosternum usually black or infuscated from mesolus outward to sternauli, prosternum usually basally or entirely black; infuscation, on the average, more extensive in eastern than in western populations.

Legs.—Ferruginous, in eastern populations bases of coxae, femora II and III and apices of tibiae III more or less infuscated.

Abdomen.—Median field of postpetiolus strongly prominent, irregularly rugose; interval of gastrocoeli narrower than one of them, coarsely rugose; second and third tergites finely punctured, alutaceous between punctures. Uniformly ferruginous.

Male

Ferruginous; predominant color of head, and the sterna with prepectus, always black; entire clypeus (exceptionally its sides only) and face laterally or entirely white; flagellum with white annulus in eastern, without annulus in western, subspecies; black markings on thorax more extensive in eastern than in western populations; vertical orbits always white marked; length 7-9 mm.

Flagellum.—With 29-33 segments and with distinct, short, bacilliform tyloides on segments 8 or 9 to 16 or 17. Black; in eastern subspecies with white annulus; scape ventrally white or ferruginous marked.

Head.—Black; the following are white: mandibles, entire clypeus (exceptionally its side only), facial orbits, marks on vertical orbits, rarely one or two median marks on upper end of face, or markings at lower ends of eyes; frontal orbits usually narrowly ferruginous, sometimes ferruginous mark near middle of outer orbits.

Thorax.—Ferruginous; prosternum, prepectus and mesosternum black, in eastern populations black markings more extensive; subalarum yellow.

Legs.—Ferruginous; in eastern populations coxae, trochanters and femora III toward apex extensively black.

Abdomen.—Lateral longitudinal carinae of postpetiolus extremely prominent, especially at elbow; interval of gastrocoeli still more coarsely sculptured than in female. Uniformly ferruginous.

3. *Cyclolabus gracilicornis gracilicornis* (Provancher)

Phygadeuon gracilicornis Provancher, 1886, Addit. Corr. Faune Ent. Canada Hym., p. 56, ♀.
Ectopius gracilicornis Townes, 1951, Syn. Cat., p. 281, ♀.

Types

Holotype.—♀, Ontario (Ottawa). C.N.C.

Neallotype.—♂, Maine, Dryden, 7.IX.1952. C.G.H.

Distribution

According to H. Townes 1951: "Ontario". New records: Labrador, Quebec (C.N.C.); Maine (C.G.H.); New Hampshire, New York, North Carolina (C.H.T.).

Female

Basal 3 or 4 flagellar segments ferruginous, the following black, except clear, white annulus on segments 6-9 or to 10; black markings on head, thorax and legs more extensive than in western subspecies; the following are black: often occiput, temple region and apical part of cheeks more or less extensively, often middle of pronotum, prosternum, mesosternum from middle to sternaui, rarely entirely, prepectus basally to entirely, bases of coxae, trochanters partially, usually femora III, sometimes femora II and III extensively usually apex of tibiae III infuscated; in specimens from Labrador sixth tergite infuscated.

Male

Flagellum black with white annulus on segments 7 or 8 to 11 or 12; ferruginous; black markings on head, thorax and legs more extensive than in western subspecies; the following are black: head predominantly, prosternum, prepectus entirely or partially, mesosternum, sometimes areae coxales, pronotum partially (usually predominantly), basal part of median lobe of mesoscutum, sometimes lateral lobes partially, trochanters, coxae I and II partially or predominantly, base of coxae III, apex of femora III more or less extensively apex of tibiae III and the tarsi III often somewhat infuscated.

3b. *Cyclolabus gracilicornis subdentatus* (Ashmead)

Probolus subdentatus Ashmead, 1902, Wash. Sci. Proc., 4:160, ♂.

Ectopius subdentatus Townes, 1951, Syn. Cat., p. 282, ♂.

Cyclolabus gracilicornis subdentatus Heinrich, 1959, Ent. News, 70:216, ♂.

Types

Holotype.—♂, Alaska (Kukak Bay). U.S.N.M.

Neallotype.—1 ♀, British Columbia, Robson. C.N.C. No. 7408.

Host

Eupithecia ("ornata Hlst.") =: *edna* Hlst., in British Columbia. (C.N.C.)

Distribution

According to H. Townes 1951: "Alaska, Washington, Oregon; Canadian and Transition Zones". New records: British Columbia, Colorado (C.N.C.); California (C.H.T.).

Female

About 8-12 basal segments of flagellum ferruginous, the rest black, no white annulus; black markings on head, thorax and legs reduced in comparison with eastern subspecies, usually confined to prosternum and mesosternum.

Male

Flagellum black, without annulus; ferruginous; black markings on head, thorax and legs reduced and confined to prosternum, prepectus and mesosternum; head usually not predominantly black; legs usually uniformly ferruginous, sometimes coxae III basally black.

Remarks

A single male from Phantom Valley, Colorado, 9400 ft. (C.H.T.), differs from all others by the uniformly black pleura, sterna and propodeum. It may represent a distinct species, but more material would be needed to establish its status.

4. *Cyclolabus gibsonatae*, new species

Types

Holotype.—♀, Ontario, Tea Lake Dam, ex *Eupithecia* ("gibsonata Tayl.") = *chagnoni* Swett. C.N.C. No. 7409.

Paratype.—1 ♀, British Columbia, Quesnal, ex *Eupithecia* sp. C.N.C.

Host

Eupithecia chagnoni Swett.

Distribution

Ontario, British Columbia.

Female

Uniformly light ferruginous, almost without black markings; vertical marks, collare, pronotal ridge, subalarum, scutella and apex of last tergite white; flagellum black, with white annulus; scutellum laterally carinate scarcely to the middle; length 6 mm.

Flagellum.—Bristleshaped, very slender, ventrally flattened but not at all widened beyond middle, extremely attenuated toward apex, with 32-33 segments. Black with white annulus on segments 7-10; scape ferruginous; dorsally infuscated.

Head.—Temple and cheek profiles moderately narrowed, with slightly curved outlines; malar space about as long as width of base of mandible; clypeus, face and frons densely and finely punctured. Light ferruginous; marks on vertical orbits and less distinctly frontal orbits narrowly yellow.

Thorax.—Mesoscutum finely and densely punctured, subopaque; notauli distinct to about middle of mesoscutum; scutellum dorsally convex, laterally carinate scarcely to the middle; propodeum abbreviated; area superomedia very short, about 3 times as wide as long; costulae distinct. Light ferruginous; collare, pronotal ridge, subalarum and scutella yellow; in type specimen prosternum and scutellar sutures black.

Legs.—Fairly stout. Ferruginous; the following are infuscated: trochanters partially, apex of femora and of tibiae III, pretarsus of all tarsi.

Abdomen.—Postpetiolus without clearly defined median field, sparsely punctured or rugose; second and third tergites densely and finely, the fourth still more finely punctured, subopaque. Uniformly light ferruginous, the last tergite apically white.

5. *Cyclolabus carolinensis*, new species

Types

Holotype.—♀, South Carolina, near Tigerville, 8.V.1944, H. & M. Townes. C.H.T.

Distribution

South Carolina.

Preamble

A small, ferruginous species; superficially similar to *gibsonatae*, new species, but entirely different in flagellar structure.

Female

Light ferruginous, almost without black, but with rich white markings on head and thorax; white are: entire face and clypeus, frontal and vertical orbits broadly, apex of cheeks, collare, pronotal ridge and base, subalarum, scutella, marks on coxae I and II; rest of head black, except partially ferruginous cheeks; flagellum black, with white annulus, comparatively short; scutellum laterally carinate nearly to the apex; length 5 mm.

Flagellum.—Bristleshaped, slender, ventrally flattened and somewhat widened beyond middle, but moderately attenuated at apex, with 29 segments, the widest square. Black, with white annulus on segments 6-10; scape ventrally ferruginous, apically white marked.

Head.—Temple profile slightly narrowed, with curved outline; cheek profile considerably narrowed, with slightly curved outline, head in front view with approaching a circular shape; malar space not quite as long as width of base of mandible. White; the following are black: middle of frons broadly, ocellar and occipital regions, temple region and cheeks indistinctly along carina genalis; rest of cheeks ferruginous, their apex at base of mandible white.

Thorax.—Mesoscutum finely and rather densely punctured; notauli distinct to about middle; scutellum dorsally convex, laterally carinate not quite to the apex; propodeum strongly abbreviated; area superomedia short, nearly three times as wide as long; costulae and lateral carinae of area posteromedia obsolete. Ferruginous; the following are white: collare, pronotal ridge and base broadly, subalarum, mark on tegulae, scutellum, postscutellum.

Legs.—Almost uniformly ferruginous; apex of tibiae III slightly infuscated; coxae I and II white marked.

Abdomen.—Short-oval; postpetiolus without a distinct median field, shiny; gastrocoeli but slightly deepened, transverse; their interval nearly as wide as one of them; second and third tergites finely and fairly densely punctured. Uniformly ferruginous.

6. *Cyclolabus arizonae*, new species

Types

Holotype.—♀, Arizona, Sierra Ancha, 3.V.1947, H. & M. Townes. C.H.T.

Allotype.—♂, Arizona, Sierra Ancha, 26.IV.1947, H. & M. Townes. C.H.T.

Paratypes.—1 ♂, from type locality; 1 ♀, Arizona, Oak Creek Can. C.H.T.

Distribution

Arizona.

Preamble

A small and very slender, shiny, ferruginous species. Chromatically extremely similar to *gibsonatae*, new species, but abdomen distinctly slenderer, cheek profile wider and more rounded, flagellum somewhat shorter, and sculpture of head and thorax less dense and much more shiny.

Female

Light ferruginous, without black markings (except some thoracic sutures); frontal orbits, marks on vertical orbits, collare, pronotal ridge and base, subalarum, scutella are white; scutellum polished, laterally carinate at the very base only; length 6 mm.

Flagellum.—Bristleshaped, slender, ventrally flattened beyond middle, but not at all widened, moderately attenuated at apex, with 28 segments. Black, with white annulus on segments 7-10; in one specimen basal 6 segments ferruginous; scape ferruginous.

Head.—Temple and cheek profiles moderately narrowed, with curved outlines; outline of head, in front view, approaching a circular shape. Ferruginous; frontal orbits and marks on vertical orbits yellow.

Thorax.—Mesoscutum finely and comparatively sparsely punctured, shiny; notauli distinct to about middle; scutellum convex, polished, laterally carinate at the very base only; propodeum abbreviated, area superomedia short, about three times as wide as long; costulae distinct. Ferruginous; the following are yellow: collare, pronotal ridge, pronotal base, subalarum, scutellum.

Legs.—Uniformly ferruginous, except infuscated last segments of tarsi.

Abdomen.—Postpetiolus without clearly defined median field, smooth and shiny; gastrocoeli transverse, moderately deepened, with narrowed interval; second and third tergites finely and moderately densely punctured, shiny; the fourth tergite also distinctly, though finely, punctured. Ferruginous; tergites 6 and 7 with whitish apical margins.

Male

Ferruginous; thorax partially black, sometimes predominantly black, except mesoscutum; head black, with white clypeus, face, apex of cheeks, frontal orbits and vertical marks; white markings on thorax as in female; flagellum black, without annulus; legs ferruginous, coxae I and II predominantly white, coxae III partially infuscated; abdomen ferruginous, except petiolus; length 6 mm.

Flagellum.—Black, with bacilliform tyloides on segments 8-13; scape ventrally white.

Head.—Frons smooth, almost polished. Black; the following white: mandibles except teeth, clypeus, face, frontal orbits, vertical marks, malar space and apex of cheeks; cheeks between black temples and white apex ferruginous.

Thorax.—Considerably more melanistic than in female; sometimes entirely black, except ferruginous mesoscutum; white markings as in female.

Legs.—Ferruginous; coxae I and II predominantly white; coxae III extensively blackish; particularly on dorsal side.

Abdomen.—Ferruginous, petiolus black.

7. *Cyclolabus signatus* (Provancher)

Phygadeuon signatus Provancher, 1874, Nat. Canad., 13:329, ♀

Platylabus signatus Townes, 1951, Syn. Cat., p. 281, ♀.

Cyclolabus signatus Heinrich, 1959, Can. Ent. 91:807, ♀.

Types

Holotype.—♀, Canada. Provincial Museum, Quebec. No. 243.

Neallotype.—♂, Maine, Dryden, 27.VII.1954, Gerd H. Heinrich. C.G.H.

Distribution

Quebec (C.H.T.), Maine (C.G.H.), New Hampshire (C.N.C. and C.H.T.).

Preamble

Two extremely similar, but without doubt, distinct species occur in North America; one of them is slightly larger and a little more robust in appearance than the other; both are easily and best distinguished by the great difference in the flagellar segments, the robuster species having only 25 or 26, the smaller and slenderer, 29-32 segments. The latter species is very closely related to the European *pactor* Wesmael and seems to be specifically identical with *dubiosus* Perkins, described recently from England. It caused considerable difficulties to find satisfactory evidence whether or not the stouter species, which will be described in detail below, could be considered as specifically identical with the type of *Phygadeuon signatus* Provancher, especially because the holotype of the latter has broken flagella and thus is deprived of the most conclusive character. Miss Lois K. Smith has kindly rechecked the type for me, compared it with two specimens of *dubiosus*, and given me a very detailed description of the type as well as of the differences between the type and the specimens of *dubiosus* compared with it. As a result I came to the conclusion that the type represents, with high probability, the species described below.

Extremely similar to *dubiosus* Perkins; differs, in both sexes, by a lower number of flagellar segments, by a more abbreviated propodeum, with, on the average, comparatively much wider and shorter area superomedia, and in males by a white flagellar annulus; in both sexes the propodeum is entirely, or nearly entirely, red, the mesopleuron partially or entirely so.

Female

Black; mark on lower part of frontal orbits, facial orbits (in holotype incompletely), vertical marks, pronotal ridge entirely (in holotype partially), subalarum and scutellum, white; entire propodeum, and meso- and propleura partially, red; tergites 1-3 red, 4-7 black, 5-7 with white apical bands; legs predominantly red; coxae I and II extensively, and also apices of femora III, of tibiae III and the tarsi II and III infuscated; flagellum black with white annulus; length 7.5 mm.

Flagellum.—Bristleshaped, moderately slender, beyond the middle ventrally indistinctly flattened and not widened, moderately attenuated at apex, with 26 segments. Black, with white annulus on segments 6-11; ventrally obscure brownish.

Head.—Finely and densely punctured; temple profile slightly, cheek profile moderately, narrowed, both with slightly curved outlines; malar space a little shorter than width of base of mandible. Black; the following are white: clypeus laterally, facial orbits (lines running down to upper corner of base of mandible), lower part of frontal orbits, marks on vertical orbits.

Thorax.—Mesoscutum finely and fairly densely punctured; basal third of notauli distinct; scutellum convex, laterally carinate to about middle; propodeum strongly abbreviated; area superomedia extremely short and wide, 2-4 times as wide as long; costulae distinct; spiracles very small, not quite circular. Black; entire propodeum, middle of mesopleura and lower part of propleura ferruginous; two indistinct lines separating median lobe of mesoscutum from lateral lobes, and two lateral lines on mesoscutum obscure ferruginous tinted; the following are white: collare, pronotal ridge, subalarum, scutellum; pronotal base indistinctly yellowish.

Legs.—Femora fairly short and stout. Red; coxae and trochanters I and II extensively infuscated; apex of femora III and of tibiae III and the tarsi III blackish.

Abdomen.—Median field of postpetiolus moderately distinct, at elbow more prominent; gastrocoeli transverse, their interval somewhat narrower than one of them. Tergites 1-3 red, 4-7 black, 5-7 with white apical bands.

Male

Black; face, clypeus, lower part of frontal orbits, vertical marks, pronotal ridge and base, subalarum and scutellum white; entirely or predominantly, sometimes also entire mesopleura and propleura partially, red; tergites 1-4 red, 5-7 black with indistinct, very narrow, whitish, apical margins; legs predominantly red; coxae I and II partially white; apex femora III, of tibiae III and the tarsi II and III infuscated; flagellum black with white annulus; length 7.5 mm.

Flagellum.—With 25-26 segments and with short, bacilliform tyloides on segments 7-13 or 14. Black, with white annulus on segments 7 or 8-12, ventrally brownish; scape ventrally white.

Head.—Malar space half as long as width of base of mandible. Black; the following white: mandibles except teeth, clypeus, face, lower part of frontal orbits, marks on vertical orbits, marks on vertical orbits, tiny mark on lower end of outer orbits.

Thorax.—Structure as in female. Black; propodeum entirely or predominantly, sometimes also entire mesopleura and lower part of propleura red; the following are white: collare, pronotal ridge and base, subalarum, mark on tegulae, scutellum; obscure ferruginous tinted longitudinal lines on mesoscutum as in female, but less distinct or entirely absent.

Legs.—Red; coxae and trochanters I and II not infuscated, but white marked instead; otherwise like the female.

Abdomen.—Median field of postpetiolus distinct. Tergites 1-3 or 4 red; apex of third or of fourth tergite and tergites 4 or 5-7 black, apical margins of tergites 5-7 narrowly whitish.

Remarks

Subsequent to the writing of the preceding description I have reexamined the type of *Phygadeuon signatus* Provancher. As a result, I am now able to confirm the interpretation of that species as given above.

8. *Cyclolabus dubiosus* Perkins

Cyclolabus pactor Townes (nec Wesmael), 1951, Syn. Cat., p. 280, ♀.

Cyclolabus dubiosus Perkins, 1953, Bull. Brit. Mus. Entom., III, No. 4, p. 156-57, ♀ ♂.

Cyclolabus dubiosus Perkins, 1959, Royal Ent. Soc. London, VII, part 2, p. 66, ♀ ♂.

Types

Holotype.—♀, England, Essex; Colchester, 1902, Harwood. British Museum, London, No. Hym. 3 b 1828.

Allotype.—♂, same data, 1903. British Museum, London.

Hosts

In England reared from *Eupithecia goossensata* Mab., *Eupithecia expallidata* Gn., and *Eucymatoge subnotata* (Hbn.). In British Columbia reared from *Eupithecia annulata* Hlst., in Manitoba from *Eupithecia filmata* Pears.

Distribution

Holarctic; in Europe known so far only from England; in North America recorded, according to H. Townes 1951, from "Washington and California in

Transition Zone". New records: British Columbia, Manitoba (C.N.C.); Colorado, Alberta (C.H.T.); records from Eastern North America: see remark at the end of the treatment of this species.

Preamble

Extremely similar to *Cyclolabus signatus* (Provancher); for the main differences see preamble of the latter species. At first I was convinced, as Townes has been, that this species had to be considered as identical with the European *pactor* Wesmael, especially as my own European specimens identified as *pactor* were indistinguishable from the American. Then I remembered that J. F. Perkins had recently split *pactor* of authors into two species: *pactor* Wesmael and *dubiosus* Perkins. Comparing the original description of the latter I found that it matched the American specimens of both sexes better than did Perkins' interpretation of *pactor* Wesmael. To make certain I sent two specimens to Perkins which he kindly examined and compared with his type. He wrote: "I believe that the specimens that you sent could well be *Cyclolabus dubiosus* . . . The male I am unable to differentiate from *dubiosus* male". The small differences found between the European and American females may be accidental or else indicate a slight subspecific differentiation; the latter possibility still needs further investigation.

A small species, distinguished by the tricolored abdomen of females, with distinct, white apical marks, and by the black thorax with white pronotal ridge, scutellum and subalarum; the legs are predominantly ferruginous, color of coxae and trochanters varying, in American populations, individually from entirely black to entirely ferruginous; characteristic for the species is the structure of scutellum which is laterally carinate only to about middle; flagellum of females and males with 29-32 segments, of males without white annulus.

Female

Head and thorax black; collare, pronotal ridge, scutellum, subalarum, short line on frontal orbits above level of antennal sockets, and large marks on vertical orbits, white; abdomen red, tergites 5-7 black, the sixth and seventh with white, anal pattern; legs ferruginous, coxae and trochanters varying from black to ferruginous; flagellum with annulus; length 6 mm.

Flagellum.—Bristleshaped, slender, moderately long, ventrally flattened beyond middle, but not widened, moderately attenuated at apex, with, usually, 30-32 (in 11 counted specimens) segments. Black, with white annulus on segments 7 or 8 to 9 or (usually) 10.

Head.—Fairly wide, very finely and rather densely punctured; temple profile slightly narrowed, with curved outline; cheek profile distinctly narrowed, with rounded outline; outline of face, in front view, approaching a circular shape; malar space about as long as width of base of mandible. Black; short line on frontal orbits, just above level of antennal sockets, and relatively large marks on vertical orbits, white.

Thorax.—Mesoscutum very densely and finely punctured, nevertheless shiny; basal third of notauli distinct; scutellum fairly wide, dorsally convex, apically somewhat abbreviated and rounded, laterally distinctly carinate to about middle; spiracles of propodeum circular, very small; area superomedia slightly to considerably, but not extremely, wider than long. Black; the following are white: collare, pronotal ridge toward apex (sometimes entirely), rarely apical part of pronotal base, subalarum, scutellum (except basal third or basal half), rarely postscutellum; declivity of propodeum and apices of areae dentiparae often partially obscure ferruginous tinted.

Legs.—Femora III comparatively stout. Ferruginous; coxae and trochanters varying from ferruginous to entirely black; apex of tibiae III and often, more or less extensively, apex or tip of femora III, and the tarsi III infuscated.

Abdomen.—Short-oval; gastrocoeli moderately deepened, transverse, with pronounced thyridia, their interval distinctly narrower than one of them. Tergites 1-4 red, 5-7 and sometimes petiolus, black; apical margin of fifth tergite narrowly pale (often indistinctly), sixth and seventh tergites with distinct white anal markings.

Male

Description based on 9 specimens from British Columbia, Alberta, Washington and Colorado, most of them reared from *Eupithecia* species.

Head and thorax black, with white markings; face and clypeus white; flagellum black, without annulus, ventrally pale brownish; abdomen red, tergites 4-7, rarely 5-7, and sometimes petiolus, black; exceptionally abdomen almost entirely black or entirely red; last two tergites narrowly white apically; legs red, coxae I and II predominantly white, coxae III black or partially red; length 7 mm.

Flagellum.—With 28-32 (usually 30-32) segments, and with bacilliform tyloides on segments 7 or 8 to 13 or 14. Black; ventrally brownish; scape ventrally white.

Head.—As in female, but malar space only about half as long as width of base of mandible. Black; mandibles, clypeus, face, a short line on lower part of frontal orbits (not connected with white of face) and vertical marks, white.

Thorax.—Black; the following are white: collare, pronotal ridge (entirely or except base), apical part of pronotal base, subalarum, scutellum (except black basal third or half), sometimes marks on regulae.

Legs.—Red; apices of tibiae III, the tarsi III, and usually, more or less distinctly, apices of femora III, infuscated; coxae I and II predominantly, trochanters I and II ventrally, white; coxae and trochanters III usually partially red-brown, more rarely entirely black.

Abdomen.—Tergites 1-3 and sometimes base of fourth tergite red, the following tergites black; tergite six medially with very narrowly whitish apical margin, the seventh tergite with a more distinct, small, white apical mark; sometimes petiolus or first tergite predominantly black; in one specimen almost entire abdomen black.

Remarks

The C.N.C. contains one female from Newfoundland, reared from *Eupithecia luteata* Pack. and one male from Nova Scotia, reared from *Eupithecia palpata* Pack. These two eastern specimens differ slightly from western populations as follows:

♀ ♂ scutellum more narrowed toward apex, basally less strongly and less extensively carinate; entirely white.

♀ tergite 4 black (as are also the following tergites); about apical half of femora III dorsally infuscated.

♂ upper part of face laterally mottled with black; coxae III entirely red.

It can be expected that eastern and western populations differ subspecifically, but there is also the possibility that two sibling species are involved. More eastern material would be needed to support one or the other hypothesis.

9. *Cyclolabus albicinctus*, new species*Types*

Holotype.—♂, Nova Scotia, Parrsboro, I. McDunnough, ex *Acasis viridata* Pack. C.N.C. No. 7460.

Allotype.—♀, without data. C.N.C.

Paratypes.—2 ♂, same data as holotype. C.N.C.

Hosts

Acasis viridata Pack.

Distribution

Nova Scotia.

Preamble

A very small species with an extremely rich white color pattern, and with some structural peculiarities which make its generic position uncertain. The abbreviated notauli do not fit well in the genus *Cyclolabus*, nor the short and rather stout flagellum in either *Platylabus* or *Cyclolabus*; the distinct and transverse (though not widened as usual) gastrocoeli exclude *Ectopius* and *Linycus*. As the abbreviated propodeum with complete carination and with very small, almost circular spiracles seems to indicate at least a close relationship to *Cyclolabus*, the species has been placed here as an aberrant member of the group.

Male

Black, with extremely rich white patterns; flagellum black, without annulus; mesoscutum with short, white median lines; all tergites with regular, white apical bands; legs predominantly rufous, legs III with black pattern; coxae I and II, mesopleura and metapleura extensively white; no tyloides; abdomen unusually short and wide; length 5 mm.

Flagellum.—Short, with 25 segments, without tyloides. Black, ventrally dark brownish; scape ventrally white.

Head.—Temple and cheek profiles moderately narrowed, with curved outlines; malar space short, less than half as long as width of base of mandible. White; the following are black: supraantennal cavities, middle of frons, the ocellar, occipital and temple regions.

Thorax.—Mesoscutum distinctly and fairly densely punctured, shiny; basal third of notauli distinct; scutellum dorsally convex, apically a bit truncate, with steep apical slope, laterally carinate, the carinae bent inward at the apex, which thus is partially carinate too; propodeum abbreviated, area superomedia short and transverse; costulae distinct; spiracles very small, not quite circular. Black; the following are white: collare, pronotal ridge and base, subalarum, two short, longitudinal, median stripes on mesoscutum, prescutellar carinae, scutellum, post-scutellum, apex of prosternum, prepectus (except base medially), broad band on lower half of mesopleura (sometimes medially interrupted), large mark on areae metapleurales, areae postero-externae and sometimes apices of areae spiracularae.

Legs.—Rufous; coxae and trochanters I and II white; coxae III partially infuscated, variegated with white ventrally toward apex and dorsally; the following are blackish: apices of femora III, apices of tibiae III and the tarsi III.

Abdomen.—Short and wide; petiolus short, wide and flat; postpetiolus with distinctly prominent median field, finely, irregularly rugose; gastrocoeli distinct

but rather shallow, wider than long, their interval about as wide as one of them, coarsely, irregularly rugose-punctate as is the entire basal part of second tergite; apex of second and third tergite finely alutaceous, sparsely and very finely punctate. Black; all tergites with regular, white apical bands.

Female

White patterns somewhat less extensive than in the male; face medially extensively black; prosternum and prepectus black; band on mesopleura reduced to one mark on lower apical part; prescutellar carinae not white marked; coxae III nearly uniformly rufous; tarsi III scarcely infuscated; otherwise like the male; length 5 mm.

47. Genus *Asthenolabus* Heinrich

Figs. 22, 26

Stenolabus Heinrich, 1935, Deutsch. Ent. Zeitschr., p. 197. (Preocc.)

Type-species.—*Platylabus latiscapus* Thomson.

Asthenolabus Heinrich, 1951, Bonn. Zool. Beitr., 2:240. (New name.)

The type-species of this genus differs considerably from *Platylabus* Wesmael by the subobsolete gastrocoeli. This striking feature is sufficient to distinguish *Asthenolabus* at the first glance from *Platylabus* as well as from *Cyclolabus* Heinrich. The following additional characters may be noted:

Flagellum.—Of females as in *Platylabus*; always very long and slender, not widened and extremely attenuated; of males normal, without incisions between segments, in type-species and in all closely related species of the Old and New Worlds without tyloides; in *canadensis* (Cresson) however, a species attributed here to this genus on account of its subobsolete gastrocoeli, tyloides distinct.

Head.—As in *Platylabus*.

Thorax.—In general as in *Platylabus*; notauli obsolete; the lateral areae of horizontal part of propodeum (areae supero-externae joined with areae dentiparae) on the average somewhat longer and slanting somewhat more backward than in *Platylabus*; costulae obsolete (Fig. 22); area superomedia in females usually square, sometimes even a little longer than wide, rarely transverse; spiracles of propodeum elongate.

Legs.—Femora in type-species rather thick; in general as in *Platylabus*, but tarsi never abbreviated.

Abdomen.—Postpetiolus and petiolus comparatively narrow, the latter often elongate and not much wider than high.

Color.—Head and thorax black with restricted white markings; abdomen black or partially red; in the type-species and a number of closely related species last tergite of female with distinct white anal pattern (never present in *Platylabus*, but common in *Cyclolabus*).

Distribution.—Temperate Zones of New and Old Worlds; about six species are recorded in Europe, from North America so far only three (including the not quite typical *canadensis*); among the Nearctic species *scutellatus* (Provancher) is the most closely related to the type-species, sharing with it even the white anal pattern.

Biology.—Several European species have been reared from *Larentia* and *Anticlea* species. We have no host records for the American species yet.

Key to the Species of *Asthenolabus* Heinrich of America North of Mexico

Females and Males

1. Scutellum and postscutellum white; abdomen, including last tergites, uniformly black. (Mesoscutum very densely punctured, opaque; gastrocoeli not longer than wide, comparatively easily recognizable; length 8-10 mm.) 2. *agilis* (Cresson)
- Scutellum apically or entirely white, but not the postscutellum; last tergites sometimes with white anal pattern. (Abdomen sometimes partially ferruginous.) 2
2. Tergites 6 and 7 with distinct white anal pattern; scutellum white; abdomen black, usually anterior tergites obscure ferruginous margined, or the second tergite partially to (exceptionally) entirely obscure ferruginous; flagellum of males without tyloides; mesoscutum finely and densely punctured, subopaque. (Length 7.5-9 mm.) 1. *scutellatus* (Provancher)
- Tergites 6 and 7 without distinct white anal pattern (sometimes very narrowly and indistinctly pale margined at apex); only apex of scutellum white; abdomen usually ferruginous with black base and apex, in rare melanistic variants predominantly black; flagellum of males with distinct tyloides; mesoscutum finely and moderately densely punctured, somewhat shiny. (Length 9-10 mm.) 3. *canadensis* (Cresson)

1. *Asthenolabus scutellatus* (Provancher)

Figs. 22, 26

Ischnus scutellatus Provancher, 1875, Nat. Canad., 7:111, ♂.

Platylabus scutellatus Townes, 1951, Syn. Cat., p. 281, ♂.

Asthenolabus scutellatus Heinrich, 1951, Can. Entom., 91:807, ♂.

Types

Holotype.—♂, Quebec. Provincial Museum, Quebec. No. 709.

Neallotype.—♀, Quebec, Limbour, Gerd H. Heinrich. C.G.H.

Distribution

Quebec; New York (C.H.T.); Ontario (C.N.C.).

Preamble

A black species, rather similar to *agilis* (Cresson), but distinguished by a slight structural difference of gastrocoeli. The slight impression which substitutes for the gastrocoelus is in *scutellatus* on its exterior side longer than medially wide, whereas in *agilis* it is shorter than medially wide, or almost as long as wide. Both species are distinguishable at first glance by the seemingly insignificant, but very constant, chromatic differences present in both sexes: in *scutellatus* the middle of sixth and seventh tergites bears white anal pattern, and the postscutellum is black; in contrast herewith, in *agilis* the last tergites are entirely black, and the postscutellum is white.

Female

Black; narrow line on frontal orbits, scutellum and sometimes collare white; tergites 6 and 7 with white apical bands, the fifth in the middle with narrow, white, apical margin; apical margins on tergites 1-3 or 4, sometimes also the base of second and third tergites, narrowly obscure ferruginous; length 7.5-8.5 mm.

Flagellum.—Bristleshaped, long and slender, ventrally flattened beyond middle, but not widened, extremely attenuated at apex, with 38-41 (usually 39) segments. Black, with white annulus on segments 8-12.

Head.—Temple and cheek profiles considerably narrowed, the former with slightly curved outline; malar space not quite as long as width of base of mandible. Black, with a narrow, white line on frontal orbits, extending upward nearly to level of lower ocellus.

Thorax.—Mesoscutum densely and finely punctured, subopaque; scutellum dorsally moderately convex, the lateral carinae fairly weak, extending nearly to apex. Black; the following are white: scutellum almost entirely, sometimes collare or a small mark on subalarum; postscutellum always black.

Legs.—Femora III moderately thick. Black; tibiae I and II, femora I except base and apex of femora II ventrally ivory.

Abdomen.—Fairly slender; postpetiolus without distinct median field, smooth and shiny; gastrocœli indicated by slight impressions which are longer on outer side than medially wide (Fig. 26); second tergite and the third (nearly to its apex) very finely and fairly sparsely punctured, alutaceous between punctures, somewhat shiny. Black; tergites 6 and 7 with white apical bands, apical margin on the fifth tergite very narrowly white in the median part; apical margins of tergites 1 or 2 to 2 or 4, and sometimes also the bases of the second and third tergites, narrowly obscure ferruginous tinted.

Male

Black; flagellum with white annulus; sides of clypeus and face broadly, and a narrow line on frontal orbits, scutellum and collare white; apex of tergite 7 medially with an about triangular white mark, also the apical margin of sixth tergite in the middle narrowly white; apical margins of one or several anterior tergites narrowly obscure ferruginous tinted; length 8.5-9 mm.

Flagellum.—With 39-40 segments, without tyloides. Black, with white annulus on segments 10 or 11 or 16; scape ventrally white.

Head.—Black; the following are white: base of mandibles, sides of clypeus and face broadly, frontal orbits narrowly nearly up to level of lower ocellus.

Thorax.—Black; the following are white: collare, mark on subalarum, mark on anterior part of tegulae, scutellum; postscutellum always black. (White marks as mentioned above constant in 20 specimens examined.)

Legs.—Black; femora III often dark ferruginous at the very base, rarely ferruginous color extending to or beyond middle; the following are ivory: ventral sides of tibiae I and II, of femora I (except base), of apex of femora II; femora I also dorsally extensively pale (brownish or ivorish) toward apex.

Abdomen.—Black; seventh tergite medially with triangular, white anal mark, apical margin of the sixth narrowly white in the middle; some of the anterior tergites often with narrowly obscure ferruginous apical margins; sometimes the second tergite at base, apex and sides more extensively, or even predominantly, obscure ferruginous, in one specimen entirely so colored.

2. *Asthenolabus agilis* (Cresson)

Eurylabus agilis Cresson, 1877, Amer. Ent. Soc. Trans., 6:201, ♂ ♀.

Platylabus scutellatus Townes, 1951, Syn. Cat., p. 281, partim.

Asthenolabus agilis Heinrich, 1959, Ent. News, 70:215, ♀.

Types

Holotype.—♀, New York. A.N.S.

Distribution

New York, Massachusetts (according to Cresson *loc. cit.*); Maine (C.G.H.); Quebec, Nova Scotia, Prince Edward Island (C.N.C.); South Dakota (U.S.N.M.); Oregon, Wyoming, Colorado (C.H.T.); Northwest Territories (C.N.C.).

Preamble

This species is similar to *scutellatus* (Provancher); for the differences see preamble of the latter. In the structure of gastrocoeli, which are superficial but have recognizable, transverse thyridia, *agilis* shows a slight approach to the genus *Platylabus*.

Female

(Description based on 11 females from Maine and on the holotype.)

Black; narrow line on frontal orbits, scutellum, postscutellum and collare medially white; apical tergites without trace of white anal patterns; anterior tergites without ferruginous apical or basal lines, except the apical margin of second tergite which is usually very narrowly ferruginous; length 8.5-9.5 mm.

Flagellum.—Bristleshaped, long and slender, ventrally flattened beyond middle, but not widened, extremely attenuated at apex, with 35 or 36 (exceptionally 37) segments. Black, with white annulus on segments 7 or 8 to 11 or 12.

Head.—Temple and cheek profile considerably narrowed with straight outlines; malar space not quite as long as width of base of mandible. Black, with a short and narrow white line on lower part of frontal orbits, and often a small mark on uppermost end of facial orbits; apical margin of cheeks at base of mandibles very narrowly white.

Thorax.—Mesoscutum finely and very densely punctured, opaque; notauli basally indicated; scutellum convex, with gradually rounded apical slope; lateral carinae fairly weak, extending to beyond middle. Black; the following are white; middle of collare, in majority of specimens a short line on base of pronotal ridge, rarely also a small mark on its apex, a small mark or dot on subalarum, always scutellum and postscutellum.

Legs.—Femora III moderately thick. Black; apices of femora I and II and the tibiae I and II ventrally ivory; bases of femora and of metatarsus III narrowly obscure ferruginous; tibiae and tarsi I and II dorsally blackish-brown.

Abdomen.—Postpetiolus without clearly defined median field, shiny; gastrocoeli superficial, slightly wider than long, thyridia fairly distinct, transverse; second and third tergites sparsely and extremely finely punctured, alutaceous, slightly shiny. Uniformly black.

Male

(Description based on 20 males from Maine.)

Black; flagellum with white annulus; sides of clypeus and face broadly, a narrow line on frontal orbits, scutellum, collare and postscutellum always white; usually short, white lines on base and apex of pronotal ridge; apical tergites without white anal markings; anterior tergites uniformly black, without ferruginous margins; length 8-10 mm.

Flagellum.—With 35-37 segments, without tyloides. Black, with white annulus on segments 9 or 10 to 14 or 15, sometimes even to 17 or 18; scape ventrally white.

Head.—Black; the following are white: mandibles except teeth, sides of clypeus and face broadly (the white band extending downward over malar space and apical margin of cheeks at base of mandibles), frontal orbits narrowly (nearly up to level of lower ocellus), often two small median marks at upper border of face, usually a short, narrow stripe on middle of outer orbits.

Thorax.—Black; the following are white: always collare, mark on subalarum, tegulae partially to entirely, scutellum and postscutellum; usually a stripe

on pronotal base and two short stripes on base and apex of pronotal ridge which may exceptionally become confluent, very rarely a mark on apex of area dentiparae.

Legs.—Black; all femora usually narrowly obscure ferruginous at the very base; tibiae I and II and the apices of femora I and II ventrally ivory; often femora I, exceptionally also femora II extensively pale brownish on dorsal side; coxae I usually with white mark on anterior side.

Abdomen.—Uniformly black.

3. *Asthenolabus canadensis* (Cresson), new combination

Platylabus canadensis Cresson, 1877, Amer. Ent. Soc. Trans., 6:200, ♀.

Platylabus canadensis Townes, 1951, Syn. Cat., p. 280, ♀.

Types

Holotype.—♀, Canada. A.N.S.

Neallotype.—♂, Maine, Dryden, 25.VI.1952. C.G.H.

Distribution

According to H. Townes 1951: "Transcontinental in Canadian Zone and in parts of Transition Zone". Recorded south to North Carolina.

Female

Head and thorax black, with restricted white markings; apex of scutellum, rarely apex of pronotal ridge white; flagellum tricolored; abdomen ferruginous, tergites 5 or 6 to 7 and petiolus, and rarely almost entire first segment, black; legs predominantly rufous; coxae black; femora III dorsally at apex black to a variable extent, rarely for almost their whole length; tibiae III apically infuscated; length 9-10 mm.

Flagellum.—Bristleshaped, long and slender, ventrally flattened beyond middle, but not widened, extremely attenuated at apex, with 35-38 segments. Segments 1-3 or to 6 ferruginous, with white annulus on segments 8 or 9-12 or 13, the rest black.

Head.—Temple and cheek profiles considerably narrowed, the former with slightly curved outline; malar space not quite as long as width of base of mandible. Black; the following are white: apical margin of cheeks at base of mandibles (the white line extending toward the clypeal fovea), a short line or mark on upper part of facial orbits, sometimes a narrow, short line on lower part of frontal orbits, rarely a small mark on middle of outer orbits.

Thorax.—Mesoscutum finely and moderately densely punctured, somewhat shiny; notauli scarcely indicated at base; scutellum with steeply rounded apical slope, laterally carinate at base only or to about middle. Black; the following are white: apex of scutellum, sometimes small mark on subalarum, rarely apex of pronotal ridge.

Legs.—Femora III moderately slender. Rufous; the following are black: all coxae, trochanters predominantly and the apex of femora III dorsally to a variable extent (sometimes only the tip black, sometimes almost whole length); tibiae III apically infuscated; tarsi III red-brown, sometimes slightly infuscated, sometimes femora I and II extensively infuscated; tibiae and tarsi I and II fulvous, the former ventrally ivory.

Abdomen.—Fairly slender; first segment narrow, postpetiolus without distinct median field, shiny; gastrocoeli superficial, but recognizable, slightly longer than

medially wide; second tergite (except base and interval of gastrocoeli) sparsely and extremely finely punctured, alutaceous and subopaque; third tergite still more finely sculptured, slightly shiny. Ferruginous; the following are black: petiolus (except ventral side), often base of postpetiolus, rarely entire first segment, segments 5 or 6-7.

Male

Head and thorax black with restricted white markings; sides of face and clypeus broadly, apex of scutellum and of pronotal ridge white; flagellum black with white annulus; abdomen ferruginous, petiolus or entire first segment and apex of abdomen black; apex of femora III black, the tibiae III usually blackish-brown; melanistic mutants with almost entirely black abdomen occur; length 9-10 mm.

Flagellum.—With 35-37 segments, and with short, bacilliform tyloides on segments 9 or 10 to 18 or 19. Black, with white annulus on segments 9 or 10 to 17 or 18; scape ventrally white.

Head.—Black; the following are white: mandibles except teeth, sides of clypeus and face broadly (sometimes clypeus almost entirely), malar space, apical margin of cheeks at base of mandibles, narrow line on frontal orbits (not quite up to level of lower ocellus), a mark or line on middle of outer orbits or their lower half.

Thorax.—Black; the following are white: mark or short line on apex of pronotal ridge, rarely line near apex of pronotal base, subalarum entirely or partially, tegulae usually predominantly, apical band on scutellum.

Legs.—Femora rufous; coxae black, coxae I and II extensively white; trochanters, at least partially, usually predominantly, black, trochanters I and II ventrally white; apex of femora III, rarely their dorsal side predominantly, black; basal 1-3 segments of tarsi III, apex of tibiae III broadly and usually their base narrowly, infuscated; tibiae and tarsi I and II yellowish.

Abdomen.—Ferruginous; usually petiolus (except ventral side), often first tergite predominantly or entirely, black; rarely first tergite uniformly ferruginous; apical two or three tergites, sometimes only the seventh, infuscated or black; melanistic mutants with almost entirely black abdomen occur in the western as well as in the eastern parts of the range.

48. Genus *Lyncus* Cameron

Fig. 27

Lyncus Cameron, 1903, Entomologist, 36:234.

Type-species.—*Lyncus rufipes* Cameron (from Ceylon). Monobasic.

The type of *Lyncus rufipes* Cameron which I had not found in 1933 has recently been located and interpreted by Perkins as morphologically identical with the European platylabine *exhortator* Thunberg; consequently Perkins re-established Cameron's genus and included *exhortator* in it. I have so far placed the mentioned species in the genus *Ectopius* Wesmael, stressing the analogy of the structure of gastrocoeli (unique in the tribe) as a sign and proof of close relationship between *exhortator* and the type-species of *Ectopius* (*rubellus* Gravenhorst). But I admit that both species are otherwise differentiated enough (as in structure of head and propodeum) to justify, although perhaps not to demand, generic separation.

Lyncus, as represented by the holarctic species *exhortator*, is clearly separated from all other genera of the tribe, and especially from the closely related genus

Cyclolabus Heinrich, by the structure of gastrocoeli (Fig. 27), which are subobsolete, represented only by an oblique, longitudinal furrow, and by the reduction of thyridia; it shares the principle of this structure with *Ectopius* and the circular spiracles of propodeum with *Ectopius* and *Cyclolabus*. *Linytus* differs from *Ectopius* by the longer, more pronounced notauli, by the more pronounced median field of postpetiolus and by the less abbreviated propodeum with, on the average, a somewhat longer and comparatively less widened area superomedia. Flagella of males with tyloides.

Only one species is known from Europe, while two occur in the nearctic region.

Larentia and *Depressaria* species have been recorded as hosts of the European form. There are no records yet concerning the North American species.

Key to the Species of *Linytus* Cameron of America North of Mexico

Females and Males

1. Abdomen and legs (sometimes also thorax) uniformly pale ferruginous. (Head always uniformly or predominantly black; length 6-8 mm.) 2. *nigriceps*, new species. 2
- Abdomen and legs partially black, the former with white anal pattern. (Head always uniformly black; length 7.5-8 mm.) 1. *exhortator* Thunberg 5
2. Females. 2. *nigriceps*, new species
(subspecific differences of females unknown) 3
- Males. 3
3. Flagellum ventrally pale yellowish-ferruginous, turning gradually into blackish toward apex; basal flagellar segments also dorsally yellowish-ferruginous to a varying extent (usually segments 1-5 or to 6 or to 7, exceptionally 1-14); femora III slenderer than in alternative subspecies. (Prosternum, prepectus, lower part of propleura, bands or patches on apical part of mesopleura and below subalarum, and usually areae coxales black.) 2c. *nigriceps alaskae*, new subspecies
(Alaska, Cold Bay) 4
- Flagellum black; femora a trifle less slender than in alternative subspecies. 4
4. Mesosternum entirely, all pleura entirely or extensively, propodeum usually apically, black. 2b. *nigriceps arizonensis*, new subspecies
(Arizona) 5
- Mesosternum exceptionally partially black, pleura and propodeum uniformly pale ferruginous. 2a. *nigriceps nigriceps*, new subspecies
(British Columbia, Washington, Oregon) 6
5. Females. 6
- Males. 7
6. Thorax including mesoscutum and pronotum ferruginous (exceptionally partially or predominantly black); usually femora I and II and coxae II and III entirely, base of femora III extensively, ferruginous. 1a. *exhortator exhortator* (Fabricius)
Europe) 7
- Thorax and legs more extensively black; mesoscutum and pronotum black in all examined specimens, usually also patch below subalarum; usually femora III and tibiae III, sometimes also femora II predominantly, black. 1b. *exhortator thoracicus* (Cresson)
(Eastern North America) 8
7. Flagellum without annulus. (Thorax and coxae uniformly black.) 1c. *exhortator montanus*, new subspecies
(Colorado) 8
- Flagellum with white annulus. 8
8. Coxae ferruginous; mesosternum and mesopleura, in majority of specimens, ferruginous. 1b. *exhortator thoracicus* (Cresson)
(Eastern North America) 9

Coxae partially or entirely black — as a rule; mesosternum and mesopleura, in majority of specimens, black. (Propodeum often partially, sometimes predominantly, ferruginous.) 1a. *exhortator exhortator* (Fabricius) (Europe)

1. *Linyces exhortator* Fabricius

Fig. 27

Distribution

Holarctic; in Transition Zone of eastern North America recorded so far from Ontario south to Pennsylvania and west to Indiana and Missouri.

Female

Head uniformly black; flagellum tricolored, basally ferruginous, with white annulus and black apex; thorax ferruginous, in nearctic subspecies with black mesoscutum and pronotum; abdomen tricolored: tergites 1 and 2 ferruginous 3-7 black, 5-7 with white medio-apical bands; legs ferruginous, coxae I, all trochanters partially, apex of femora III, base narrowly and apex broadly of tibiae III and the tarsi III blackish; in nearctic subspecies femora on the average more extensively black than in the European; length 7.5-8 mm.

Flagellum.—Bristleshaped, long and very slender, ventrally flattened beyond middle, but not at all widened, extremely attenuated at apex, with 32-34 segments. Tricolored; usually segments 1-3 ferruginous, the following black, except white annulus on segments 5 or 6 to 8 or 9; scape black.

Head.—Temple and cheek profiles strongly narrowed, the former with slightly curved, the latter with straight, outline; malar space about as long as width of base of mandible. Always uniformly black.

Thorax.—Mesoscutum distinctly and densely punctured, shiny; notauli sharply incised to about middle; scutellum dorsally convex, laterally sharply carinate, narrowed toward apex, with steep apical slope; propodeum fairly short, with complete and sharp carination, including costulae; area superomedia rather variable in shape, usually about 1.5 times as wide as long (as pictured by Perkins 1959, Royal Ent. Soc. London 7:53), sometimes three times as wide as long; apices of areae dentiparae projecting angularly. Ferruginous; in European subspecies usually only the prosternum black (exceptionally also pronotum and parts of mesoscutum), in Nearctic subspecies always mesoscutum, pronotum and patch below subalarum black; subalarum in American specimens usually yellow.

Legs.—Long and slender. Ferruginous; coxae I and sometimes partially coxae II black; trochanters usually more or less extensively blackish; apex of femora III more or less extensively, base of tibiae III narrowly, their apex broadly and the tarsi III infuscated; on the average femora III and tibiae III more extensively melanistic in American specimens than in the European, often predominantly black.

Abdomen.—Median field of postpetiolus clearly defined, finely and irregularly rugose; gastrocoeli subobsolete, indicated by oblique, longitudinal impressions laterally at the base of second tergite (Fig. 27); thyridia subobsolete; second and third tergites finely and moderately densely punctured, alutaceous between punctures; base of second tergite between gastrocoeli coarsely rugose. Tergites 1 and 2 ferruginous, 3-7 black, 5-7 with white medio-apical bands; tergites 3 and 4 often with narrowly ferruginous apical margins.

Male

Head uniformly black; flagellum black, with white annulus (except specimen from Colorado) and white bacilliform tyloides; thorax entirely or predominantly

black, in eastern Nearctic subspecies propodeum, mesopleura, mesosternum, scutellum and coxae ferruginous, in European specimens only the propodeum and hind coxae sometimes partially ferruginous; abdomen as in female; length 7.5-8 mm.

Flagellum.—With 29-32 segments and with bacilliform tyloides on segments 7 or 8 to about 17. Black with white annulus of variable extent, usually on segments 7 or 8 to 10 or 11; scape black.

1a. *Linycus exhortator exhortator* (Fabricius)

Ophion exhortator Fabricius, 1793, Ent. Syst., II, p. 154.

Hoplismenus dimidiatus Gravenhorst, 1829, Ichn. Eur., II, p. 421, ♀ ♂. New synonymy.

Types

Holotype.—Perhaps in Copenhagen. Not located.

Hosts

According to Berthoumieu 1893 (*Platylabus dimidiatus* Gravenhorst): "*Laurentia fluctuata* L. (Brischke); *Depressaria heracleana* De Geer and *Depressaria depressella* Hb. (Boie, Rondani)." According to Constantineanu 1959, Fauna Romine, IX, p. 1210: *Larentia montana* Schiff."

Distribution

Europe.

Female

Thorax including mesoscutum and pronotum ferruginous (very rarely mesoscutum and pronotum partially or predominantly black); usually femora I and II and coxae II and III entirely, and base of femora III extensively, ferruginous.

Male

Often propodeum partially, sometimes predominantly ferruginous, but rarely mesopleura and mesosternum; coxae partially or entirely black as a rule.

1b. *Linycus exhortator thoracicus* (Cresson), new combination

Hoplismenus thoracicus Cresson, 1864, Ent. Soc. Phila. Proc., 3:288, "♂" = ♀.

Ectopius thoracicus Townes, 1951, Syn. Cat., p. 282, ♂.

Ectopius exhortator thoracicus Heinrich, 1956, Can. Ent., 88:651, 652, ♀ ♂.

Types

Holotype.—♀ (nec ♂), Pennsylvania. A.N.S.

Distribution

According to H. Townes 1951: "New York, Rhode Island, Pennsylvania". New records: Michigan, Missouri, Indiana, Maine (C.G.H.); Ontario (C.N.C.).

Female

Thorax and legs more extensively melanistic than in European subspecies; mesoscutum and pronotum black in all examined specimens, usually also patch below subalarum; usually femora III, and tibiae III, sometimes also femora II predominantly black.

Male

In contrast to the female, on the average less extensively melanistic than the European subspecies; out of 25 examined specimens from Ontario, 21 showed ferruginous mesosternum and mesopleura instead of black as is the rule in palaearctic specimens; on all examined specimens the coxae were ferruginous instead of entirely or partially black as usual in European populations.

1c. *Linytus exhortator montanus*, new subspecies

Types

Holotype.—♂, Colorado, Phantom Valley, 9400 ft., 12.VIII.1948, H., M., D. & J. Townes. C.H.T.

Distribution

Colorado (9400 ft.).

Preamble

The single western specimen known so far of this subspecies comes from the high mountains of Colorado. It seems to be of special interest, in so far as it stands chromatically much closer to the palaearctic nominate form than the East American subspecies *thoracicus* (Cresson).

Male

Agrees in the uniformly black thorax and coxae with *exhortator exhortator* Fabricius, differing by this character distinctly from *exhortator thoracicus*. Distinguished from both subspecies by the lack of a white flagellar annulus.

2. *Linytus nigriceps*, new species

Distribution

Western North America from Alaska south to California; three chromatically distinctly different forms of males have been treated as associated subspecies.

Preamble

Characteristic for this species is the uniformly pale ferruginous color of abdomen, legs and, in the nominate form, also entire thorax, always combined with uniformly or predominantly black head. Four forms of males, distinguished by color of flagellum and lateral and ventral parts of the thorax, are easily recognizable. So far, however, the associated females could not be separated. Whether the males described below from Alaska and from Arizona represents indeed mere subspecies or perhaps distinct species needs further investigation.

Female

Pale ferruginous; head black; median field of face obscure ferruginous, sometimes also facial orbits partially; exceptionally ferruginous color extended over clypeus and parts of lateral fields of face; flagellum without annulus, with pale ferruginous base; prosternum, except middle, and often mesolcus and apical sutures of propodeum narrowly black; morphologically like *exhortator thoracicus* (Cresson); length 6-8 mm.

Flagellum.—Bristleshaped, long and very slender, ventrally flattened beyond middle but not at all widened, extremely attenuated at apex, with 31-35 segments. Bicolored; scape and segments 1-4 or 5 or 6 pale ferruginous, the rest blackish.

Male

Pale ferruginous; head black, rarely median field of face ferruginous; flagellum black, without annulus, sometimes basally pale ferruginous; scape ventrally ferruginous; prosternum always black, usually prepectus at least partially, exceptionally mesosternum extensively; in populations from Arizona mesosternum entirely, all pleura extensively or entirely black; length 6-8 mm.

Flagellum.—With 30-32 segments and with bacilliform tyloides on segments 8-19. Black; scape and pedicel ventrally ferruginous.

the cord of nerves and muscular tissue. Some forms so far included in the genus *Pristiceros* (as for example the American species *bakeri* (Davis) and the European species *infractorius* (Linnaeus) and *larvator* Gravenhorst) are seemingly related to the type-species, but the flagellum of their males scarcely shows any indication of an evolutionary trend toward the high and unique specialization apparent in *serrarius* Gravenhorst. I intended to separate these species generically from *Pristiceros* under the name of *Neopristiceros*, published in the key to the genera in Part I of this paper. By mistake I designated, however, the species *lascivus* (Cresson) as type-species of *Neopristiceros* instead of *bakeri* Davis, as originally intended. This mistake makes *Neopristiceros* a synonym of *Pristiceros*, as just in the species *lascivus* the structure of the male flagellum approaches *serrarius* rather closely (Fig. 39). *Ichneumon lascivus* Cresson is the single known Nearctic species which I would like to include in this genus. For the other species so far included in *Pristiceros* see the following genus (*Pristiceros*, new genus).

Morphological characters

Flagellum.—Of females bristleshaped, long and slender, ventrally flattened beyond middle and a trifle widened, extremely attenuated at apex; of males with very distinct tyloides; segments of median part of flagellum of males saw- or cog-wheel-like, deeply excised apically, with wide gaps between each other (Fig. 38 and 39).

Head.—Temple and cheek profiles moderately narrowed, with rounded outlines.

Thorax.—Mesoscutum moderately densely punctured and shiny; notauli obsolete; scutellum moderately convex, laterally carinate; carination of propodeum sharp and complete, including costulae (Fig. 31); spiracles longish-oval.

Legs.—Moderately slender.

Abdomen.—Longish-oval; gastrocoeli distinct, moderately deepened, with outline about quadrangular to nearly triangular, approximately as wide as interval (Fig. 24).

Color

Type-species plain black colored; American species with extremely rich white markings on head, thorax and abdomen; abdomen predominantly ferruginous in females.

Sexual dimorphism

Not considerable in type-species, unusually pronounced in American species, the basic color of abdomen being ferruginous in females, black in males.

Distribution

Temperate parts of Holarctic Zone; the peculiar arrangement of extremely rich white pattern in the North American species, *lascivus*, suggests however, a Neotropical origin.

Biology

The European type-species is a parasite of *Boarmia consortaria*. The hosts of the American species are unknown.

1. *Pristiceros lascivus* (Cresson)

Figs. 24, 31, 39

Ichneumon lascivus Cresson, 1867, Amer. Ent. Soc. Trans., 1:309, "♂" = ♀.*Pristiceros lascivus* Townes, 1951, Syn. Cat., p. 281.*Types**Holotype*.—♀, Illinois. A.N.S.*Neallotype*.—♂, West Virginia, Bolivar, 21.IX.1942, H. K. Townes. C.H.T.*Distribution*

According to H. Townes 1951: "New York, Maryland, West Virginia, Illinois". New records: Maine (C.G.H.), Ontario, Quebec (C.N.C.), Washington (U.S.N.M.).

Preamble

The species shows extremely rich white patterns on head and thorax, as characteristic for so many Ichneumonini of the Neotropical region, but normally unknown in the Temperate Zones. It is also distinguished by a considerable chromatic sexual dimorphism, unusual for the tribe Platylabini.

Female

Head, thorax, coxae and trochanters black with extremely rich white markings; abdomen pale ferruginous, tergites 1-4 with white apical bands which on second to fourth tergites are medially interrupted (or almost so) and laterally widened into triangular latero-apical marks; femora and tibiae rufous; length 9-11 mm.

Flagellum.—Bristleshaped, long and slender ventrally flattened and scarcely widened beyond middle, extremely attenuated at apex, with 37-42 segments. Black, with white annulus on segments 7 or 8 to 12 or 13; scape ventrally white.

Head.—Cheek and temple profiles distinctly narrowed, the latter with slightly curved outline; malar space about as long as width of base of mandible. White; the following are black: median apical mark on clypeus, triangular median mark on face (narrowed above), supraantenna cavities, middle of frons, and ocellar, occipital and temple regions.

Thorax.—Mesoscutum moderately densely punctured, shiny; notauli scarcely indicated at the very base; scutellum dorsally moderately convex, laterally strongly carinate, apically slightly abbreviated with gradually rounded apical slope; area superomedia approximately hexagonal, slightly wider than long; costulae sharp (Fig. 31). Black, the following are white: collare, pronotal ridge and base broadly, subalarum, tegulae partially, prescutellar carinae, two long, longitudinal stripes on mesoscutum, in type specimen also two short lateral lines on mesoscutum, scutellum, postscutellum, carinal triangle, two marks on propodeum (covering areae superoexternae and apices of areae dentiparae, sometimes confluent along apex of area superomedia), areae metapleurales predominantly, prosternum except base, outer margin of prepectus broadly, mesosternum between sternauli and mesopleura, mesopleura predominantly (except a black transverse band below subalarum and two diagonal black bands, the upper confluent above in front with the black band below subalarum).

Legs.—Coxae and trochanters I and II white, basally black; coxae III black, ventrally white at apex, dorsally predominantly white; all trochantelli and trochanters III (the latter except white apico-dorsal mark) black; femora, tibiae and metatarsi rufous; very apex of femora III sometimes infuscated, segments 2-5 of all tarsi usually more or less infuscated; tibiae I ivory on anterior side.

Abdomen.—Median field of postpetiolus fairly distinct at elbow, indicated on apical part; gastrocoeli deeper impressed than in *bakeri* (Davis), with distinct thyridia, approximately quadrangular, approaching a triangular shape, their interval a little narrower than one of them (Fig. 24); tergites 2-4 finely, the second and third fairly densely, the fourth sparsely, punctured, all alutaceous between punctures and subopaque. Pale ferruginous; first tergite usually with white apical band, tergites 2-4 with triangular latero-apical marks are sometimes narrowly confluent in the middle.

Male

Basic color black, including legs and abdomen, with extremely rich, white markings; tergites 1-5 with triangular, white, apico-lateral marks, postpetiolus also medially white at apex; femora, tibiae and tarsi III entirely black, legs I and II and coxae III extensively white marked; flagellum without annulus; length 11 mm.

Flagellum.—With 40 segments and with pronounced, elongate tyloides on segments 8-15, distinctly serrate, the apices of segments being ventrally deeply incised, the segments thus with distinct gaps between each other (Fig. 39). Black.

Head.—White; the following are black: apices of mandibles, malar space, supraantennal cavities, middle of frons broadly, ocellar region and occipital region.

Thorax.—Black; white markings exactly as in female.

Legs.—Coxae and trochanters I and II white, basally narrowly black; coxae III black, ventrally white at apex, dorsally predominantly white; all trochantelli and the trochanters III (the latter except white apico-dorsal mark) black; femora III, tibiae III and tarsi II and III uniformly black; femora and tibiae I and II dorsally blackish-brown, ventrally ivory; tarsi I dorsally infuscated, ventrally partially pale.

Abdomen.—Black; postpetiolus medially and laterally white at apex; tergites 2-5 with triangular, white, latero-apical marks.

50. *Pristicerops*, new genus

Fig. 40

Type-species.—*Platylabus bakeri* Davis.

Preamble

It seems to be a long way of evolution between the cogwheel structure of the flagellum of *serrarius* Gravenhorst male (type-species of *Pristicerops* Gravenhorst), and the shape of the flagellum represented by *bakeri* Davis, *infractorius* Linnaeus and several other related species of the Palaearctic and Oriental Regions, in which the apical incisions of the flagellar segments are scarcely indicated (Fig. 40, also compare Figs. 220 and 221 in Perkins, 1959, Royal Entom. Soc., London, 7:55). I therefore believe that the species *serrarius* Gravenhorst represents a branch of evolutionary differentiation, well separated from the species group represented by *bakeri* Davis and *infractorius* Linnaeus, which consequently should be considered as generically distinct—although the mentioned differentiation is strikingly evident in the males only.

Pristicerops is closely related to *Pristicerops* Gravenhorst. Both genera agree in the sharp and complete carination of the propodeum, including costulae. They differ considerably in the structure of the flagellum of males (see *Preamble*), slightly in structure of gastrocoeli which, on the average, are smaller and shallower

in *Pristicerops*, often approaching the shape found in *Asthenolabus* Heinrich, and in chromatic pattern. In all species of *Pristicerops* known to me, all tergites bear regular, yellow or white apical bands.

Distribution

Temperate parts of Holarctic Zone, and higher elevations of Oriental mountains.

Biology

Three specimens of the type-species have been recorded as being reared from *Deilinia* species in Alberta.

Remarks

In the key to the genera (Canad. Entom. Suppl. 15), this genus runs to *Neopristicerops*, for which it is a substitute name necessitated by the mistake in the published type-species of that genus.

1. *Pristicerops bakeri* (Davis)

Fig. 40

Distribution

Transition Zone; probably transcontinental. Recorded so far from Michigan (holotype), Maine (C.G.H.), Alberta (C.N.C.), Quebec, New Hampshire, Washington (C.H.T.). The four specimens from Washington differ from all others by considerably more extensive erythrism; they are treated below as representatives of a distinct subspecies.

Preamble

This species agrees in morphology as well as in the various white color patterns almost exactly with the European *infractorius* Linnaeus, differing in the extensive erythrism of thorax, head, coxae and abdominal base; it is, without much doubt, the nearctic vicariant of the mentioned species.

Female

Black, partially ferruginous, with extremely rich white patterns; all tergites with regular white apical bands; scutella and sometimes two short median lines on mesoscutum white; predominant color of propodeum, mesopleura, mesosternum and first segment always ferruginous; mesoscutum, pronotum and head usually predominantly black; in specimens from Washington predominant color of head, thorax and tergites 1-3 uniformly ferruginous; length 8-9 mm.

Flagellum.—Bristleshaped, long and slender, ventrally flattened beyond middle and scarcely widened, extremely attenuated at apex, with 36-38 segments. Black, with white annulus on segments 8 or 9 (rarely 10) to 11 or 12.

Head.—Cheek and temple profiles distinctly narrowed, the latter with slightly curved outline; malar space about as long as width of base of mandible; frons polished, almost impunctate, with a shallow, vertical deepening below lower ocellus. Usually black, with ferruginous median field on face, or entire face, and with ferruginous median area on cheeks; sometimes predominant color of entire head ferruginous; the following are white: base of mandibles, facial orbits narrowly, frontal orbits broadly (somewhat widened below lower ocellus), long mark on vertical orbits, outer orbits downward from below temple region; sometimes white bands on facial, frontal and vertical orbits confluent.

Thorax.—Mesoscutum distinctly and not densely punctured, shiny; notauli obsolete; scutellum dorsally moderately convex, somewhat abbreviated, with gradually rounded apical slope, laterally sharply carinate; area superomedia hexagonal, slightly wider than long, narrowed toward base; costulae distinct. Ferruginous; usually mesoscutum and pronotum predominantly black; the following are always white: collar, pronotal ridge, pronotal base, subalarum, scutellum, postscutellum, mark on lower apical half of mesopleura; sometimes white: two short median lines on mesoscutum, a mark on metapleura and marks on areae posteroexternae.

Legs.—Ferruginous, including all coxae and trochanters; apices of femora III and of tibiae III usually black, tarsi III infuscated.

Abdomen.—First segment fairly slender; postpetiolus without distinct median field, shiny; gastrocœli superficial, with approximately quadrangular outline; second and third tergites distinctly and moderately densely punctured, shiny. Black; first tergite entirely, the second partially to entirely ferruginous; all tergites with regular, white apical bands; in specimens from Washington predominant color of tergites 1-3 ferruginous.

Male

Black, partially ferruginous, with extremely rich white patterns; all tergites with regular, white apical bands; scutella and usually two short median lines on mesoscutum white; predominant color of propodeum, mesopleura and first tergite always, of mesosternum usually, ferruginous; in specimen from Washington also second tergite ferruginous; flagellum with white annulus; coxae and trochanters I and II partially white; length 9-10 mm.

Flagellum.—With 36-39 segments, with narrow, elongate-bacilliform tyloides on segments 9 or 10 to 15; apical incisions on ventral side of segments very narrow and unobtrusive. Black, with white annulus on segments 10 or 11 to 13 or 16; scape ventrally white.

Head.—Black, sometimes middle of face with reduced ferruginous mark; the following are white: orbits broadly around eyes (interrupted at malar space and usually also at temple region), mandibles except teeth, clypeus (except apical median mark), face (sometimes except blackish or ferruginous median line); white color of face and of face and of clypeus separated by an irregular black transverse band.

Thorax.—Ferruginous; mesoscutum and pronotum entirely or partially black; lateral lobes of the former often partially to entirely, the upper part of propleura often partially, ferruginous; prosternum usually black with white apex, rarely ferruginous; mesosternum usually ferruginous, exceptionally partially or predominantly black (specimen from Washington); the following are white: collar, pronotal ridge, pronotal base, subalarum, in majority of specimens two short median lines on mesoscutum, scutellum, postscutellum, mark on middle of anterior part of mesopleura (often extending onto prepectus), second mark on apical, lower part of mesopleura, mark on metapleura, mark on areae posteroexternae.

Legs.—Ferruginous; apex of femora and of tibiae III, usually base of tibiae III narrowly and the tarsi III blackish; coxae I and II partially or predominantly, apex of coxae III usually narrowly, white; trochanters I and II ventrally white.

Abdomen.—Black; the first tergite, in specimen from Washington also the second tergite, ferruginous; all tergites with regular white apical bands.

1a. *Pristicerops bakeri bakeri* (Davis)

Platylabus bakeri Davis, 1898, Amer. Ent. Soc. Trans., 24:352, ♂.

Pristicerops bakeri Townes, 1951, Syn. Cat., p. 281, ♂.

Types

Holotype.—♂, Michigan, Ann Arbor. A.N.S.

Neallotype.—♀, Maine, Dryden. C.G.H.

Host

Deilinia sp. (Alberta).

Distribution

Quebec, New Hampshire, Michigan, Maine, Alberta.

Female and Male

The following (except white markings) are black: head pronotum, mesoscutum, second tergite extensively (usually predominantly) and the third tergite; mesosternum ferruginous.

1b. *Pristicerops bakeri townesi*, new subspecies**Types**

Holotype.—♀, Washington, Westport, 17.VII.1940, H. & M. Townes. C.H.T.

Allotype.—♂, locality and data of holotype. C.H.T.

Paratypes.—2 ♀♀, locality and data of holotype. C.H.T.

Distribution

Washington.

Female

Head and thorax and tergites 1-3 uniformly ferruginous, except white markings.

Male

Like *bakeri bakeri* (Davis), but second tergite ferruginous, except white apical band; mesosternum uniformly black.

51. Genus *Ambloplisus* Heinrich

Ambloplisus Heinrich, 1930, Mitt. Zool. Mus. Berlin, 15:551, 552 (Figs. 8, 9, 10).

Type-species.—*Ambloplisus primus* Heinrich (from Peru).

Thaumatoletes Hopper, 1938, Amer. Ent. Soc. Trans., 68:103.

Type-species.—*Hoplismenus ornatus* Cresson. Orig. design.

Distribution

A striking genus, confined to the New World where it, with numerous species, inhabits the tropical parts of South America. Only one species, *ornatus* Cresson, has pushed on northward into North America as far as the state of New York.

Preamble

Distinguished mainly by the long, pointed apophyses of the propodeum in combination with shallow, small gastrocoeli. The structure of the gastrocoeli separates *Ambloplisus* at once from *Tropicolabus* Heinrich which has equally

long apophyses, but deep, transverse gastrocoeli with extremely narrowed interval. Other characteristic features of *Ambloplisus* are given by the shape of the head, with its almost obsolete, very steeply sloping temples, in the delicate mandibles and in the structure and carination of the propodeum (see below). In the Townes collection are males of three undescribed species from Brazil, all distinguished by a unique structure of the hypopygium, which is somewhat prolonged and apically bipartite, either two-lobed or, in one species, even drawn out into two long, narrow, acute spines. I suspect that the bipartite hypopygium of the male may be found to be a constant diagnostic character of the genus.

Flagellum.—Of females long, slender, bristleshaped, ventrally flattened beyond middle, not widened, considerably attenuated at apex; of males without tyloides and without incisions.

Head.—Temples extremely narrowed, almost obsolete, occipital and temple regions sloping nearly perpendicularly downward immediately from hind border of ocelli and eyes, eyes thus strongly bulging; clypeus slightly convex; mandibles very delicate, extremely narrowed toward apex, with small, apical teeth.

Thorax.—Scutellum as in *Platylabus*, distinctly raised above postscutellum, dorsally convex, laterally carinate; propodeum not abbreviated, the horizontal part medially approximately as long as the declivity; areae dentiparae apically drawn out into long apophyses; area superomedia usually longer than wide, approximately parallel-sided, usually apically closed by a transverse carina but often basally not separated from area basalis; costulae absent; spiracles of propodeum short-oval to almost circular.

Legs.—Long, moderately slender.

Abdomen.—First segment gradually bent, petiolus narrow, sometimes scarcely wider than high; postpetiolus without distinct median field; gastrocoeli shallow, comparatively small, sometimes indistinct, their interval considerably wider than one of them.

1. *Ambloplisus ornatus* (Cresson)

Hoplismenus ornatus Cresson, 1869, Amer. Ent. Soc. Trans., 2:92, ♀.

Thaumatoteles ornatus Hopper, 1938, Amer. Ent. Soc. Trans., 68:103, ♀.

Thaumatoteles ornatus Townes, 1951, Syn. Cat., p. 281, ♀.

Ambloplisus ornatus Heinrich, 1959, Ent. News, 70:216, ♀.

Types

Holotype.—♀, New York. A.N.S.

Neallotype.—♂, North Carolina, Yancey Co., 3600 ft. C.H.T.

Distribution

According to H. Townes 1951: "New York, New Jersey, Maryland". New record: ♀, Idaho (U.S.N.M.).

Female

Head and thorax black with extremely rich yellow patterns; abdomen light red, tergites 1-3 with yellow, apico-lateral marks; legs light red; tarsi III and all trochanters white, coxae I and II predominantly, coxae III basally white; length 9 mm.

Flagellum.—Bristleshaped, ventrally flattened and slightly widened beyond middle, considerably attenuated at apex. Black, with white annulus on segments 8-12.

Head.—Structure: see treatment of genus. Yellow; the following are black: median field of face, supraantennal cavities middle of frons, ocellar and occipital regions.

Thorax.—Mesoscutum evenly, fairly densely and strongly punctured; scutellum distinctly, but not very strongly, raised above postscutellum, apically somewhat truncate, with steep apical slope, laterally carinate to about middle; area superomedia confluent with area basalis, somewhat longer than wide, gradually slightly narrowed toward apex. Black; the following are yellow: collar, pronotal ridge and base broadly, subalarum, two longitudinal stripes on mesoscutum, two short, lateral stripes on mesoscutum near tegulae, prescutellar carinae, scutellum, postscutellum, median mark on propleura, mesopleura almost entirely (except small black band below subalarum and black deepening below speculum), meta-pleura, carinal triangle, two marks on propodeum (covering apices of area denticularae and the areae posteroexternae) and irregular markings on prosternum.

Legs.—Light red, tarsi III white; coxae reddish, coxae I and II predominantly, coxae III basally white.

Abdomen.—Shiny and nearly smooth; gastrocoeli shallow, not transverse, approximately quadrangular, their interval distinctly wider than one of them. Light red, tergites 1-3 with yellow, apico-lateral markings which in the specimen from Idaho are medially confluent, forming continuous, apical bands.

Male

Except for the normal sexual dimorphism, the color of head and thorax of the male described below matches the female very well; the same is true concerning the chromatic patterns of the legs; strikingly different, however, is the color of the abdomen which is black with regular white apical bands on all tergites. As a chromatic sexual dimorphism of this type does not seem to be impossible (see the parallel case of *Neopristiceros lascivus* (Cresson)), I prefer to treat this male as associated with *Ambloplitis ornatus* female rather than as representative of a different species.

Black, with extremely rich white pattern; abdomen black, all tergites with white apical bands; legs light red, tarsi III, all trochanters, coxae I and II entirely, coxae III predominantly, white; flagellum with annulus; hypopygium with two long, pointed, median projections; length 8 mm.

Flagellum.—With 34 segments. Black with white annulus on segments 10-16; scape ventrally white.

White patterns.—The following are white: head (except supraantennal cavities, middle of frons, ocellar and occipital regions), prosternum, mesosternum (except an indistinct blackish patch on each side), pronotum (except a narrow transverse band), mesopleura (except a small black band below subalarum and the black deepening below speculum), declivity of propodeum including apices of area denticularae and apophyses (except apex of area posteromedia), four longitudinal lines on mesoscutum, prescutellar carinae, scutella, coxae I and II, ventral side and base of dorsal side of coxae III, all trochanters, tarsi II and III (except last segments), regular apical bands on all tergites.

52. Genus *Apaelecticus* Wesmael

Figs. 18, 25, 34

Apaelecticus Wesmael, 1844, Acad. Sci. Bruxelles Nouv. Mém., 18:165, 166.

Type-species.—*Apaelecticus bellicosus* Wesmael. Designated by Ashmead, 1900.

Distribution

Temperate Zones of the Old and New Worlds.

A group of very small-sized species, distinguished by several unusual characters, especially by the structure and sculpture of the propodeum (Fig. 18), by the very strongly impressed sternaui, the truncate abdominal apex of females (the last two tergites being retracted under the fifth) and by the at-least laterally (American species), usually uniformly (European species) punctured postpetiolus.

Flagellum.—Of females bristleshaped, from moderately long and moderately slender to very long and very slender, ventrally flattened beyond middle, not at all to slightly widened, moderately to extremely attenuated at apex; of males without tyloides.

Head.—Temple and cheek profiles considerably narrowed; carina genalis and carina oralis meeting at base of mandible, abscissula obsolete; median field of face strongly prominent, clypeus convex, with straight, depressed apical border (Fig. 34).

Thorax.—Mesoscutum fairly grossly and sparsely punctured, shiny; notauli basally distinct; sternaui on mesosternum unusually sharply impressed, transverse furrow behind collare medially interrupted by a small elevation; scutellum convex, moderately elevated above postscutellum, laterally carinate (at least on basal third), with gradually rounded apical slope; areae dentiparae terminated by sharp, little teeth; horizontal part of propodeum (except basal areae) and the declivity extremely coarsely reticulate-rugose; area superomedia about as wide as long, pentagonal or hexagonal, its outline usually obscured by rugosity; costulae present; spiracles small and circular; speculum on mesopleura in American species (in contrast to the European) glossy, entirely impunctate.

Legs.—Slender.

Abdomen.—Of females longish, apical truncate, the sixth and seventh tergites usually hidden under the fifth; petiolus not flattened, not wider than high; postpetiolus, in European species, usually distinctly and evenly punctured all over, in American species the median field finely, irregularly rugose, only the lateral fields punctured; gastrocoeli slightly impressed, specifically varying in size, sometimes their interval slightly narrower than one of them, usually somewhat wider.

Color.—Ferruginous and black, with very restricted white pattern; scutellum white; in males white markings on head and thorax more extensive than in females.

Biology.—We have as yet not a single host record of any American or European species.

1. *Apaeleticus americanus* Cushman

Figs. 18, 25, 34

Apaeleticus americanus Cushman, 1926, U.S. Nat. Mus. Proc., 67:4, ♀.

Types

Holotype.—♀, Maryland, Cabin John. U.S.N.M.

Neallotype.—♂, Maryland, Takoma Park, H. & M. Townes. C.H.T.

Distribution

According to H. Townes 1951: "Maine, Maryland, Alberta".

Preamble

Apaeleticus americanus differs as a distinct species from all European representatives of this genus by: (1) the longer and slenderer flagellum, (2) the more extensively carinate scutellum, (3) the large, highly polished speculum.

Female

Almost uniformly ferruginous; collare, scutellum, subalarum and apical margins of sixth and seventh tergites white, usually also pronotal base partially; apices of femora III and of tibiae III black; flagellum tricolored: black, with ferruginous base and broad, white annulus; length 7.5-8.5 mm.

Flagellum.—Bristleshaped, long and very slender, ventrally flattened beyond middle, but not at all widened, extremely attenuated at apex, all segments considerably longer than wide, with 38-40 segments. Black, segments 1-3 or to 6 ferruginous, white annulus on segments 6 or 7 to 11 or 12; scape ferruginous.

Head.—Uniformly ferruginous.

Thorax.—Basal third of notauli distinct; scutellum longer than basally wide, laterally carinate for its whole length; speculum large, polished, impunctate. Ferruginous, collare, subalarum, scutellum and usually pronotal base partially, white.

Legs.—Ferruginous including coxae and trochanters; apices of femora III and of tibiae III infuscated.

Abdomen.—Slender; second tergite longer than apically wide; median field of postpetiolus finely, irregularly rugose, almost smooth, the lateral fields punctured; gastrocoeli fairly shallow, with approximately quadrangular outline, their interval somewhat narrower than one of them; tergites 2-4 rather strongly but moderately densely punctured. Ferruginous; apical margins of the last two (hidden) tergites white.

Male

Ferruginous; basic color of head, pronotum, prepectus and prosternum black; face, clypeus and orbits (except temple region) white; flagellum with white annulus; pronotal ridge and base, scutellum, coxae and trochanters I and II white; length 7.5-8.5 mm.

Flagellum.—With 37 or 38 segments (two specimens counted); without tyloides. Black, ventrally brownish, with white annulus on segments 8 or 9 to 16 or 17; scape ventrally white.

Head.—Black; the following are white: mandibles except teeth, clypeus, face frontal orbits broadly up to vertex, lower half of outer orbits extending downward over entire surface of cheeks, including malar space.

Thorax.—Basic color of prosternum, pronotum and prepectus black; black are furthermore: scutellar sutures, median band on mesosternum (widened triangularly toward apex), narrow band on mesopleura below subalarum; the following are white: collare, pronotal ridge, pronotal base, subalarum, tegulae partially, scutellum, apex of prosternum.

Legs.—Coxae I and II and trochanters I and II white; apices of femora III and of tibiae III infuscated. Rest ferruginous.

Abdomen.—Uniformly ferruginous.

2. *Apaeleticus brunnescens*, new species*Types*

Holotype.—♀, Maine, Jackman, July 2. C.G.H.

Allotype.—♂, Maine, Livermore, 2.VII.1961, Gerd H. Heinrich. C.G.H.

Paratype.—♂, Maine, Dryden. C.G.H.

Preamble

The type specimen agrees with *americanus* Cushman in all structural characters by which the latter differs from all European species of the genus (see Preamble of *americanus*). This fact makes its specific distinction somewhat doubtful. On the other hand, *brunnescens* differs from *americanus* distinctly in color by melanistic patterns, as not even indicated in any of the 5 females from Maryland I have examined, and furthermore, by much denser puncturation on the second and third tergites, and by the number of flagellar segments which is four fewer than the minimal number found in *americanus* from Maryland. I presume, therefore, that *brunnescens* represents either a closely related, distinct species, or a geographical subspecies of *americanus*.

Female

Dull ferruginous; collare and scutellum yellowish; the following are black or blackish-brown: tergites 4-7, femora II and III and the tibiae III predominantly, apices of tibiae II, all trochanters; flagellum tricolored: black with ferruginous base and white annulus; length 7 mm.

Flagellum.—With 34 segments, black, segments 1-3 ferruginous, with white annulus on segments 7-10; otherwise as in *americanus*.

Head.—Uniformly dull ferruginous.

Thorax.—Dull ferruginous; collare and scutellum white; structure as in *americanus*.

Legs.—Extensively blackish-brown, partially dull ferruginous; the following are blackish-brown: all trochanters (not trochantelli), femora II and femora III (except base and ventral side), femora I partially, tibiae III predominantly, apices of tibiae II.

Abdomen.—Puncturation on second and third tergites rather dense, distinctly denser than in *americanus*; for the major part of its surface, in contrast to *americanus*, interval between punctures narrower than punctures; postpetiolus and gastrocoeli as in *americanus*. Dull ferruginous; apex of third tergite slightly infuscated; tergites 4-7 black, with narrowly brownish apical margins.

Male

Ferruginous; head black, except white mandibles, clypeus, face and frontal orbits; thorax and femora II and III extensively black; ferruginous are: mesoscutum predominantly, middle of mesopleura more or less extensively, metapleura partially (in paratype propodeum more extensively ferruginous); tergites 5-7 black (allotype) or less intensively infuscated (paratype); flagellum with more or less distinct white annulus; collare, very apex of pronotal ridge, pronotal base, scutellum, ventral side of trochanters I and II, coxae I except base and apex of coxae II white; length 8 mm.

Differs from *americanus* only in some reduction of white markings and in more extensive melanism, as evident mainly on the thorax and apical part of abdomen.

53. Genus *Hypomecus* Wesmael

Figs. 28, 30, 32, 35

Hypomecus Wesmael, 1844, Acad. Sci. Bruxelles Nouv. Mém., 18:111, 147.

Type-species.—(*Hypomecus albitarsis* Wesmael) = *Mesoleptus quadrannulatus* Gravenhorst. Monobasic.

An isolated genus, distinguished by several unusual characters. It is represented by only one species which inhabits the Old World as well as the Nearctic

Region without recognizable geographical variation. Two structural peculiarities of the genus do not agree with the general diagnosis of the tribe Platylabini: the shape of the petiolus, which is not flattened and not wider than high, and the slender, elongate shape of the abdomen (Fig. 32). On the other hand, the structure of the head, convex clypeus, slender mandibles and even the shape of the apex of abdomen of females strongly suggest a relationship with the Platylabini, a hypothesis also supported by a biological fact (parasitism on Geometridae).

Flagellum.—Of females bristleshaped, long and very slender, ventrally flattened, but not widened beyond middle, extremely attenuated at apex; of males with pronounced long and wide tyloides.

Head.—Temple and cheek profiles considerably narrowed, the former with slightly curved outline; cheeks narrow between eye and carina genalis, constricted at the latter; clypeus distinctly convex; mandibles slender, narrowed toward apex, with small teeth, the lower not quite level with the upper.

Thorax.—Mesoscutum strongly and convex; notauli basally indicated; scutellum considerably raised above postscutellum, quadrangular, with oblique, gradual, about equally long slopes from apex to basal furrow and from apex to postscutellum, dorsal slope laterally carinate to about middle; area superomedia usually longer than wide; costulae obsolete; spiracles oval; apices of areae dentiparae angularly projecting (Fig. 30).

Legs.—Slender.

Abdomen.—Elongate and very slender; of females slightly laterally compressed toward apex which is amblypygous; hypopygium of females elongate, in lateral view surpassing the apex of last tergite (Fig. 35); postpetiolus with fairly distinct median field, finely, irregularly rugose; gastrocoeli superficial, thyridia very large, transverse, oblique, with narrowed interval and comparatively far removed from the base of second tergite (Fig. 28).

Color.—Predominantly black, legs predominantly rufous; in majority of specimens segments 2-3 or 4 of tarsi III white.

Biology.—In Europe several Geometridae have been recorded as hosts.

1. *Hypomecus quadriannulatus* (Gravenhorst)

Figs. 28, 30, 32, 35

Mesoleptus quadriannulatus Gravenhorst, 1829, *Ichn. Europ.*, v. 2, p. 13, ♂.

Types

Holotype.—Was in drawer 11 of Gravenhorst Collection which disappeared during World War II (communication by H. Townes).

Hosts

We have no host record of specimens from North America as yet; in Europe the species was reared from quite a number of different species of Geometridae; according to the most recent publication (Mihai J. Constantineanu, 1959, *Faun. Rep. Pop. Rom.*, 9:1096) from: *Acidalia trilineata* S., *Ephyra linearis* Hb., *Ephyra punctaria* L., *Larentia berberata* Schiff., *Larentia luctuata* Hb., *Larentia galiata* Hb., *Phydopoda trilinearia*.

Distribution

Holarctic; in North American recorded so far from (according to H. Townes, 1951): Washington, California, Colorado. New record: British Columbia.

Female

Black, scutellum usually with a bipartite (often medially divided) apical mark; apex of cheeks at base of mandibles, malar space, and more or less extensive linings on orbits, white; legs rufous; apices of femora III, of tibiae III and basic color of tarsi III, blackish; median 2-3 segments of tarsi III white; coxae and trochanters black; length 8.5-10.5 mm. (For structural characters see treatment of genus.)

Flagellum.—With 34-36 segments. Black, with white annulus on segments 9-12 or 13; scape ventrally partially ferruginous.

Head.—Black; the following are white: apex of cheeks at base of mandible, malar space, facial and frontal orbits narrowly, marks on vertical orbits and the outer orbits below temple region; European populations show often exactly the same pattern, but variants with obsolete white lining on facial and outer orbits are not rare.

Thorax.—Mesoscurum finely and very densely punctured, almost opaque. Black; the following are white: mark on collare, the pronotal ridge, subalarum, two marks or one bipartite mark on apex of scutellum, usually two marks on postscutellum.

Legs.—Rufous; coxae and trochanters black, apices of femora III and of tibiae III infuscated; tarsi III blackish, with usually segments 2 (except base), 3 and 4 white.

Abdomen.—Black, in European populations first and second tergites sometimes with ferruginous apical bands.

Male

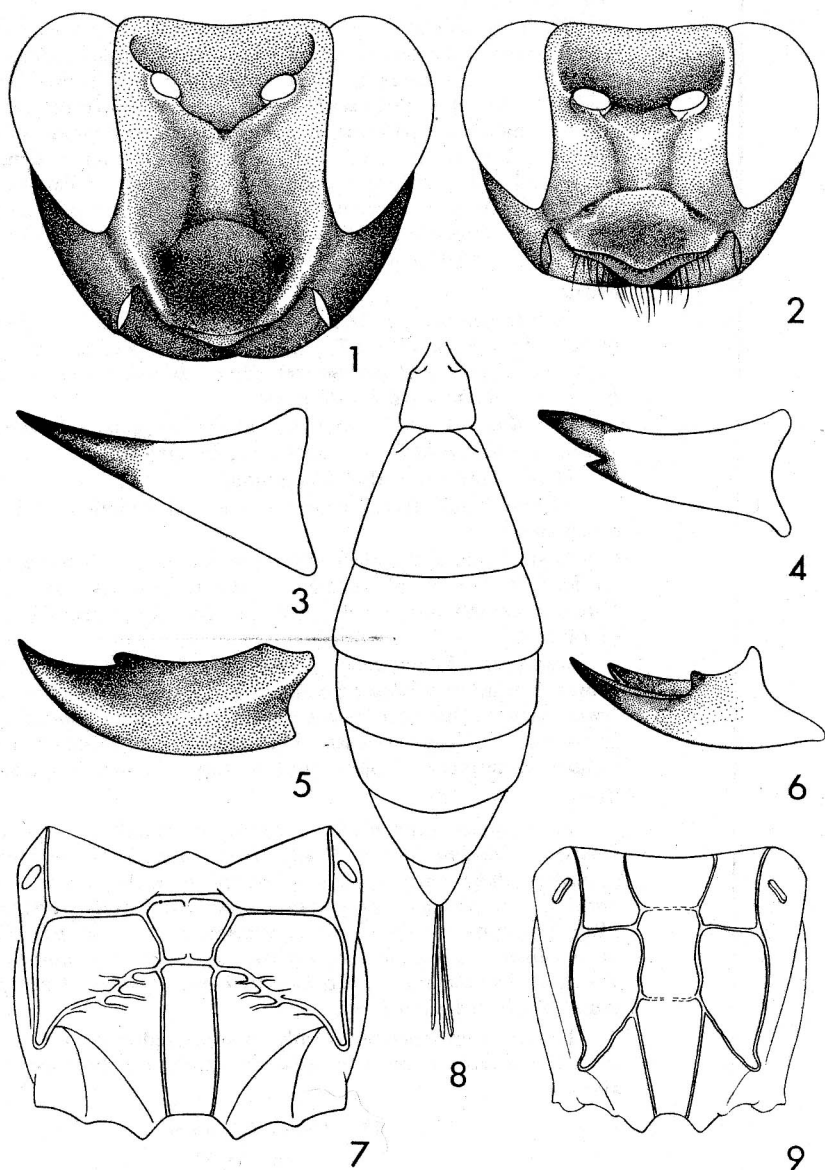
Black, face and clypeus uniformly white; flagellum with white annulus; legs as in female, except coxae and trochanters I and II which are partially white; pronotal ridge and bipartite apical mark on scutellum white; length 8.5-10.5 mm.

Flagellum.—Black, with white annulus on segments 10-13 or 15 and with comparatively very large, longish-oval tyloides on segments 10-16 or 17, tyloides are prominent and reach (except the last two) almost from bases to apices of segments, segments with tyloides slightly bulging on side of tyloides; scape ventrally white.

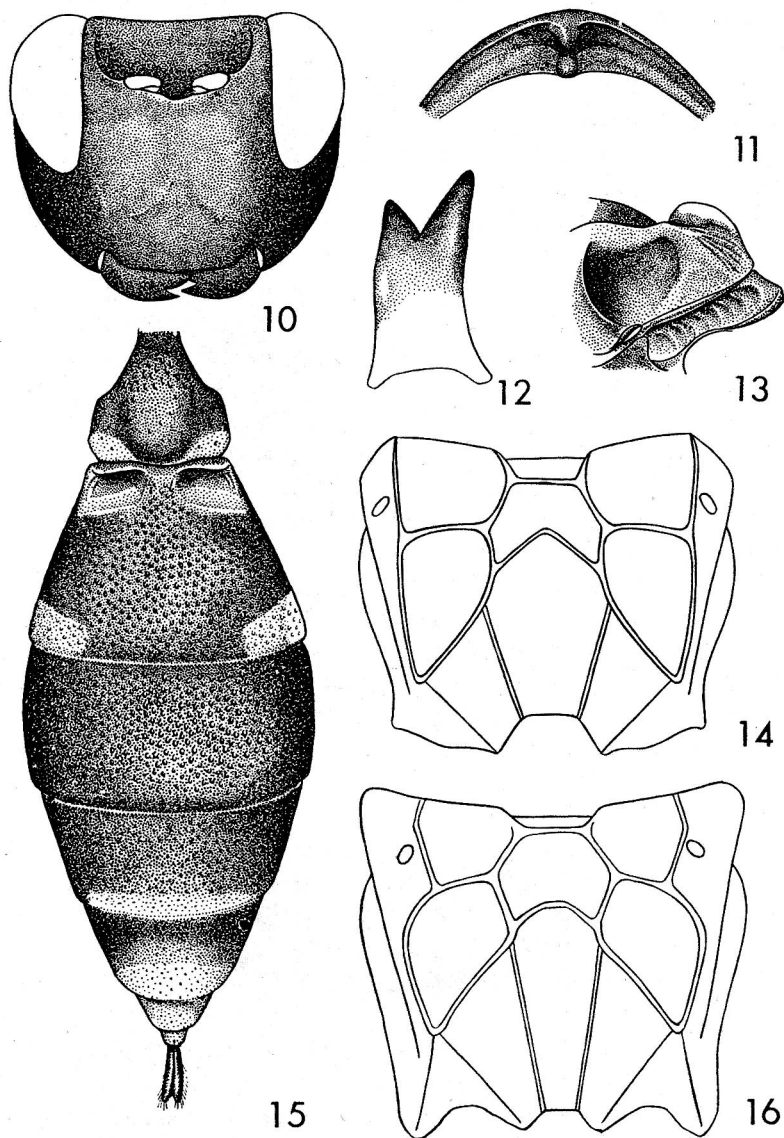
White patterns.—The following are white: base of mandibles, clypeus and face entirely, apex of cheeks at mandible base, malar space, frontal orbits narrowly up to lower ocellus, marks on vertical orbits, outer orbits below temple region, apex of prosternum, collare, pronotal ridge, apex of pronotal base, subalarum, large bipartite mark on apex of scutellum, usually postscutellum, apices of coxae I and II, trochanters I and II ventrally, segment 2 of tarsi III (except base) and segment 3 and 4 of tarsi III, sometimes a mark on anterior part of each side of mesosternum.

Remarks

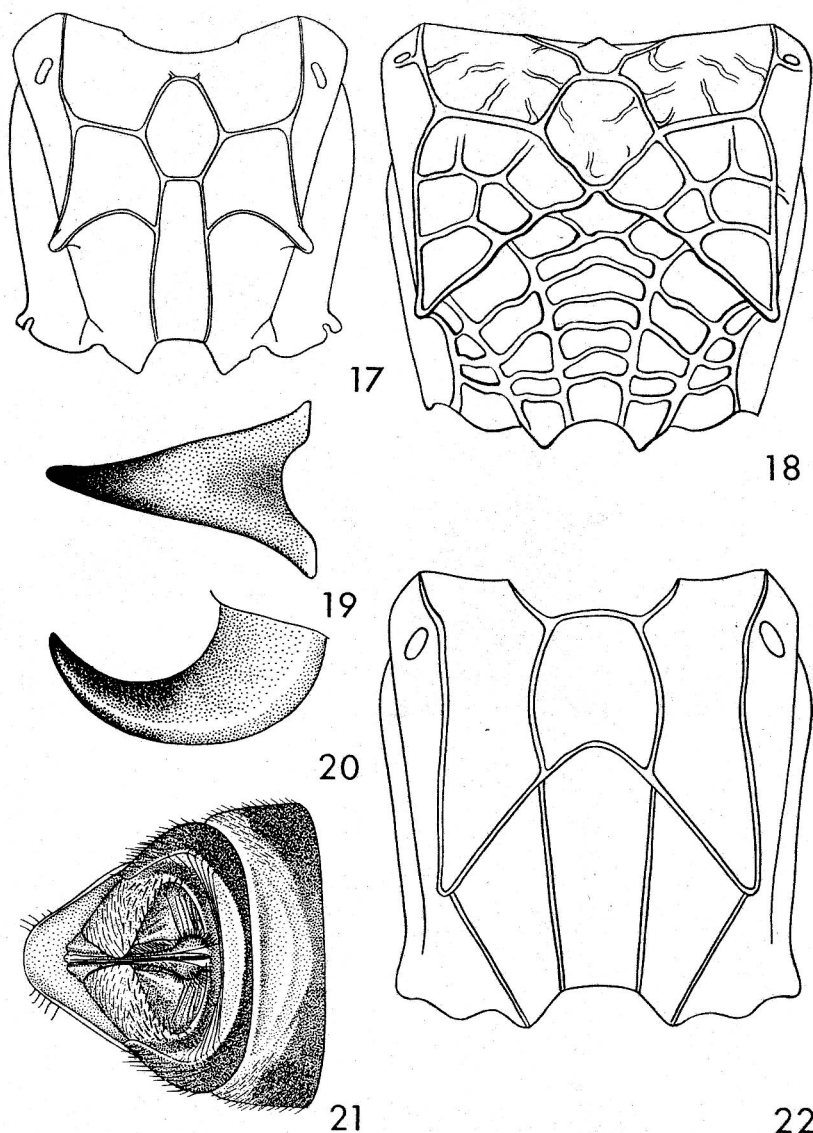
The above descriptions are based on American populations which seem to be chromatically rather constant. Exactly the same color patterns as described above are frequently found in European populations too. The latter, however, are fairly variable in extent of white markings on head and thorax as well as in color of coxae, which show often an erythrismic tendency and are not seldom predominantly red.



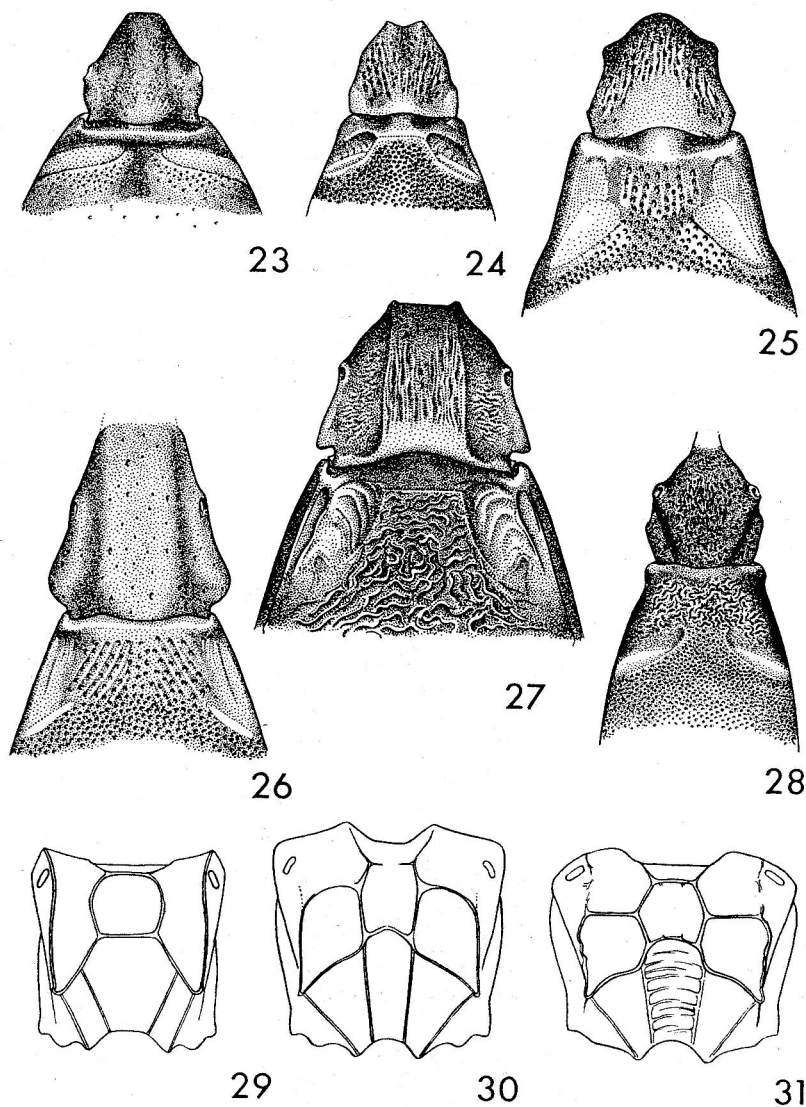
Figs. 1-9. Figs. 1, 3, 5, 7, 8. *Narthecura invadens* n. sp. (female). 1, head in front view; 3, mandible; 5, mandible, dorsal view; 7, carination of propodeum; 8, outline of abdomen. Figs. 2, 4, 6, 9. *Lobaegis septentrionalis* n. sp. (female). 2, head in front view; 4, mandible; 6, mandible, dorsal view; 9, carination of propodeum.



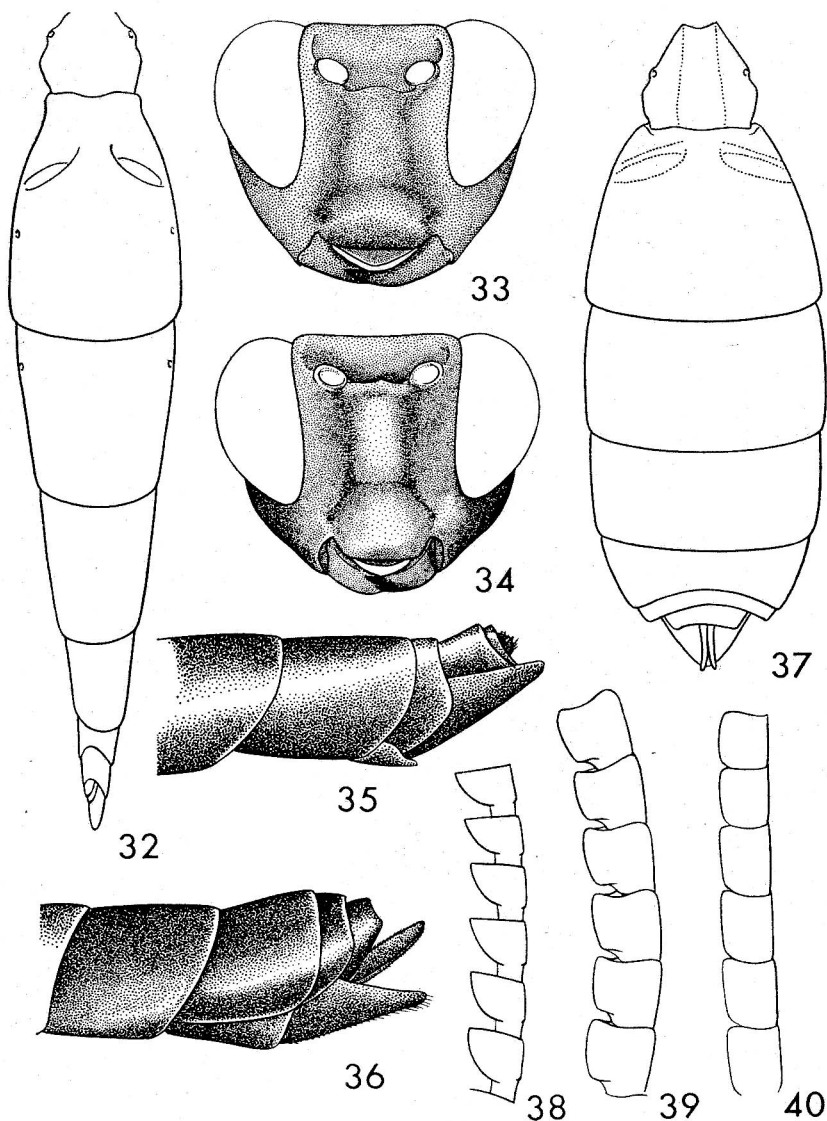
Figs. 10-16. Figs. 10, 15, 16. *Neotypus nobilitator* (Gravenhorst), ♀. 10, head in front view; 15, abdomen; 16, carination of propodeum. Figs. 11-14. *Anisobas* sp. 11, transverse furrow behind collar with elevated, median bump; 12, mandible; 13, scutellum; 14, carination of propodeum.



Figs. 17-22. Figs. 17, 19-21. *Plagiotrypes concinnus* (Say), ♀. 17, carination of propodeum; 19, mandible; 20, mandible, dorsal view; 21, apex of abdomen. Fig. 18. *Apaeleticus americanus* Cushman, ♀, carination of propodeum. Fig. 22. *Asthenolabus scutellatus* (Provancher), ♀, carination of propodeum.



Figs. 23-31. Figs. 23-28. Postpetioli and gastrocoeli (females). 23, *Platylabus rufus* Wesmael; 24, *Pristiceros lascivus* (Cresson); 25, *Apaeleticus americanus* Cushman; 26, *Asibeno-labus scutellatus* (Provancher); 27, *Linytus exhortator thoracicus* (Cresson); 28, *Hypomecus quadriannulatus* (Gravenhorst). Figs. 29-31. Carinations of propodea (females). 29, *Platylabus rufus* Wesmael; 30, *Hypomecus quadriannulatus* (Gravenhorst); 31, *Pristiceros lascivus* (Cresson).



Figs. 32-40. Figs. 32, 35. *Hypomecus quadriannulatus* (Gravenhorst), ♀. 32, outline of abdomen; 35, apex of abdomen. Figs. 33, 36, 37. *Platylabus rufus* Wesmael, ♀. 33, head in front view; 36, apex of abdomen; 37, outline of abdomen. Fig. 34. *Apaeleticus americanus* Cushman, ♀, head in frontal view. Figs. 38-40. Median parts of flagella (males). 38, *Pristiceros serrarius* Gravenhorst (redrawn from Perkins, Royal Ent. Soc. London VII (2), p. 55, Fig. 221); 39, *Pristiceros lascivus* (Cresson); 40, *Pristicerops bakeri* (Davis).

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