

# SYNOPSIS OF NEARCTIC ICHNEUMONINAE STENOPNEUSTICAE WITH PARTICULAR REFERENCE TO THE NORTHEASTERN REGION (HYMENOPTERA).

## SUPPLEMENT 5: ICHNEUMONINAE OF THE ISLAND OF NEWFOUNDLAND

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### Résumé

À la liste des 14 Ichneumonides déjà connues à l'île de Terre-Neuve, l'auteur ajoute 70 espèces. Ces nouvelles mentions comprennent 7 nouvelles espèces (*Ichneumon nanusniger*, *Ichneumon palaearctops*, *Ichneumon paramajops*, *Stenobarichneumon melanocephalus*, *Cyclolabus lyncops*, *Linytus barbaeae*, *Anisobas angustior*) et *Homotherus magus* Wesmæel connue jusqu'à maintenant dans le nord de l'Europe et au Groenland. Huit nouvelles sous-espèces sont nommées: *Trogus lapidator brevicaudae*, *Homotherus magus nearcticus*, *Melanichneumon fissorulus radtkei*, *Stenobarichneumon pygmaeops insularis*, *Anisobas bicolor boreopaustralis*, *Platylabus novaeoscoliae nigrimembris*, *Platylabus foxlei orientis* et *Platylabus sexmaculatus postremus*. *Platylabus novaeoscoliae* est maintenant considéré comme espèce tandis que l'identification des mâles de 5 espèces et d'une sous-espèce, connues antérieurement que par les femelles, est faite: *Ichneumon microferiens* Heinrich, *Ichneumon pusillamoenus* Heinrich, *Melanichneumon leviculops* Heinrich, et *Platylabus rufipes rufipes* Provancher. Les mâles de *Ichneumon cervulus* Provancher, considérés comme une variété de *lachrymans* (Heinrich, 1961, SNIS, p. 271), sont associés avec les femelles de *Ichneumon terminatus* Provancher et est élevée au statut d'espèce.

### Abstract

A compilation of all (14) species previously recorded from the Island of Newfoundland is supplemented by 70 newly recorded species. The new records comprise 7 new species: *Ichneumon nanusniger*, *Ichneumon palaearctops*, *Ichneumon paramajops*, *Stenobarichneumon melanocephalus*, *Cyclolabus lyncops*, *Linytus barbaeae*, and *Anisobas angustior*. One species known so far only from northern Europe and from Greenland, *Homotherus magus* Wesmæel, is also included. Eight new subspecies are named: *Trogus lapidator brevicaudae*, *Homotherus magus nearcticus*, *Melanichneumon fissorulus radtkei*, *Stenobarichneumon pygmaeops insularis*, *Anisobas bicolor boreopaustralis*, *Platylabus novaeoscoliae nigrimembris*, *Platylabus foxlei orientis*, and *Platylabus sexmaculatus postremus*. The status of *Platylabus novaeoscoliae* is raised from subspecies to species. The association of males of 5 species and 1 subspecies, originally based on females only, is made: *Ichneumon microferiens* Heinrich, *Ichneumon pusillamoenus* Heinrich, *Melanichneumon leviculops* Heinrich, *Platylabus holerythrus* Heinrich, *Platylabus rubricapensis* Heinrich, and *Platylabus rufipes rufipes* Provancher. Males of *Ichneumon cervulus* Provancher, formerly considered as a variety of *lachrymans* (Heinrich, 1961, SNIS, p. 271), are associated with females of *Ichneumon terminatus* Provancher and raised to specific status.

### Introduction

The scope of this publication is systematically limited to the *Ichneumoninae stenopneusticae* and geographically restricted to the Island of Newfoundland.

My "Synopsis of Nearctic *Ichneumoninae Stenopneusticae* with particular reference to the Northeastern Region" compiles the distributional information for all species of that region up to the

years of its publication in 1961 and 1962. It records only 15 species from Newfoundland, a startlingly low number, considering the large size and ecological diversity of the island. Obviously, that was only a small fraction of the fauna. To fill the gap, at least partially, I spent the months July and August in 1973 and June to August in 1974 on the island collecting Ichneumoninae. The collecting has been done by hand net as well as with the aid of several Mason traps. On the first trip I was accompanied by Mr. Dieter Radtke from Florida, an excellent collector of Ichneumoninae, on the second by Miss Barbara Douset, a student of the University of Maine, Farmington. Both assistants shared with me the burden of long distance driving, as well as the work of setting, resetting, and checking the insect traps in the various habitats.

The fauna of the Island of Newfoundland shows several interesting peculiarities. The great majority of species represent, as is to be expected, the fauna of the Canadian Zone. The genus *Cratichneumon* Thomson, however, distributed in a very great number of species over the Carolinian- and the Austro-Riparian Zones, and present in a fair number of species in most of the Canadian Zone as well, is poorly represented in Newfoundland, with only four species having been collected there. The Tribe *Platylabini* (almost exclusively parasites of Geometrids) on the other hand has stepped into the foreground with a great number of species and individuals.

Five species were collected, which were previously known only from the mountains of Western North America (British Columbia, Alaska, Colorado and California). They are *Aoplus ochropis coloradensis* Heinrich, *Platylabus holerythrus* Heinrich, *Platylabus poly-*

*melas* Heinrich, *Platylabus foxlei* Heinrich, and *Anisobas bicolor* Cushman.

Of particular interest is the case of *Trogus lapidator brevicaudae*, new subspecies. This subspecies is only slightly differentiated from the palaearctic subspecies *Trogus lapidator coeruleator* Fabricius in the color of tarsi III. The Newfoundland subspecies was bred in a broad series from *Papilio brevicauda* Saunders, and is, obviously, monophagous on that species. However, while the host, *Papilio brevicauda*, has extended its range westwards to beyond the lower St. Lawrence river, the parasite was, apparently, not able to follow. According to information given to me by Dr. Mason, the continental *Papilio brevicauda* is parasitized by a quite different *Trogus* species, the *Trogus pennator* Fabricius. *Papilio machaon* L. has immigrated from Eurasia into Northwestern North America and its typical, monophagous, parasite, *Trogus lapidator coeruleator* has been bred from it in Yukon Territory (SNIS, 1962, p. 849). How a different subspecies of *Trogus lapidator* could evolve on the Island of Newfoundland is an open question.

The terminology used in the descriptive parts of this supplement agrees with the "Synopsis of Nearctic Ichneumoninae Stenopneusticae with particular reference to the Northeastern Region (Hymenoptera)", p. 6-8. "Metapleurum" means the lateral declivity of the propodeum, combining the surface of the area spiracularifera, area metapleuralis, and area coxalis.

The abbreviations used here are:

SNIS — Synopsis of Nearctic Ichneumoninae Stenopneusticae with particular reference to the Northeastern Region (Hymenoptera).

C.N.C. — Canadian National Collection, Ottawa, Canada.

U.S.N.M. — United States National Museum, Washington, D.C.

C.G.H. II — Collection Gerd H. Heinrich, Dryden, Maine.

# I. Tribe TROGINI

## Subtribe Trogina

### Genus *Trogus* Panzer

#### 1. *Trogus fulvipes* Cresson: new record:

2 ♀, 2 ♂, all ex *Papilio glaucus* L., all (except one with illegible locality) from Haven St. George; emerged March 10, 1944, February 25, 1953, February 26, 1953, and March 5, 1953. 2 ♂, ex *Papilio brevicauda* Saunders, Quidi Vidi, Avalon Peninsula; emerged March 19, 1955 and April 9, 1955, D.C. Ferguson. All in C.N.C.

The color of head, thorax, and abdomen is nearly uniformly black. The species is rather similar to *Trogus lapidator* Fabricius, but distinguishable at once by the narrower temple profile and narrower cheek profile, and by the more slender femora III. In color distinguished by predominantly black femora II and III, and the more deeply and evenly infuscated wings.

#### 2. *Trogus lapidator brevicaudae*, new subspecies

*Holotype*: ♀, 1 St. Phillips, Avalon Peninsula, Newfoundland, ex *Papilio brevicauda* Saunders, emerged January 24, 1955, D.C. Ferguson, C.N.C.

*Allotype*: ♂, same data, except: "bred Jan. 21", C.N.C.

*Paratypes*: 1 ♂, Millville, Codroy Valley; 1 ♀, 1 ♂, St. Phillips, Avalon Peninsula; 13 ♂, Quidi Vidi, Avalon Peninsula; all ex *Papilio brevicauda*, D.C. Ferguson, C.N.C. 1 ♂, Quidi Vidi, 1 ♀, Portugal Cove, both Avalon Peninsula; both ex *Papilio brevicauda*, D.C. Ferguson, C.G.H. II.

Very closely related to the North European subspecies *lapidator coeruleator* Fabricius, the monophagous parasite of *Papilio machaon* L. *Trogus lapidator coeruleator* has been bred from the typical host in Yukon Territory (SNIS, 1962, p. 849).

The subspecies *brevicaudae* is distinguished in both sexes by orange-ferruginous (instead of black) tarsi II and

III, the tarsi III are usually slightly infuscated toward apex.

# II. Tribe PROTICHNEUMONINI

## Genus *Protichneumon* Thomson

#### 1. *Protichneumon effigies* Heinrich: SNIS, 1961, p. 26.

### Genus *Coelichneumon* Thomson

#### 1. *Coelichneumon chalybeus* Cresson: new record:

1 ♀, South Branch, 16-7-1973, in peat bog

The species was known so far only from the type specimen from Massachusetts. The specimen from Newfoundland agrees with the description in SNIS (1961, p. 51), except that the area metapleuralis is pure-black instead of concolorous with the blue propodeum.

#### 2. *Coelichneumon barnstoni* Morley: new record:

1 ♀, South Branch, 10 — 25-7-1973 and 1 ♀, 22-7-1973; 1 ♂, South Branch, 24-7-1973 and 2 ♂, 25 — 31-7-1974.

## VARIABILITY

Both sexes generally agree with the description in SNIS (1961, p. 54-55), however, the males show the following, additional white markings: ventral side of femora I extensively, marks on ventral side of coxae I, ventral marks on apices of femora II, and sides of scutellum more or less extensively (in two specimens the sides of scutellum are white from shortly beyond base to apex). In one male also almost entire ventral side of tibiae III, and the lower part of the pronotal base white.

The abdomen of the female shows, in contrast to the description in SNIS a distinct, blue tinge.

#### 3. *Coelichneumon eximius* Stephens: new record:

1 ♀, South Branch, 17-8-1973

4. *Coelichneumon pumilionobilis* Heinrich; new record:

1 ♂, South Branch, 18-8-1973.

### III. Tribe ICHNEUMONINI

#### Subtribe Ichneumonina

#### Genus *Ichneumon* Linnaeus

1. *Ichneumon canadensis* Cresson; SNIS, 1961, p. 238-240.
2. *Ichneumon canadicola* Heinrich; SNIS, 1961, p. 293-194.
3. *Ichneumon ambulatorius* Fabricius; SNIS, 1961, p. 242-244.
4. *Ichneumon annulatorius* Fabricius; SNIS, 1961, p. 246-248.
5. *Ichneumon caliginosus* Cresson; SNIS, 1961, p. 332-334.  
(Newfoundland, St. John's). 1 ♀, Exploits R. Bishops, 15-7-1961, USNM.
6. *Ichneumon nigrovariegatus* Provancher; SNIS, 1961, p. 273-275.  
(Newfoundland, Harmon Field). South Branch: 5 ♂, 22 to 25-7-1973, 1 ♀, 2-8-1974, 1 ♂, 18-8-1973; Portland Creek: 3 ♀, 7 to 12-8-1973. All collected in peat bog.
7. *Ichneumon neomolitor* Heinrich; new record:  
Portland Creek: 2 ♂, 3-8-1973 and 11-8-1973, 1 ♀, 4-7-1974.  
South Branch: 2 ♀, 20-7-1974 and 25-7-1974.

This species was originally described from Alberta only (SNIS, 1961, p. 329); it has since been found also in Dryden, Maine.

8. *Ichneumon mystificans* Heinrich; new record:  
2 ♂, South Branch, 10 to 25-7-1973.

Both specimens agree completely with the type specimen from Maine. A rather large, handsome male, described

in 1961 from 4 specimens from Maine and Labrador and known now from about a dozen specimens altogether. The female is still unknown.

9. *Ichneumon putus* Cresson; new record:

1 ♀, South Branch, 15-7-1974.

In addition to the black markings described in SNIS (1961, p. 290-291), the following parts are black: prosternum, basal area of prepectus, posterior margin of mesosternum and first trochanters I and II.

10. *Ichneumon stagniphilos* Heinrich; new record:

1 ♂, South Branch, 25-7-1973; 2 ♀, South Branch, 15 and 18-7-1974, all in a peat bog.

The original description (SNIS, 1961, p. 249-250) was based on 4 females from lake Mer Bleue, near Ottawa, Ontario. The tibiae III are described as "apically black, medially yellowish tinted". In a later treatment of this species (SNIS, Supplement 1, Naturaliste can., 1969, 96-969), based on 11 females from Maine and containing the first description of the male, I indicated that the yellowish tinge on the tibiae III might possibly be the result of fading, as the 11 newly collected specimens did not show the yellow coloration. However, in the 2 females recorded from Newfoundland, the tibiae III are medially distinctly and extensively yellow marked. This chromatic character can, consequently, be regarded as typical for the females of this species collected in Canada. The population from Maine, lacking the yellow color on the tibiae III, probably represents a distinct subspecies.

The male from Newfoundland differs from the males from Maine as follows: 1) propodeum uniformly black; 2) coxae I and II uniformly black; 3) apical half of the 4th tergite orange (instead yellow).

11. *Ichneumon ?oblitus* Heinrich; new record:

1 ♀, South Branch, 17-7-1974.

The specimen has ferruginous mesopleura, metapleura, and apical parts of all coxae. This is the typical color of the female of the species *oblitus*, but not of *laetus* Brullé. The ventral side of coxae III is, however, more densely punctured than in typical *oblitus* specimens, approaching, though not reaching, the density of puncturation typical for *laetus*. A scopa on coxae III is indicated, but not distinct. The specimen is an intermediate of the two species, but seems to represent *oblitus* more likely than *laetus*. In the C.G.H. II. is one identical female from Québec (Templeton) and another from Maine (Mt. Blue).

12. *Ichneumon paramajops*, new species

Holotype: ♀, Newfoundland, Port aux Basques, South Branch, 19-7-1974, C.G.H. II.

Paratypes: 7 ♀, same locality, 12 to 26-7-1974, C.G.H. II.

In appearance and structure similar to *maius* Cresson and to *pseudomaus* Heinrich; in size, on the average, smaller than *maius*. As in *maius*, scutellum yellow, and, mesoscutum, pronotal ridge, and upper part of propleura red. Basic color of entire abdomen always pale orange-ferruginous, with apical white marks on tergites 6 and 7. Coxae black, more or less extensively marked with red. Flagellum tricolored: segments 1-7 orange, 8-10 or to 11 dorsally white, the following 3 segments reddish, the rest black. Scape orange. Length 7-9 mm.

#### FLAGELLUM

With 31-32 segments. Bristle-shaped, moderately long, ventrally flattened beyond middle but barely widened, the widest segment, on the flat side, a trifle wider than long; the first segment about 2½ times as long as apically wide, in

lateral view the 7th approximately square.

Differs as a species from *maius* and *pseudomaus* as follows:

- 1) Temple profile in vertical view only slightly narrowed behind eyes and distinctly curved (in *maius* and *pseudomaus* distinctly narrowed behind eyes and straight).
- 2) Femora III markedly more slender and more elongate.
- 3) Interspace of gastrocoeli and middle of 2nd tergite irregularly longitudinally rugose-punctate (in *maius* and *pseudomaus* neatly punctured and smooth between punctures).

Head usually uniformly ferruginous-red, only in one specimen with minor black markings. Mesopleura, in the majority of specimens, extensively red marked. All femora, tibiae, and tarsi uniformly red, rarely femora III apically black.

13. *Ichneumon homorus* Heinrich; SNIS, 1969, Suppl. 1, p. 945, ♂.

Numerous males, South Branch, 10 to 25-7-1973 and Portland Creek, 9 to 13-8-1973.

The specimens from Newfoundland agree exactly with the description of *homorus* ♂; the *homorus* ♀, however, has not been found in Newfoundland. This raises some doubt about the correctness of my association of this male; perhaps it belongs to the sympatric species *neomolitor* Heinrich, known so far only from the female. This problem needs further study.

14. *Ichneumon feriens* Heinrich; new record:

3 ♀, South Branch, 10 to 25-7-1973, and 4 ♀, 14, 16, and 29-7-1974; 2 ♀, Portland Creek, 1 to 15-8-1973; numerous males, South Branch, July 1973 and July 1974, and Portland Creek, August 1973.

Males of *feriens* were more frequently collected in western Newfoundland than



those of other medium-sized *ichneumon* species, and a similar preponderance there of *feriens* females seems to definitely confirm the association of the sexes.

#### MALE

To the structural diagnosis of the male the following characters can be added: carina genalis before carinal junction slightly curved inward, the oral carina distinctly raised.

Chromatically, the males show the following, slight differences from the original diagnosis (SNIS, 1961, p. 322): flagellum in majority of specimens brown; no yellow marks on pronotal base; yellow mark on lower, outer orbits more often absent than present.

*Ichneumon feriens* Heinrich var. vel spec. nov.?

1 ♀, Portland Creek, 11-8-1973.

In addition to the typical white band on the apex of tergite 2, the third tergite also with a continuous, broad, apical white band. Flagellum apically a trifle more blunted.

15. *Ichneumon microferiens* Heinrich; new sex (♂), new record:

2 ♀, Portland Creek, 13 and 14-8-1973.

Both specimens agree in size (much smaller than *feriens*) and in the flagellar structure with the original description (SNIS, 1961, p. 323-324) and are therefore attributed to this species. I am not yet definitely convinced, however, whether *microferiens* is a distinct species or consists of dwarfed, abnormal specimens of *feriens* Heinrich. Contrary to the latter theory is the existence of the sympatric male, described below. This male agrees well in size and color with the female of *microferiens*, but differs clearly by a structural character from the male of *feriens*.

#### NEALLOTYP

♂, Newfoundland, Portland Creek, 3-8-1973, C.G.H. II.

1 ♂, same data and 1 ♀, same locality, 13-8-1973 are also in C.G.H. II.

#### MALE

Very similar to *feriens* ♂, but distinctly different as follows: 1) size considerably smaller, length 13-15 mm; 2) carina genalis not curved forward toward carinal junction but straight, and therefore the cheeks in lateral view not at all constricted toward mandible base; 3) postpetiole without apical ivory band, instead with two small, latero-apical marks; 4) propodeum uniformly black; 5) tarsi III uniformly orange rather than blackish-infuscated toward apex; 6) flagellum black all around (as in *feriens*), with bacilliform tyloids only on segments 5 or 6 to 13 or 14, the longest (on 7-9) reaching to bases but not to apices of segments.

16. *Ichneumon cervulus* Provancher; new record.

*Ichneumon cervulus* Provancher, 1875, Naturaliste canadien, 7:24, 83, ♂.

*Ichneumon terminatus* Provancher, 1862, Naturaliste canadien, 13:335, 337, ♀.

*Ichneumon terminatus* Heinrich, 1961, SNIS, p. 263-269, ♀.

*Ichneumon lachrymans* var. *cervulus* Heinrich, 1961, SNIS, p. 271, ♂.

5 ♀, South Branch, 10 to 25-7-1973. 4 ♂, South Branch, 17, 20, and 24-7-1973 and 10 ♂, 12-7-1974 to 2-8-1974. 1 ♀, Portland Creek, 2-8-1973 and 5 ♂, Portland Creek, 7 and 13-8-1973.

#### PREAMBLE

This is one of the many taxonomically difficult, small species of the *tumidifrons* group (cf. SNIS, 1961, p. 267; preamble). In Western Newfoundland *cervulus* is apparently the most common species of this group. It is ecologically (as are several other species of the *tumidifrons* group) confined to peat bogs surrounded by spruce growth. The

new association of sexes is suggested by their correspondence in structure, ecology, and abundance. Both sexes display considerable individual variability in color.

#### FEMALE

Head, in all Newfoundland specimens, uniformly black. This seems to be the best chromatic character for distinguishing the *cervulus* female from that of the slightly larger, sympatric species, *lachrymans* Provancher.

Variability (Newfoundland population):

1) Coxae black; coxae I and II varying to entirely red, coxae III to partially red; 2) Seventh tergite with or without white mark; 3) Section of flagellum before white annulus usually entirely light red, varying to partially blackish-infuscated, or, exceptionally to entirely black.

Flagellum: Usually with 25, rarely with 24 or 26 segments. Segments 1-7, sometimes 1-5 red; segments 8-10, rarely 9-10 dorsally white, segments beyond 10 black. Exceptionally flagellum entirely black except for the dorsal white annulus.

#### MALE

Head usually uniformly black, exceptionally facial orbits narrowly yellow and/or clypeus with very small yellow or orange marks on sides. Thorax, as a rule, uniformly black including speculum, exceptionally apex or entire surface of scutellum orange-tinged or yellowish. Abdomen black, tergites 2 and 3 and usually apical margin of postpetiole orange, exceptionally also 4th tergite orange-tinged. All coxae and first trochanters, the femora III (except narrowly orange base), and usually femora I and II dorsally or more extensively black; tibiae and tarsi yellow-tinged orange, the tibiae III apically (but never basally) black, the tarsi III blackish-infuscated

except the first segment which is to predominantly yellowish. Flagellum without annulus, bilaterally light ochreous-orange black, sometimes ventrally more extensively ferruginous. Length

Flagellum: With 26-29, usually 28, segments and with nearly form tyloids on segments 3 to 4 to 11 or 12.

Head: Temple profile although not very strongly narrowed behind eyes, slightly curved; orbita distinctly narrowed toward base; malar space about half as width of mandible base. Frons finely and fairly densely punctured, finely coriaceous between punctures.

Thorax: Mesoscutum somewhat wider than wide, densely and fairly punctured, finely coriaceous punctures, somewhat glossy. Epimeron notauli distinct. Scutellum raised above postscutellum, laterally carinate at base, densely and as coarsely punctured as the mesoscutum, its apical side and very densely punctured. Areolet usually about as wide as long and nearly parallel-sided, longer than wide. Pleura coarsely and densely punctured, mesopleural speculum.

Legs: Coxae III ventrally extremely densely punctured, Femora III moderately stout.

Abdomen: Gastrocoeli fairly Thyridia nearly as wide as transverse space, their distance from apical margin of postpetiole about equal to the distance between Tergites 2 and 3 moderately and very densely punctured, nearly opaque.

#### Variability:

Var. 1, 2 ♂, South Branch, 22-7-1973. Clypeus and sides more or less extensively yellow

Var. 2, 2 ♂, South Branch, 20-8-1973. Scutellum dorsally orange or yellowish.

#### NOTES

The invariably extensive blackish coloration of tarsi III appears to be the most important chromatic character of this male, particularly in variations with yellow-or orange-marked face and/or scutellum.

Couplet No. 106 in my key to the females of the genus *Ichneumon* (SNIS, 1961, p. 224) will have to be amended, as the numbers of flagellar segments have now been found to overlap.

#### 17. *Ichneumon nanusniger*, new species

*Holotype*: ♂, Newfoundland, ♂ Portland Creek, 12-8-1973, C.G.H. II.

*Allotype*: ♀ Terra Nova Natl. Park, 7-7-1961, C.H. Alexander, U.S.N.M.

*Paratypes*: 2 ♂, Portland Creek, 8 and 7-8-1973, C.G.H. II.

#### MALE

Obviously a distinct species, chromatically somewhat similar to *cervulus* Provancher by the almost uniformly black head, uniformly black thorax, and blackish-infuscated tarsi III.

A species of the *tumidifrons* group, distinguished by the combination of the following characters: (1) Gastrocoeli distinct, transverse, with narrow interspace. (2) Anterior median part of mesoscutum and the tergites 2 and 3 very finely and extremely densely punctured and coriaceous, subopaque. (3) Abdomen mostly black, sometimes only the 2nd tergite restrictedly red, sometimes the 2nd tergite entirely red, in which case the 3rd tergite is also restrictedly red. (4) Tibiae III yellow, black narrowly at base, broadly at apex.

Head and thorax almost uniformly black, only narrow band on facial orbits and sometimes lateral marks on clypeus yellow. Abdomen predominantly black,

with only basal, apical, and lateral bands on 2nd tergite red or 2nd tergite uniformly red and the 3rd restrictedly red or red-tinged. Legs predominantly black, the following parts yellow: all tibiae primarily (tibiae I and II infuscated apically and also laterally beyond middle, tibiae III narrowly black at base, broadly black at apex), tips of femora I and II, the tarsi I and II (except apical segments infuscated), and first segments of tarsi III; rest of tarsi III blackish. Flagellum black. Length 8 mm.

*Flagellum*: With 25-27 segments and with narrowly-oval tyloids on segments 6-12, reaching almost from bases to apices of segments 8-10.

*Head*: Temple profile moderately narrowed and slightly curved.

*Thorax*: Scutellum laterally carinate to about middle.

#### FEMALE

Head and thorax uniformly black. Tergites 1-3 red, 4-7 black, 6 and 7 with apical white mark. Legs black, the tibiae and tarsi brownish, tibiae II and III blackish toward apices. Flagellum and scape black, flagellum with dorsal white annulus on segments 7-11. Length 8 mm.

*Flagellum*: Filiform, not widened beyond middle, scarcely attenuated at apex, with 26 segments; in dorsal view the first segment about 2.5 times as long as apically wide, the 8th square.

*Head*: Temple profile very slightly narrowed behind eyes, slightly curved; cheek profile moderately narrowed toward mandible base; malar space nearly as long as width of mandible base. Finely and very densely punctured all over, finely coriaceous between punctures.

*Thorax*: Mesoscutum not much longer than wide, very finely and densely punctured, coriaceous between punctures.

tures, subopaque (particularly median lobe). Scutellum less densely punctured, more glossy, laterally carinate to about middle. Propodeum rather short, the horizontal part medially distinctly shorter than the area posteromedia, area superomedia somewhat wider than long and slightly narrowed toward the deepened area basalis. Costulae distinct. Spiracles small, longish-oval.

*Legs*: Femora fairly stout. Coxae III ventrally densely punctured.

*Abdomen*: Median field of postpetiole moderately distinct, somewhat irregularly longitudinally striate; gastrocoeli transverse, rather deep, unusually wide, with very narrow interspace. Second and third tergite finely and very densely punctured, finely coriaceous between punctures, subopaque.

#### 18. *Ichneumon palaearctops*, new species

*Holotype*: ♂, Newfoundland, Portland Creek, 4-8-1973, C.G.H. II.

*Paratypes*: 6 ♂, same locality, 1 to 15-7-1973; 1 ♂, same locality, 4-8-1973; 2 ♂, South Branch, 10 to 25-7-1973, and 3 ♂, 22 and 26-7-1974 and 2-8-1974; 1 ♂, Cole Brook, 23-7-1973.

#### PREAMBLE

Particularly distinguished by the following characters: 1) Face and clypeus yellow. 2) Tergites 2 and 3 yellow, sometimes tinged with orange. 3) Tarsi III mostly yellowish, only segments 4 and 5 sometimes slightly infuscated. 4) Interspace of gastrocoeli and middle of 2nd tergite distinctly and fairly coarsely longitudinally striate. 5) Area superomedia in most specimens markedly wider than long, the lateral carinae of area posteromedia usually obsolete or indistinct.

The size of *palaearctops* is typical for species belonging to the *tumidifrons* group, but its coloration is different from all other species of this group and rather similar in the general color pat-

tern to males of Palaearctic species of *Ichneumon*; the only Nearctic male which it resembles is that of *lachrymans* Provancher from which it is readily distinguished by the coarse, striate sculpture of the middle or tergite 2, the much more obtrusive, wider and longer tyloids, and the yellow color of tergites 2 and 3.

#### MALE

Black, with extensive yellow markings. The following are yellow: mandibles, face, and clypeus (face sometimes with black median line), frontal orbits (at most up to the middle of frons), collare, apex of pronotal ridge, sometimes mark on tegulae, mark on subalarum, scutellum, sometimes post-scutellum, tergites 2 and 3 (sometimes partially orange-tinged), all tarsi (except sometimes two apical segments of tarsi III infuscated), and all tibiae (except apex of tibiae III broadly black), often coxae I and first trochanters I both narrowly white apically. The following are orange: 2nd trochanters, extreme base of femora III, the anterior sides of femora I and II extensively, and postpetiole apically more or less extensively. Flagellum without annulus. Length 10 mm.

*Flagellum*: With 32 or 33 segments and with elongate, nearly bacilliform tyloids on segments 7-14, the longest, on segments 8-12 extending almost over entire length of segments. Black, ventrally pale ochreous; scape ventrally yellow.

*Head*: Temple profile only slightly narrowed behind eyes and distinctly curved; cheek profile distinctly narrowed toward mandible base, straight. Malar space somewhat shorter than width of mandible base. Ocellar region somewhat protruding.

*Thorax*: Mesoscutum not much longer than medially wide, coarsely and densely punctured. Notauli indicated at

base only. Scutellum distinctly raised, gradually sloping down toward post-scutellum, fairly densely punctured. In majority of specimens area superomedia distinctly transverse and area posteromedia not, or indistinctly, bordered by lateral carinae. Propodeum and pleura coarsely, irregularly rugose-punctate, mesopleura with distinct speculum.

**Abdomen:** Postpetiole with sharply delimited, coarsely, longitudinally striate median field. Gastrocoeli fairly deeply impressed, each slightly wider than their interspace. The interspace and middle of 2nd tergite coarsely and irregularly longitudinally striate or rugose. Second tergite medially not markedly longer than apically wide, the 3rd tergite distinctly wider than long.

#### VARIABILITY

Restricted to the appearance in a few individuals of dark red markings on the mesoscutum and/or of apical white marks on tergite 7, or 6 and 7, as described below.

The occasional occurrence of apical white marks on the abdomen, in a species whose males usually lack such markings, indicates, with a high degree of probability, that the associated female always has apical white marks on tergites 6 and 7.

#### Var. 1:

One paratype displays dark red marks on anterior part of the mesoscutum adjacent to each side to the median lobe.

#### Var. 2:

The mesoscutum of one male from Portland Creek, 5-8-1973, has two longitudinal, dark red bands, which intersect near the apex of the mesoscutum; in addition there is a dark red band on each lateral lobe bordering the pronotal ridge. The 7th tergite of this male has a small, white apical mark.

#### Var. 3:

One male from Portland Creek, 1 — 15-7-1973, displays apical white marks on tergites 6 and 7.

#### NOTE

The male described above is very similar to the male associated in SNIS, 1961, p. 289-290, with the female of *nereni emigrator* Heinrich, differing from the latter only by its smaller size, somewhat shorter femora III, uninfuscated tarsi III, and shorter, narrower thyridia.

#### 19. *Ichneumon nereni emigrator* Heinrich; new record:

1 ♀, South Branch, 18-8-1973.

The specimen has the typical color, with apical white marks on tergites 6 and 7 and the basal section of the flagellum ferruginous. However, it is unusually small, the abdomen is somewhat narrower than usual, and the area superomedia is distinctly longer than wide, instead of being distinctly transverse. Whether this specimen is an aberrant individual of *nereni emigrator* or a distinct subspecies or species, cannot be decided on the basis of one specimen. If this female is not aberrant it may belong to the preceding species, *palaeartops* Heinrich.

#### 20. *Ichneumon pusillamoenus* Heinrich; new sex; new record.

Neallotype: ♂, Newfoundland, Portland Creek, 2-8-1973. C.G.H.II.

#### PREAMBLE

The following description is based on the neallotype and a second, nearly identical specimen from the White Mountains, New Hampshire. The association of sexes is assumed from the correspondence of very small size and coloration of the male with the size and coloration of the female. The as-

sociation will, nevertheless, need further confirmation.

The male described below is distinguished mainly by the combination of the following characters: 1) Face and clypeus uniformly, scutellum predominantly, white. 2) All coxae, trochanters, and the femora III, black. 3) Abdomen predominantly melanistic, in one specimen the 2nd tergite entirely pale rufous and the 3rd rufous peripherally, in the other specimen 2nd tergite pale rufous peripherally and the 3rd without rufous coloration. 4) Scutellum basally black, laterally carinate to about middle.

Differs from *citrifrons* Cresson mainly by characters No. 2 and 3.

#### MALE

Black. Face, clypeus, and scutellum (except base) white, as are also mandibles, apex of pronotal ridge very restrictedly, small mark on tegulae, sometimes mark on subalarum and sometimes apex of coxae I and of first trochanters I and II very restrictedly. Abdomen black; tergite 2 peripherally pale rufous or uniformly so colored, tergite 3 in one specimen also narrowly peripherally rufous. Legs black, except for the following yellow-tinged orange parts: all second trochanters; anterior side, base, and apex of femora I; narrow base, tip, and part of anterior side of femora II; extreme base of femora III; all tibiae and tarsi (except tibiae III apically broadly black and apical segments of tarsi III infuscated). Flagellum without annulus, dorsally blackish, ventrally light brown; scape ventrally yellow. Length 7 mm.

**Flagellum:** In both specimens with 25 segments and with small, bacilliform tyloids on segments 4-11, the longest not reaching to bases and apices of segments.

**Head:** Temple profile distinctly narrowed behind eyes, barely curved. Malar

space rather short, less than half as long as width of mandible base. Frons below lower ocellus with indication of longitudinal depression.

**Thorax:** Mesoscutum longer than wide, finely and fairly densely punctured, coriaceous between punctures. Scutellum slightly convex, carinate to about middle. Horizontal part of propodeum medially about half as long as area posteromedia. Area superomedia wider than long, narrowed in front. Speculum distinct.

**Abdomen:** Gastrocoeli approximately quadrangular, each somewhat wider than their interspace, the latter and the middle of 2nd tergite finely, irregularly, longitudinally rugose, rest of 2nd tergite and the following tergites densely and very finely punctured, coriaceous between punctures.

#### Genus *Exephanes* Wesmael

#### 1. *Exephanes terminalis* Provancher; new record:

1 ♀, South Branch, 24-7-1973; 1 ♂, South Branch, 18-8-1973.

#### Genus *Stenichneumon* Thomson

#### 1. *Stenichneumon culpator cincticornis* Cresson; new record:

1 ♀, South Branch, 13-7-1974; 1 ♂, South Branch, 22-7-1973.

#### Genus *Patrocloides* Heinrich

#### 1. *Patrocloides perluctuosus* Provancher; new record:

1 ♀, South Branch, 27-7-1974; 1 ♂, South Branch, 21-7-1973.

I am not quite sure whether the males with the white flagellar annulus and the ones without are indeed conspecific. The one from Newfoundland has a white annulus. The tarsi III are deep black and all tibiae are basally and apically black. In the female from Newfoundland the



white color on facial orbits is restricted to the upper half.

2. *Patroclodes montanus* Cresson; new record:

1 ♀, Fair Harbor, 21-6-1961. U.S.N.M.

Subtribe *Amblytelina*

Genus *Diphyus* Kriechbaumer

1. *Diphyus ormenus* Cresson; new record:

1 ♀, Portland Creek, 5-8-1973, on meadow near the coast. 3 ♂, Corner Brook, 7-1967. U.S.N.M.

Genus *Ectopimorpha* Viereck

1. *Ectopimorpha luperinae* Cushman; new record:

1 ♀, South Branch, 17-7-1973

Genus *Neamblymorpha* Heinrich

1. *Neamblymorpha milva* Cresson; new record:

3 ♂, South Branch, 25-7-1974 and 1-8-1974.

Genus *Spilichneumon* Thomson

1. *Spilichneumon subrufus* Cresson; SNIS, 1961, p. 189-190.

2. *Spilichneumon bronteus* Cresson; new record:

1 ♂, South Branch, 10 to 25-7-1973

3. *Spilichneumon borealis* Provancher; new record:

6 ♀, South Branch 10 — 25-7-1973; 2 ♀, South Branch, 14 and 17-7-1974.

VARIABILITY

White flagellar annulus in specimens from Newfoundland on the average clearer than in specimens from Maine and Ontario (on segments 7 or 8 to 12); seventh tergite usually with small, apical white mark; rarely the third tergite narrowly orange at base.

4. *Spilichneumon superbis* Provancher; new record:

1 ♂, South Branch, 1-8-1974; 1 ♂, Deer Lake, 7-1967. U.S.N.M.

The males from Newfoundland agree in distribution and extent of black color with the description of 8 males from Nova Scotia (SNIS, 1961, p. 194), except that the petiolus is entirely black and the scape black on dorsal side.

The populations from Eastern Canada may represent a subspecies of the Western nominate form (type locality: Vancouver Island, British Columbia).

5. *Spilichneumon nubivagus* Cresson; new record:

*Spilichneumon bronteus* Cresson and *nubivagus* Cresson; SNIS, 1971, 98: 975-976.

2 ♂, Deer Lake, 7-1967. U.S.N.M.

The abdomen of males of this species is uniformly red, of *bronteus* Cresson black, with yellow-banded anterior tergites. The males of the two species, so different in color are equal in structure and sympatric in distribution in many localities. Intermediate forms have not been found. The distinction of the associated females, however, is extremely difficult and still remains problematic to a certain degree. See the detailed discussion of this problem in the publication quoted above.

In the two males recorded from Newfoundland the median field of face is black, while in the eastern continental specimens the face and clypeus are normally yellow.

Genus *Probolus* Wesmael

1. *Probolus expunctus* Cresson; new record:

1 ♀, South Branch, 25-7-1974.

Subtribe *Cratichneumonina*

Genus *Cratichneumon* Thomson

1. *Cratichneumon boreoalpinus* Heinrich; SNIS, 1961, p. 168-169.

2. *Cratichneumon nigrarius acerbus* Cresson; new record:

1 ♀, 1 ♂, South Branch, 14-7-1973. 1 ♂, Terra Nova Natl. Park, 18-6-1961. U.S.N.M. 1 ♂, Deer Lake, 7-1967. U.S.N.M.

3. *Cratichneumon pteridis* Townes; new record:

South Branch: 1 ♂, 10 to 12-7-1973 and 1 ♀, 20-7-1973; Portland Creek: 1 ♂, 2-8-1973 and 1 ♀, 8-8-1973.

4. *Cratichneumon pilosulus* Provancher; new record:

1 ♂, Deer Lake, 7-1967. U.S.N.M.

Genus *Anisopygus* Kriechbaumer

1. *Anisopygus americanus* Heinrich; SNIS, 1961, p. 379-380.

Genus *Homotherus* Foerster

1. *Homotherus pseudoporceolariae* Heinrich; new record:

1 ♂, South Branch, 2-8-1974. 2 ♀, Portland Creek, 10 and 11-8-1973.

The holotype of this species is a male from Northern Maine, Alagash (SNIS, Suppl. 2, Naturaliste can. 98: 1001). The male from Southern Newfoundland agrees almost completely with the holotype, except for the uniformly black color of mesopleurum.

The two females from Northern Newfoundland have apically black femora III and tibiae III. This pattern matches the color of the holotype (♂) well, but disagrees with the color of legs of the allotype (♀), from Central Maine, Mt. Blue. Before sympatric specimens of the opposite sex are available from all 4 localities involved, the question whether

subspecific differentiation exists can not be answered.

2. *Homotherus magus* Wesmael; new record for Canada; new combination.

*Ichneumon magus* Wesmael, 1855, 22: 389, ♀ ♂.

*Ichneumon magus* Berthoumieu, 1896, 63: 270, ♀ ♂.

*Ichneumon magus* Schmiedeknecht, 1928, p. 397, ♀ ♂; quotations, description, distribution, host.

*Ichneumon magus* Roman, 1938, (11), 1: 538.

*Ichneumon magus* Hellen, 1939, 19: 54, ♀, Finland.

*Cratichneumon magus* Townes, 1951: 288.

*Cratichneumon magus* Perkins, 1960; description of coxae III of *varipes* Gravenhorst and *magus* Wesmael, females, p. 121; ventral side of coxae III, fig. 501, p. 138; key ♀, p. 145; key ♂, p. 147.

DISTRIBUTION

According to Schmiedeknecht, 1928: Sweden, Lapland, Russia, Finland, England, France. Subsequent records: Greenland and Newfoundland.

HOST

*Padisca solandriana*

PREAMBLE

On a account of the transverse thyridia with rather narrow interspace, this species is better placed in the genus *Homotherus* Foerster than in *Cratichneumon* Thomson, unless one prefers to erect a new genus for the species *magus* and the closely related *varipes* Gravenhorst. The two species are distinguished strikingly by a number of rather obtrusive, subparallel, oblique carinae on ventral side of coxae III.

The following are the structural characters of *magus* Wesmael.

FEMALE

*Flagellum*: Filiform, very short and thick, not the least tapering toward apex, with 24 extremely abbreviated

segments, the first only slightly longer than wide, already the 2nd segment square in dorsal view.

**Head:** Temple profile not narrowed, strongly curved. Cheeks in lateral view very wide and strongly convex. Malar space somewhat shorter than width of mandible base. Clypeus very short and wide, about 5 times as wide as medially long. Median field of face strongly protuberant. Face and clypeus glossy, moderately densely punctured. Cheeks and temples with sparse and fine punctures, smooth and glossy.

**Thorax:** Mesoscutum moderately densely punctured, anterior third of notauli distinct. Area superomedia apically slightly wider than medially long, with costulae somewhat beyond middle, narrowed from costulae toward area basalis, not clearly separated from the latter. Spiracles of propodeum fairly small, oval.

**Legs:** Very short and very stout. Femora III in lateral view only about 2.5 times as long as medially wide. Coxae III on apical, ventral surface with 3 elevated, oblique carinae.

**Abdomen:** Median field of postpetiole only weakly indicated, smooth and shiny, with scattered punctures. Tergites 2 and 3 with distinct, fairly dense punctation, shiny between punctures. Thyridia moderately distinct, transverse, with narrowed interspace. Gastrocoeli obsolete.

*Homotherus magus nearcticus*, new subspecies

**Holotype:** ♀, Newfoundland, South Branch, 23-6-1973 C.G.H. II

#### PREAMBLE

The chromatic description of the species *magus* given by Schmiedeknecht (1928) agrees with that of Berthoumieu (1896) but differs markedly from that of Perkins (1960), which is based upon

British specimens. The specimen from Newfoundland does not fully agree with either of the two European descriptions. It is therefore treated here tentatively as a new subspecies, its definite status to be evaluated after the discovery of additional specimens.

#### FEMALE

Head black, mandibles and clypeus orange-brown. Thorax black, with apex of scutellum, tegulae, and a spot before and below tegulae orange-brown. Abdomen black, the following orange-brown: the thyridia and apical margins of tergites 1 — 4; seventh tergite with apical whitish spot. Legs orange-brown, the following black: femora III, coxae III, and base of coxae I and II. Flagellum with white annulus, segments 1 — 7 entirely brown, 8 — 12 only ventrally brown, dorsally white; segments beyond annulus black; scape black, ventrally brown. Length 7 mm.

#### 3. *Homotherus semioptus* Heinrich, new record:

2 ♂, Portland Creek, 29-6-1974; 2 ♂, South Branch, 19 and 26-7-1974. 1 ♂, 10 mi south of Hampden, 28-4-1966 U.S.N.M. 1 ♂, 3 mi west of Deer Lake, 27-7-1961, U.S.N.M.

#### 4. *Homotherus townesi* Heinrich, new record:

1 ♂, Deer Lake, 7-1967, U.S.N.M.

#### Genus *Aoplus* Tischbein

#### 1. *Aoplus velox velox* Cresson: SNIS, 1962, p. 551.

1 ♀, South Branch, 15-7-1974.

#### 2. *Aoplus permutable* Heinrich, new record:

1 ♀, South Branch, 24-7-1973; 1 ♂, Portland Creek, 3-8-1973.

The female is a rather melanistic specimen, with the head predominantly black. The following parts are orange-tinged ferruginous: collare, pronotal ridge, subalarum, scutellum, and post-

scutellum; typically these parts are pale yellow (see SNIS, 1962, p. 539).

#### 3. *Aoplus ochropis coloradensis* Heinrich, new record:

1 ♀, St. John's, Agricultural Experimental Station, L. F. Mc. Alpine, 12-7-1967; 2 ♂, as above, 16-7-1967. All in C.N.C.: 1 ♂, Gallants, 27-6-1966, U.S.N.M.

This subspecies has been described from Colorado, 9400 ft (SNIS, 1962, p. 565); the only other locality mentioned in the original description is Québec, Mt. Lyall, 1500 ft.

#### 4. *Aoplus ruficeps vagans* Provancher, new record:

4 ♀, Portland Creek, 2 and 18-8-1973; 3 ♀, South Branch, 14 to 24-7-1974 and 5 ♂, 18 — 30-7-1974.

Females of this species are predominantly ferruginous, males predominantly black. The association was ascertained by rearings of both sexes from the same host (SNIS, 1962, p. 553).

#### 5. *Aoplus torpidus* Wesmael, new record:

3 ♀, South Branch, 10 to 25-7-1973 and 3 ♀, 13 to 26-7-1974; 1 ♀, Portland Creek, 13-8-1973.

Females are predominantly black. The associated male is most likely similarly colored, however, it has not been identified until now. In the Canadian Zone *torpidus* is usually sympatric with *ruficeps vagans*. Perhaps the males of the two species are extremely similar and undistinguishable by external characters.

#### VARIABILITY

The color of scutellum varies from entirely black to apically or predominantly dark red. The tibiae III and the tarsi III are almost black in specimens from Newfoundland, but usually dark red in European specimens and frequently so colored in specimens from Ontario and Maine.

#### Genus *Melanichneumon* Thomson

#### 1. *Melanichneumon absconditus* Provancher, new record:

1 ♀, Portland Creek, 10-8-1973; 1 ♂, South Branch, 14-7-1973 and 11 ♂, 12 to 31-7-1974.

White markings of males are as described in SNIS (1962, p. 603) but, on the average, more restricted. The white annulus on flagellum reduced to dorsal side of segments 15 or 16 to 16 or 17 in 6 of the 12 specimens and lacking completely in one specimen. Coxae I and II are uniformly black. Only apex of pronotal ridge white.

#### 2. *Melanichneumon leviculops* Heinrich, new sex (♂): new record.

**Neotype:** ♂, Newfoundland, South Branch, 10 to 25-7-1973 C.G.H. II

6 ♂, South Branch, 10 to 25-7-1973, 4 ♂, 27 + 28-7-1974, and 2-8-1974; 1 ♀, South Branch, 2-8-1974.

#### MALE

Head and thorax black, the following white: usually mark on mandible base, always sides of clypeus and of face, entire length of frontal orbits narrowly, outer orbits (from about middle downward nearly to malar space), collare, pronotal ridge, subalarum, and scutellum, sometimes postscutellum and rarely the extreme tip of coxae I. Abdomen predominantly red, without white marks, the following black: petiolus, often also post petiole except apical margin, always tergites 6 and 7, often also the apico-medial part of tergite 5 extensively, rarely also tergite 4 in part. Legs predominantly black including all coxae and trochanters, the femora II and III, at least posterior side of femora I, and the tibiae and tarsi III; tibiae I and II usually dorsally black or infuscated, ventrally orange; tarsi I and II blackish; tibiae III sometimes obscure reddish-tinged toward base. Scape and flagellum black, ventrally brown, without annulus. Length 9-10 mm.



**Flagellum:** With 32-33 segments and with elongate-oval, rather obtuse tyloids on segments 4-12, the longest reaching from bases to apices of segments and forming a continuous band on segments 5-9.

**Head:** Temple profile slightly narrowed behind eyes, very slightly curved; malar space less than half as long as width of mandible base; frons densely rugose-punctate, cheeks also densely punctured throughout.

**Thorax:** Mesoscutum densely punctured, glossy between punctures; scutellum slightly raised above postscutellum, dorsally fairly flat, with fairly sharp lateral edges to beyond middle; area superomedia with costulae behind middle, gradually narrowed from costulae toward base, glossy.

**Legs:** Femora III rather stout; coxae III densely punctured ventrally.

**Abdomen:** Postpetiole without clearly defined median field; gastrocoeli small but distinct; tergites distinctly and fairly densely punctured, smooth between punctures.

### 3. *Melanichneumon lissorufus* Heinrich DISTRIBUTION

According to SNIS, 1962, p. 591: Québec (type locality), Ontario, Labrador, Maine, Michigan, New York.

Females of this species are extremely similar to *indecatus* Heinrich and the two species are often very difficult to distinguish as both vary individually in color. In *lissorufus* the puncturation is generally finer and less dense than in *indecatus*, particularly on frons, 2nd tergite, and metapleura. The propodeum is slightly shorter in *lissorufus*, with the area superomedia usually apically wider than medially long and with the lateral carinae of area posteromedia diverging markedly toward area superomedia

(usually subparallel in *indecatus*). The femora III are slightly more slender in *lissorufus*.

In color *indecatus* appears on the average to be more melanistic than *lissorufus*, with prepectus, pleura, coxae, and trochanters on the average more extensively black-marked and with the basal section of flagellum black.

The structure of flagellum is similar in the two species: lanceolate, very strongly widened beyond middle, but apparently somewhat more strongly and longer acuminate toward apex in *lissorufus*.

### *Melanichneumon lissorufus* radtkei, new subspecies

**Holotype:** ♀, Newfoundland, South Branch, 15-7-1974, C.G.H. II.

**Allotype:** ♂, same locality, 30-7-1974, C.G.H. II.

In C.G.H. II. also are: 2 ♂, same locality, 27 and 30-7-1974 and 1 ♂, same locality, 10 to 25-7-1973.

### FEMALE

Distinguished by the tibiae III dorsally clearly yellow, except narrowly infuscated base and black apical one-fourth, and by the tibiae I and II dorsally extensively yellowish. Tergites 6 and 7 with large, obtuse, though laterally not sharply delimited, lemon-yellow apical marks.

Black markings on head, thorax, and legs restricted, as in the nominate form.

Flagellum tricolored: segments 1-6 orange, 7-15 white, shading into orange on ventral side and on segments 14 and 15, the rest black. Scape orange with black apical band.

Length 10 mm.

### MALE

In the nominate form the color of the tibiae is sexually dichromatic; the tibiae are predominantly yellow on dorsal side

in the male, but not in the female. The males from Newfoundland agree in the color of the tibiae with the males of the nominate form and with the associated females of this subspecies, as well.

Two of the four males recorded from Newfoundland differ from the nominate form by the absence or reduction of yellow markings on head and thorax and the increase of black pattern on these parts. The other two specimens are barely distinguishable from the nominate form.

In the allotype and the second specimen head and thorax ferruginous, with the following black parts: antennal cavities together with broad median part of frons, ocellar and occipital regions, malar space, posterior belt of temples and cheeks along carina genalis down to mandible base, entire prosternum, entire prepectus, mesosternum from mesoculus to sternauli, about lower half of propleura, band below subalarum, posterior margin of mesopleurum, base of propodeum broadly from side to side, basal furrow of scutellum, and axillary throughs. Face, clypeus, orbits, pronotal ridge, and pronotal base orange.

### NOTE

Named in appreciation of Mr. D. Radtke's successful collecting of ichneumonids in Newfoundland.

### Genus *Vulgichneumon* Heinrich

Subgenus *Vulgichneumon* Heinrich, 1962, SNIS, p. 580 and 603-619.

Genus *Vulgichneumon* Townes, 1965, Cat. Recl. East. Pal. Ich., p. 432-433.

### 1. *Vulgichneumon mimicus* Cresson; SNIS, 1962, p. 614-616;

Newfoundland, Harmon Field, (C.N.C.)

This species is being placed in a new genus which I am describing in a separate publication.

### Genus *Stenobarichneumon* Heinrich

The key to the males of this genus (SNIS, 1962, p. 634) contains 5 species. One additional species has since been discovered and two new forms will be described below. The new version of the key replaces the former couplets 3 and 4 and includes the new forms.

### MALES

3. Face, clypeus, pronotal ridge, apex or most of the scutellum, and the coxae and trochanters I and II ivory-yellow. (Abdomen and coxae III red. Length 7-8 mm.) ..... new species (will be described in a separate publication); Southeastern U.S.A.

— At the most, sides of face and of clypeus ivory; coxae and trochanters I and II, pronotal ridge, and scutellum black. .... 4

4. Face and clypeus uniformly black, except rarely an ivory, narrow line on facial orbits; flagellum also on ventral side black. (Temple profile only slightly narrowed; femora II and III uniformly black. Length 8-9 mm.) ..... melanoccephalus, new species; Newfoundland.

— Sides of face and of clypeus broadly ivory; flagellum ochreous or brown on ventral side. .... 5

5. Femora II and III, or at least femora III except narrowly red base, black. .... 6

— Femora II and III red, the latter except narrowly black apex. .... 7

6. Tibiae I and II lemon-yellow on anterior side, black from base to apex on posterior side, first tergite red. Temple profile only slightly narrowed. (Usually all tergites uniformly red, at the most tergites 5 and 7 black. Length 10 mm.) ..... agitator Heinrich; Maine (Mt. Blue)

— Tibiae I and II uniformly orange; first tergite black with red apical band or margin; temple profile markedly narrowed. (Usually tergites 4-7 black, tergites 2 and 3 red, sometimes extensively infuscated. Length 6-8 mm.) ..... pygmaeops insularis, new subspecies; Newfoundland

7. Postpetiole and tergites 2-4 red; femora III in lateral view slightly wider than in alternative species. (Length 9 mm.) ..... duplicans Heinrich; Maine (Mt. Blue)

— Postpetiole and tergites 2 and 3, or only tergites 2 and 3, red; femora III in lateral view slightly narrower than in alternative species. (Length 6-8 mm.) ..... *pygmaeops*  
*pygmaeops* Heinrich; Maine, Québec, Ontario.

1. *Stenobarichneumon pergracilis* Heinrich; new record:

4 ♂, South Branch, 10 to 25-7-1973 and 5 ♂, 6 to 31-7-1974.

The specimens display a predominantly, or uniformly light red basic color of the thorax, including the mesoscutum (with only the propleura sometimes partially black). This variation is also found in some specimens from Maine (Chesterville and North Berwick; C.G.H. II.), but was not included in the original description (SNIS, 1962, p. 635). It may be the prevailing form in Newfoundland.

2. *Stenobarichneumon melanocephalus*, new species

Holotype: ♂, Newfoundland, Portland Creek, 7-8-1973. C.G.H. II.

Paratypes: 5 ♂, same locality, 29-7-1973 to 12-8-1973; 1 ♂, South Branch, 30-7-1974. All in C.G.H. II.

This species differs from Maine specimens of *dupicans* Heinrich in having: 1) The temple profile somewhat less narrowed and more curved. 2) Somewhat deeper and larger gastrocoeli. 3) Uniformly black femora II and III, and predominantly black femora I. 4) The face and clypeus uniformly black.

The chromatic differences from the following subspecies, *pygmaeops insulanus* are less obtrusive; they are the complete or nearly complete absence of white markings on face and clypeus in *melanocephalus* and the black color of both, dorsal and ventral, surfaces of the flagellum. *Stenobarichneumon melanocephalus* differs structurally from *pygmaeops insulanus* as follows: temple profile less narrowed, gastrocoeli more pronounced, size larger, number of

flagellar segments greater, and femora III slightly longer.

MALE

Head and thorax uniformly black, except for white marks on vertical orbits (and in one specimen, a very narrow line on facial orbits and very small white lateral marks on clypeus). Abdomen black, postpetiole apically to mostly red, and tergites 2 to 3 or to 4, rarely 2-5, red. Legs black, including all coxae, trochanters, and femora (except femora I usually more or less extensively orange-ferruginous on ventral side toward apex, exceptionally also on dorsal side partially so colored); tibiae III basally ferruginous, usually nearly to middle, black beyond the ferruginous section; tibiae I and II orange to yellowish on anterior side; tibiae I usually only slightly infuscated toward apex on posterior side, rarely apically black; tibiae II more or less extensively black on posterior side, sometimes for entire length; tarsi II and III nearly entirely black, tarsi I brownish, more or less extensively blackish infuscated. Flagellum and scape black, ventrally as well as dorsally. Length 8-9 mm.

**Flagellum:** With 29 segments and with narrow, elongate-oval tyloids on segments 4-12 or 13, the longest reaching nearly to bases and apices of segments.

**Head:** Temple profile only very slightly narrowed behind eyes, slightly curved; face and clypeus densely punctured, frons finely and densely punctured, extremely finely coriaceous between punctures; upper mandible tooth markedly longer than the rather small lower tooth.

**Thorax:** Mesoscutum densely punctured; scutellum laterally carinate to middle; area superomedia not very large, with costulae near the middle; the outline of area superomedia ap-

proaching a gothic arch; area basalis strongly reduced.

**Legs:** Coxae III coarsely and moderately densely punctured ventrally.

**Abdomen:** Gastrocoeli fairly deeply impressed.

3. *Stenobarichneumon pygmaeops insulanus*, new subspecies

Holotype: ♀, Newfoundland, South Branch, 10 to 25-7-1973. C.G.H. II.

Allotype: ♂, same data as holotype. C.G.H. II.

Paratypes: 1 ♀, Newfoundland, South Branch, 18-7-1974; 1 ♀, Newfoundland, Portland Creek, 12-8-1973 and 1 ♂, same locality, 7-8-1973. All in C.G.H. II.

Also: 2 ♂, Portland Creek, 1 and 3-8-1973 and 20 ♂, South Branch, 14 to 28-7-1974.

PREAMBLE

The smallest species of the genus. The males are distinguished chromatically by the black color of head and thorax and by the fairly broadly white clypeal sides and facial orbits. Both sexes are distinctive in having usually white marks on the vertex and a low number of flagellar segments (25-26 in females, 27-31 in males).

The range of the species includes the Canadian and the Transition Zones. The broad series recorded above from the Island of Newfoundland shows, on the average, a markedly increased melanism in comparison with the populations from the type locality (Maine), and is, therefore, considered as a distinct subspecies.

FEMALE

White marks on vertical orbits absent. Only apical band of postpetiole and the 2nd tergite obscurely red (in the nominate form tergites 1-3 or, 2 and 3 red). White flagellar annulus reduced to segments 8-10 (instead 7-11 or 12), or entirely absent.

MALE

White marks on vertical orbits often rudimentary or absent. Third tergite usually partially to predominantly blackish infuscated; first tergite black, except for narrow, apical red band. Femora III almost completely black; femora II usually partially to predominantly black. Flagellum with 27-31 segments. Length 6-8 mm.

Genus *Platylabops* Heinrich

This genus is distributed, in a fair number of species, over the Holarctic Zone. On the basis of differences in the structure of the abdomen of females, it can be divided into two groups of species. In one group the female abdomen is clearly oxygygous and of normal shape (nearly as in *Cratichneumon*). In the other group the abdomen is semi-amblygygous, narrower, and more elongate. The former group is represented by the holarctic species *apricus* Wesm., the second group by the type species, *hinzi* Heinrich (described from Southern Russia). The three species recorded below belong to the latter group, but differ slightly by the shape of the gastrocoeli; the gastrocoeli are transverse and fairly distinctly impressed in *holerythrus* Heinrich and *fraterculus* Heinrich, smaller and superficial in *novaeascotiae nigrimembris*, new subspecies.

1. *Platylabops holerythrus* Heinrich; new record; new sex (♂).

Neallotype: ♂, Newfoundland, South Branch, 10 to 25-7-1973. C.G.H. II.

31 ♂, South Branch, 14-7 to 15-8-1973; South Branch: 3 ♀, 24 and 25-7-1973, 1 ♂, 2-8-1974, and 2 ♂, 30-7-1974; 1 ♀, Portland Creek, 2-8-1973.

DISTRIBUTION

British Columbia [type locality] and Newfoundland.

## MALE

Head and thorax, in contrast to female, of black basic color, with the following, white markings: mandibles, clypeus, face (the latter often with black, longitudinal line along each side of median field), orbits around eyes (always with black interruption on vertex, usually also with narrow interruption on malar space, sometimes with a third interruption on temple region), collare, pronotal ridge, pronotal base, subalarum, mark on tegulae, usually apex of scutellum (sometimes scutellum with two apical white marks only, rarely entirely black), postscutellum, apical margin of prosternum, sometimes band on ventral margin of prepectus. Abdomen red, except black petiolus. Legs I and II, including coxae and trochanters, white on anterior side, predominantly black (rarely black-brown or red) on reverse side; legs III predominantly red, with almost entirely black coxae and trochanters; coxae I and II basally black, apically more or less extensively to predominantly white; coxae III black, apically more or less extensively white, usually only with an apical white mark, exceptionally uniformly black, usually dark red-marked at base; trochanters black, trochanters I and II ventrally white; femora, tibiae, and tarsi I and II white on anterior side, black or (rarely) red or brown on opposite side; femora, tibiae, and tarsi III red, the tarsi III infuscated toward apex. Flagellum black dorsally and ventrally, without annulus; scape ventrally white. Length 7-8 mm.

**Flagellum:** With 30-32 segments and with small, oval tyloids on segments 8-15, the longest not reaching near to bases and apices of segments.

**Head:** Temple profile only slightly narrowed behind eyes, slightly curved; cheeks in lateral view moderately wide and convex; malar space shorter than width of mandible base; clypeus dis-

tinctly convex; median field of face moderately protruding.

**Thorax:** Mesoscutum longer than wide, fairly strongly convex, densely punctured, shiny between punctures; notauli basally indicated; scutellum fairly strongly raised above postscutellum, convex, with gradually rounded apical slope, laterally not carinate except at the extreme base; area superomedia distinctly transverse, area basal is deepened; area posteromedia nearly twice as long as the median length of horizontal part of propodeum; spiracles very small, short-oval; mesopleura densely and finely rugose-punctate, without speculum.

**Legs:** Slender; coxae III ventrally finely and densely punctured, glossy.

**Abdomen:** Elongate, slender, parallel-sided; postpetiole with weakly indicated median field, finely, irregularly rugose; anterior tergites with very fine puncturation, finely coriaceous-rugose.

## Note

The black basic color of coxae III distinguishes this male at once from the following, *fraterculus* Heinrich.

## FEMALE

Females from Newfoundland agree with the original diagnosis (SNIS, 1962, p. 645) which states that the "frontal orbits, vertical orbits, subalarum, and apex of pronotal ridge" are "indistinctly pale yellowish"; in addition, the following parts are similarly colored in specimens from Newfoundland: base of mandibles and collare. One female shows blackish markings similar to the ones mentioned for the holotype, the other four are almost uniformly pale ferruginous.

**Flagellum:** With 29-32 segments (31-33 in type series). Black, with white annulus on segments 9-12 (as in type

series); the scape varies from uniformly pale ferruginous to dorsally infuscated.

2. *Platylabus fraterculus* Heinrich; new record:

South Branch: 1 ♀, 10 to 25-7-1973 and 2 ♂, 31-7-1974 and 2-8-1974; 6 ♀, Portland Creek, 3 to 28-8-1973.

## FEMALE

Entire abdomen (sometimes except blackish base of petiole) and all legs including all coxae, always light red; this is the most distinctive chromatic character of this species.

## VARIABILITY (females from Newfoundland)

In most specimens face black, clypeus orange-ferruginous to yellow-tinged orange; sometimes also median field of face orange-ferruginous, or face predominantly so colored. The following always yellowish: frontal orbits up to level with lower ocellus, narrow marks on vertical orbits, apical mark on pronotal ridge, spot on subalarum, nearly apical half of scutellum, and the postscutellum. Scutellum usually orange between black base and yellow apex.

## MALE

As originally described (SNIS, 1962, p. 644). Subalarum white and coxae and trochanters I and II apically yellow-marked. The orange-ferruginous color of all legs (including basic color of coxae and trochanters I and II) distinguishes this male at once from the preceding species, *holerythrus*. Tarsi I and II sometimes infuscated toward apex.

3. *Platylabus novaescotiae* Heinrich; new record; new status.

*Platylabus pecki novaescotiae* Heinrich, 1962 SNIS, p. 643.

A rare species, previously known only from the holotype from Nova Scotia, and now known also from a specimen I collected in Newfoundland. I have compared the two *novaescotiae* females

with the type of *pecki pecki* and conclude that *novaescotiae* should be treated as a distinct species, differing from females of *pecki* by the: 1) slightly shorter flagellum, which is more widened beyond the middle and less strongly attenuated toward the apex; 2) shallower gastrocoeli, which are scarcely impressed; 3) absence of a white flagellar annulus; 4) black color of all coxae and trochanters.

*Platylabus novaescotiae nigrimembris*, new subspecies

Holotype: ♀, Newfoundland, Portland Creek, 2-8-1973. C.G.H. II.

## FEMALE

Differs from the nominate form by black color of all legs, including all coxae. Ivory are only: the extreme apices of femora I and II and the tibiae I and II, all on ventral side. Tibiae III on ventral side obscure reddish-tinged toward base. Otherwise as the nominate form.

## V. Tribe PLATYLABINI

Genus *Platylabus* Wesm.1. *Platylabus divisatae* Heinrich; SNIS, 1962, p. 709-710:

1 ♂, allotype: "Newfoundland, S. Munber, ex *Caripeta divisata*".

The species has been recorded from British Columbia, Québec, and Newfoundland.

2. *Platylabus ?metallicus* Bradley; new record:

1 ♂, South Branch, 10 to 25-7-1973.

In the key to the males of *Platylabus* (SNIS, 1962, p. 702) this specimen runs to the species *hyperetis* Heinrich, as its face and clypeus are uniformly white, but, the temple profile is distinctly wider than is typical for *hyperetis*, agreeing rather with *metallicus* Bradley. Perhaps the color of the face and clypeus is not a reliable character for the distinction



of the two species. Couplet 4 of the key to the males of *Platylabus*, as well as the diagnosis of the two male species involved, need amendment.

3. *Platylabus opaculus americanus* Heinrich; new record:

2 ♂, Portland Creek, 6-6-1973

In the two specimens from Newfoundland and also in one male from Ontario, a very unobtrusive chromatic character is present, which may be characteristic for many or for most males of the subspecies; it is the presence of minute white dots dorso-basally on flagellar segments 11-14.

4. *Platylabus erythrocoxa* Heinrich; new record:

1 ♀, South Branch, 17-7-1973; Portland Creek: 4 ♀, 29-7, 5-8- and 7-8-1973 and 6 ♂, 29-7 to 6-8-1973, 2 ♀, 4-7-1974.

5. *Platylabus rubricapensis* Provancher; new record; new sex (♂).

*Neotype*: ♂, Newfoundland, South Branch, 13 to 24-7-1973, C.G.H. II, 4 ♂, same data, also in C.G.H. II.

2 ♀, South Branch, 22-7-1973; 2 ♀, South Branch, 18-8-1973.

PREAMBLE

The species is closely related and very similar to *luteatæ* Heinrich; it is slightly larger than *luteatæ* and distinguished from the latter, in both sexes, by the following characters: 1) Metapleura apparently constantly with a ferruginous patch on apical section. 2) Tibiae III, in addition to the broadly black apex which both species share, with a narrower, basal black section. 3) Scutellum more extensively white, the white covering the apical half or more of the scutellum.

MALE

Head, thorax, and abdomen black; following white: mandibles, face, and clypeus, together with malar space and with the lower end of cheeks at

mandible base, narrow band on frontal orbits (not quite up to level with ocelli), a narrow stripe on median part of outer orbits, pronotal ridge, subalarum, nearly apical half of scutellum, postscutellum, and sometimes (2 specimens) the mesosternum extensively. Basic color of legs orange-red, including coxae, except as follows: apices of coxae I and II extensively and first trochanters I ventrally white; apices of femora III, bases of tibiae III narrowly, apices of tibiae III broadly, and the tarsi III black. Flagellum black, without annulus; scape ventrally white. Metapleura with ferruginous patch on apical part. Length 7-8 mm.

*Flagellum*: With 32-35 segments, without recognizable tyfoids.

NOTE

In the key to the males of the genus *Platylabus*, this species runs directly to *arizonæ* Heinrich (SNIS, 1962, p. 703, couplet 12), from which it differs by the: 1) uniformly white face; 2) ferruginous mark on the area metapleurals; 3) the extensively white coxae and trochanters I and II; 4) the absence of a white mark on the collar.

6. *Platylabus ornatus* Provancher; new record:

South Branch: 2 ♂, 25-7-1973; 7 ♂, 14 to 22-7-1973; 2 ♂, 27 and 30-7-1974.

7. *Platylabus pulcher* Cushman; new record, new synonymy.

*Ichneumon lanceolatus* Provancher, 1875, *Naturaliste can.*, 7: 24, 82. ♀ (name preocc. by Gmelin, 1909).

*Platylabus pulcher* Cushman, 1922, *U.S. Nat. Mus. Proc.*, 80 (21): 1, ♀.

*Platylabus lineolatus* Heinrich, 1962, SNIS, p. 734, ? ♂.

(The new synonymy, applied above, has been communicated to me by Dr. R. W. Carlson.)

1 ♀, Corner Brook, 28-7-1973; South Branch: 7 ♂, 14 to 24-7-1973; 18 ♂, 14-7 to 2-8-1974.

Only the ♀ of this species was previously identifiable with certainty, but the male association made with reservation by Heinrich (SNIS, 1962, p. 735) is now confirmed by the above new records.

MALE

*Variability*: White markings described in the original diagnosis are constant in all specimens. However, the black pattern on mesoscutum and propodeum shows a high degree of variability. In 5 out of 18 specimens (recorded from South Branch, 1974) mesoscutum and propodeum are uniformly ferruginous, or show only minor black marks on the base of the median lobe of the mesoscutum and on the base of the propodeum. In the remaining 13 specimens, all three lobes of the mesoscutum bear extensive longitudinal black bands, and the basal part of the propodeum, including the area superomedia and the areae dentiparae, is extensively black. The white band around eyes is, exceptionally, interrupted on temples.

8. *Platylabus polymelas* Heinrich; new record:

South Branch: 1 ♂, 14-7-1973; 3 ♂, 15 to 19-7-1974; 2 ♂, 24 and 25-7-1974.

*Distribution*: Colorado (type locality), Arizona, British Columbia.

The males recorded above agree perfectly with the original description. The thorax is uniformly black, including subalarum, the latter sometimes with white mark. The tyfoids are, however, rather indistinct and not bacilliform.

9. *Platylabus montanus* Cresson; new record; new synonymy.

*Ichneumon valer* Cresson, 1877, 6: 178, ♂; name preocc.

*Platylabus montanus* Cresson, 1877, 6: 200, ♂.

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

*Platylabus perkunsi* Heinrich, 1962, SNIS, p. 750, ♀ ♂.

1 ♂, Corner Brook, 2-7-1973; 1 ♂, Portland Creek, 6-8-1973.

The specimens match the description (SNIS, 1962, p. 750) well, differing only slightly in color by extensively black femora I and II, dorsally blackish-infuscated tibiae and tarsi I and II, and by the almost entirely black first tergite in one specimen. Tips of femora I and II and the tibiae I and II are ivory on anterior side.

10. *Platylabus sphageti* Heinrich; new record.

*Platylabus sphageti* Heinrich, 1971, SNIS, Suppl. 2, *Naturaliste can.*, 96, p. 1020-1021, ♀.

South Branch: 1 ♀, 19-7-1973; 1 ♀, 14-7-1974.

The deep-black color of all trochanters and the restriction of black color to only the last segment of tarsi III are characteristic for this species. The white flagellar annulus is situated on segments 9-12 in the holotype.

The Newfoundland specimens agree with the holotype in all the above characters (and in most others as well), but differ from it as follows: 1) scutellum mostly ivory, ferruginous only basally (entirely ferruginous in type); 2) femora III dorsally blackish for about apical half in one specimen; in type and the other specimen from Newfoundland, for less than apical fourth.

11. *Platylabus sexmaculatae* Heinrich; new record.

*Platylabus sexmaculatae* Heinrich, 1962, SNIS, p. 749, ♀.

*Platylabus sexmaculatae* Heinrich, 1971, SNIS, Suppl. 2, *Naturaliste can.*, 96, p. 1019-1020, ♂.

DISTRIBUTION

Maine (type locality), Alberta.

The preamble to the original description discusses the possibility that the

type (♀) might represent just an odd mutation of the species *ornatus* Provancher. Since the discovery and description of the perfectly matching male in 1971, that hypothesis became unlikely.

*Platylabus sexmaculatae postremus*, new subspecies

*Holotype*: ♂, Newfoundland, South Branch, 10 to 25-7-1973. C.G.H. II.

*Paratype*: ♂, same data. C.G.H. II.

The two specimens are nearly identical in color. They match the neallotype of the nominate form exactly in structure, as well as in the distribution of its extensive white markings, but show the following, marked chromatic differences: 1) No ferruginous parts on coxae and thorax. 2) First tergite black (except red apical band or mark). 3) The tibiae and tarsi I and II are blackish-infuscated (except anterior side of tibiae ivory). 4) Femora I and II predominantly black.

12. *Platylabus rufipes* Provancher; new record; new sex (♂).

*Neallotype*: ♂, Newfoundland, South Branch, 10 to 25-7-1973. C.G.H. II.

1 ♂ in C.G.H. II, same data as neallotype and 1 ♂, same locality, 18-7-1974.

PREAMBLE

Females of this species are well characterized by the short, tooth-like projections of the areae dentiparae, the inobtrusive, shallow, median, longitudinal depression on the base of second tergite, and the deep, transverse gastrocoeli with a very narrow interspace.

The three males from Newfoundland match the *rufipes* female in structure, particularly in the decisive characters mentioned above; they are therefore tentatively associated here with the species *rufipes*, although their chromatic characters are rather markedly different. Whether these differences in-

dicate a subspecific distinction or represent the normal, sexual dichromatism of this species remains to be investigated.

MALE

Head and thorax black, the following white; face (except longitudinal median black line or band), clypeus (except narrowly black apical margin, black transverse band between clypeus and face, and sometimes black median mark), most of malar space, apical band on cheek along base of mandible, frontal orbits narrowly up to level with lower ocellus, outer orbits narrowly from temple region on downward to end of eye, mandibles except teeth, collare more or less extensively, apex of pronotal ridge, mark on subalarum, anterior part of tegulae, and apical spot on scutellum. Abdomen uniformly vivid-red. Coxae and trochanters I predominantly white; coxae II apically white or white except base; coxae III black or with an apical white spot on ventral side and on exterior side. First trochanters III black; second trochanters II and III red. Tibiae and tarsi I and II blackish, the tibiae ventrally ivory, the tarsi sometimes also pale ventrally; tibiae III black, ventrally dark red; tarsi III black. Femora red; femora I and II blackish on ventral side, ivory on anterior side; femora III barely infuscated at the tip. Flagellum black, without annulus; scape ventrally white. Length 9-10 mm.

*Flagellum*: With 34 segments; tyloids not recognizable.

*Head*: Temple profile distinctly narrowed behind eyes, slightly curved; frons with slight longitudinal median impression below lower ocellus.

*Thorax*: Scutellum laterally sharply carinate to apex; area supermedia about as long as wide; areae dentiparae with distinct, though not very long, apophyses.

*Abdomen*: Gastrocoeli deep, transverse, with very narrow interspace; second tergite with shallow, longitudinal impression between gastrocoeli; tergite 2-4 distinctly and densely punctured.

13. *Platylabus luteatae* Heinrich; new record:

1 ♀, South Branch, 14-7-1974.

14. *Platylabus foxlei* Heinrich; new record.

DISTRIBUTION

British Columbia (type locality), Alaska, Maine, Newfoundland.

In the group of species with black body and more or less extensively red legs (*pedatorius* group), this one is bigger than the majority of species. *Platylabus foxlei* is well distinguished, in both sexes, by its broad, somewhat swollen temples and its wide cheek profile.

*Platylabus foxlei orientis*, new subspecies

*Holotype*: ♀, Maine, Aroostook Co., Scraggly Lake, 27-6-1973. C.G.H. II.

*Allotype*: ♂, Maine, Dryden, 3-6-1961. C.G.H. II.

*Paratype*: 1 ♀, Newfoundland, South Branch, 15-7-1974.

Differs from the nominate form by the more or less extensively red-marked coxae. In the holotype all coxae are extensively red, in the allotype and paratype, only the coxae III red-marked.

Genus *Pristicerops* Heinrich

1. *Pristicerops bakeri* Davis; new record:

1 ♂, Portland Creek, 3-8-1973.

The specimen displays the white markings typical for the species, but shows a decrease in the amount of the basic black coloration and a corresponding increase in ferruginous. In addition to the entire propodeum, meso-

sternum, and mesopleurum, the following parts are ferruginous: the upper part of the propleura, almost the entire mesoscutum (except two longitudinal black lines along notauli and the usual two ivory median lines).

This specimen may represent a distinct subspecies.

Genus *Cycloabus* Heinrich

1. *Cycloabus impressus* Provancher; new record:

2 ♀, South Branch, 10 to 12-7-1973, and, South Branch: 6 ♀, 15-7 to 7-8-1974; 13 ♂, 15 to 27-7-1974; Portland Creek: 2 ♀, 4 and 8-8-1973.

2. *Cycloabus albicinctus* Heinrich; new record:

South Branch: 4 ♀, 20 to 25-7-1973; 1 ♂, 5-7-1973; 4 ♀, 18-7, 28-7, and 2-8-1974; 2 ♂, 19 and 24-7-1974; Portland Creek: 2 ♀, 2 and 3-8-1973.

DISTRIBUTION

Nova Scotia (type locality) and Newfoundland.

A very small species, apparently with a very restricted distribution; so very strongly distinguished chromatically and structurally from all other species of the genus that generic separation from *Cycloabus* might be indicated. The specimens from Newfoundland agree generally with the original description (SNIS, 1962, p. 771-772), except for the following differences:

FEMALE

1) In addition to the ivory mark on posterior part of the mesopleurum, three specimens show a second ivory mark on its anterior, upper part. 2) In addition to the middle of the face all specimens have the middle of the clypeus broadly black. 3) In all but one specimen the coxae III are not predominantly red, as originally described, but black except

lor, sometimes, a dorsal reddish mark, and always a white apex.

#### MALE

1) The prescutellar carinae, the prepectus, and the areae posteroexternae are not white, and there is sometimes no white mark on the area metapleurale. 2) There are two separated ivory marks on the mesopleurum (instead of a continuous white band). 3) The coxae III are black with ivory apex, as in most females from Newfoundland, rather than merely partially infuscated.

#### NOTE

The above listed variability seems to indicate that Newfoundland specimens are, on the average, more melanistic than specimens from Nova Scotia. Considering the individual variability of ivory markings in specimens from both localities, a subspecific separation does not appear to be feasible.

#### 3. *Cyclolabus lyncops*, new species

*Holotype*: ♂, Newfoundland, Portland Creek, 3-8-1973. C.G.H. II.

*Paratypes*: 4 ♂, same data; 2 ♂, same locality, 9-8-1973 and 28-7-1973. All in C.G.H. II.

#### PREAMBLE

A rather small species; in color pattern very similar to *Lyncus exhortator* Thunberg, but in structure closer to the genus *Cyclolabus*, for the following reasons: 1) Propodeum strongly abbreviated, with area superomedia 4-5 times as wide as long. 2) Although the notauli are fairly distinct, they are weaker and shorter than in *Lyncus*. 3) The gastrocoeli are distinctly impressed.

#### MALE

Head black, with mandible base, sides of face and of clypeus, white. Thorax black, except as follows: subalarum, spot on apex of pronotal ridge, scutellum (except red base), and postscutellum white; entire propodeum, posterior

part or all of mesosternum, and mesopleura red (except the upper 1/3 or less of mesopleura black). Tergites 1 and 2 red, 3-7 black, their apical margins often narrowly white. Legs red including all coxae and trochanters; apices of femora III and the tibiae III black toward apex; the coxae I dorsally, the tarsi III, and the first trochanters I are infuscated (the latter often entirely black). Flagellum black with dorsal white annulus on segments 8-11 or 9-11. Length 5 mm.

*Flagellum*: With 27 or 28 segments, and with elongate-oval tyloids on segments 8 or 9 to 12.

*Head*: Temple profile strongly narrowed behind eyes, curved; malar space half as long as width of mandible base; frons above antennal cavity opaque, finely and densely coriaceous-rugose.

*Thorax*: Mesoscutum fairly densely and finely punctured, coriaceous between punctures; anterior third of notauli distinct. Scutellum longer than basally wide, moderately convex, gradually sloping down to postscutellum, laterally cavitae to beyond middle. Propodeum strongly abbreviated, area posteromedia fully four times as long as horizontal part medially, laterally not distinctly carinate; area dentiparae without apical projections.

*Abdomen*: Median field of postpetiole with sharply raised lateral carinae, which are somewhat sinuate and project more or less distinctly sideways on apical part of postpetiole.

#### VARIABILITY

Sometimes: 1) Third tergite partially red. 2) Lateral lobes of mesoscutum partially red. 3) Pronotal base whitish toward lower end. 3) Pronotal base entirely reddish.

Exceptionally: 1) Coxae I and first trochanters I entirely black. 2) Clypeus

entirely white. 3) Small white mark on vertical orbits present.

#### 4. *Cyclolabus dubiosus* Perkins. SNIS, 1962, p. 768-770.

South Branch: 1 ♂, 14-7-1973 and 1 ♂, 13-7-1974.

#### DISTRIBUTION

Holarctic; in Europe known from England. Recorded in the Western Nearctic Zone from British Columbia, Manitoba, Alberta, Washington, California, Colorado; in Eastern North America from Nova Scotia and Newfoundland.

The two males from Newfoundland, recorded above, match the description by Heinrich (SNIS, 1962, p. 770). The coxae III are uniformly black in one specimen, black with red mark in the other.

#### 5. *Cyclolabus gracilicornis gracilicornis* Provancher; new record:

1 ♂, South Branch, 22-7-1974.

#### DISTRIBUTION

Ontario (type locality), Québec, Labrador, Maine, New Hampshire, New York, North Carolina (Heinrich, SNIS, p. 763); Newfoundland.

#### Genus *Lyncus* Cameron

#### 1. *Lyncus barbaree*, new species

*Holotype*: ♂, Newfoundland, Portland Creek, 6-7-1974. C.G.H. II.

#### PREAMBLE

The holotype agrees in the most decisive characters with the genus *Lyncus* as follows: 1) The gastrocoeli are only indicated by slight, oblique, longitudinal impressions, traversed by irregular, longitudinal rugae. 2) Thyridia are absent. 3) The interspace of gastrocoeli is coarsely, irregularly rugose. 4) Notauli are pronounced.

Rather strikingly different from the type species of *Lyncus* is the elongate,

slender shape of the abdomen. It somewhat approaches the structure of the female abdomen of the genus *Carlsosia* Heinrich, 1973. Until the matching female will be found, the generic position of this species must be considered as tentative.

#### MALE

Head, thorax, and legs II and III almost completely black, only the base of femora III narrowly red and the segments of tarsi III basally brown. Basic color of abdomen black, except the following, dark red parts: apical margin of first tergite, nearly basal half of second tergite, its sides narrowly for entire length and its narrow apical margin; tergites 5-7 with very conspicuous, apical white marks, which are gradually narrowed from the middle toward both sides of tergites and do not reach to the lateral margins; the fourth tergite with narrow, apico-medial white band. Legs I black, apex of femora I, and the tibiae I ivory on ventral side, tarsi I pale brownish. Flagellum black, with almost complete white annulus on segments 7 to the base of 11. Length 10 mm.

*Flagellum*: With 33 segments and with unobtrusive, very small, short-oval tyloids on the middle of the white segments (7-11).

*Head*: Temple profile moderately narrowed and curved behind eyes; cheek profile distinctly narrowed toward mandible base, straight; clypeus convex, median field of face only slightly protuberant. Finely coriaceous and densely punctured all over, subopaque.

*Thorax*: Mesoscutum densely punctured, coriaceous between punctures, on lateral lobes somewhat shiny; notauli pronounced to about middle of mesoscutum. Scutellum strongly raised above postscutellum, convex, laterally strongly carinate. Propodeum coarsely and irregularly reticulate-rugose, the



area posteromedial wide and about twice as long as the horizontal part medially; area superomedial transverse, nearly twice as wide as long, area basalis deepened. Apices of areae dentiparæ somewhat projecting. Spiracles nearly circular. Mesopleura densely punctured, particularly their lower half, the speculum smooth.

**Legs:** Femora III rather long and slender; coxae III very densely punctured.

**Abdomen:** Postpetiole very coarsely, irregularly rugose, the median field delimited by sharply prominent, longitudinal, lateral carinae. Second tergite very densely and coarsely, irregularly, reticulate-rugose on about basal half, the apical half less coarsely, but equally densely rugose-punctate, except the coriaceous, sparsely punctured apical margin. Third tergite finely punctured, coriaceous between punctures.

#### NOTE

Named after Miss Barbara Dousett, who contributed to the success of the second collecting trip to the island of Newfoundland by assisting in the use of the Malaise traps and by driving the automobile.

#### IV. Tribe LITRODROMINI

##### Genus *Anisobas* Wesm.

This genus is taxonomically one of the most difficult of the subfamily. The structural distinctions between the species are often very subtle or minimal, making it necessary for the taxonomist to depend upon chromatic characters more so in this group than in others. As a rule, the individual variability in color is not great. The ultimate proof for specific distinction is to be found, in some cases only by biological characters (host records, for example).

##### 1. *Anisobas bicolor* Cushman

Among the eastern nearctic species of the genus, this is the best distinguishable. The distinguishing characters are: the almost completely black head and thorax, with only a short and narrow line on the orbits of vertex, combined with entirely red abdomen; the apical tergites a shade lighter than the rest but without distinguishable, apical, white marks or bands. In the type from Idaho, all femora and tibiae are red. The abdomen is fairly wide, but slightly tapering toward apex. The scutellum is not markedly convex dorsally, and has long, lateral carinae from the base to the end of the dorsal surface; this is an important, structural, distinguishing character.

##### 1a. *Anisobas bicolor boreoaustralis*, new subspecies

**Holotype:** ♀, Newfoundland, South Branch, 24-7-1973, C.G.H. II.

Differs from the nominate form by the following characters: 1) Femora I and II deep black; all tibiae black or blackish on dorsal side. 2) Flagellum black, with broad, dorsal, white annulus on segments 7-15 (in the holotype of the nominate form, uniformly deep black).

##### 2. *Anisobas angustior*, new species

**Holotype:** ♀, Newfoundland, South Branch, 24-7-1973, C.G.H. II.

**Paratype:** 1 ♀, Tennessee, Natchez Trail State Park, Henderson Co., 13 to 17-6-1972, C.G.H. II.

#### PREAMBLE

In size, structure, and the white markings of head and thorax identical with *texensis* Ashmead, but chromatically rather strongly different otherwise. In the holotype the basic color of tergites 4-7 is light red (instead of black, as in the type of *texensis*), the 4th tergite has only an indistinct and irregular, narrow, apical, white margin (instead of a broad, continuous, regular, apical white band

as in *texensis*); tibiae III are red, narrowly infuscated basally, more broadly apically (instead of entirely black, as in *texensis*). The paratype from Tennessee differs from the holotype from Newfoundland only by the black basic color of tergites 5-7; this could be a matter of geographical variation.

The conformity of the holotypes of *texensis* and of this species in all structural and chromatic characters of head and thorax, led me, at first, to assume that they represent two associated subspecies. However, the following two facts appear to make specific distinction more likely: the abdomen is narrower and more elongate in *angustior* than in *texensis*, the 3rd and 4th tergite are only about 3 times as wide as long (in *texensis* about 4 times as wide as long); a typical specimen of *texensis* (agreeing perfectly with the holotype of the species) has been collected along with the paratype of *angustior*.

Whether *angustior* should be regarded as a full species or subspecies of *texensis*, only future research, particularly biological records, can reveal.

#### FEMALE

Head and thorax black, the following white: facial and frontal orbits, temple — and outer orbits down to about middle of exterior margin of eye, pronotal ridge, subalarum, and scutellum except base and apex. Abdomen light red, the apical margin of 4th tergite narrowly and irregularly white, tergites 5-7 with regular, broad, apical white bands. All coxae and trochanters black; femora I and II black basally and on posterior side, red apically and extensively on anterior side; femora III light red, with narrowly black apex; tibiae I dorsally blackish, ivory on anterior side, ventrally red; tibiae II dorsally blackish, ventrally red; tibiae III red, narrowly black basally, more extensively blackish infuscated at

apex; tarsi I and II blackish infuscated, tarsi III black. Flagellum black, with dorsal white annulus on segments 6 (apex) to 11 (base); scape black. Length 9 mm.

**Flagellum:** Bristle-shaped, slender, fairly long, ventrally flattened beyond middle but not widened, apically strongly attenuated; with 30 segments, the first about 4 times as long as apically wide, in lateral view the 11th square, none wider than long, the last 4 segments longer than wide.

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