

A Report on Some North American Arctic and Subarctic Ichneumoninae

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The following contribution to our knowledge of the Ichneumoninae of the boreal parts of Canada and of Alaska is based mainly on material obtained by the Northern Insect Survey, which is a co-operative project of the Canada Department of Agriculture and the Defence Research Board, Canada Department of National Defence.

The contribution brings forward 12 new species and subspecies 3 of them being represented by both sexes, 9 by the female sex only. Some arctic species already named before or regarded as holarctic elements will be treated in a separate publication.

In the Ichneumoninae, especially in the genus *Ichneumon* L. the female sex presents structural specific differentiations in the shape of mandibles, antennae, cheeks, temples, tarsi and coxae III which all are absent in the male sex. Thus in this group of insects a species diagnosis can be efficient and fully useful only if based on the female sex, a fact which unfortunately was not well understood by many of the former authors. Furthermore, in the majority of cases it is impossible to associate the males correctly with their females on morphological characters. Such associations are usually not more than guess-work until confirmed and proven by biological facts such as observation of copula or rearing of both sexes from the same host. Future efforts, especially in the latter direction, would be of great value and constitute the only satisfactory method of establishing the taxonomic status of Arctic Ichneumoninae.

Genus *Eutanyacra* Cam.

• 1901, Trans. Ent. Soc. London p. 227

Generotype: *Eut. pallidicoxis* Cam. ♂ (Khasia Hills, India)

I examined the generotype specimen many years ago. Morphologically it is mainly characterized by a long narrow process in the middle of the hypopygium. This formation corresponds with *Spilichneumon* Thoms. and *Triptognathus* Wesm. The genotype of *Eutanyacra* Cam. differs from the former genus by its more abbreviated propodeum and especially by the abbreviation of the last 3 tergites; mainly the 7th, which is truncated and transverse thus giving a blunt shape to the apex of the abdomen. From *Triptognathus* Wesm., *Eutanyacra* Cam. may be easily distinguished by its normal, not unidentate mandibles. On account of the males I always inclined to consider *Eutanyacra* Cam. as a distinct genus. I was however not able to separate the females from the collective genus *Amblyteles* auct. or *Pseudamblyteles* Ashm. sensu meo; until recently when Dr. Townes drew my attention to the fact that the females of this group bear a bunch or fringe of long stiff bristles on the middle of the apical part of the hypopygium. This character indeed renders possible a clear separation from *Spilichneumon* females. It seems not quite so satisfactory for distinction from *Pseudamblyteles* Ashm. females (European palliatorius-group), the hypopygium of which is also covered by stiff bristles which, however, as a rule are shorter and more evenly distributed over the whole sternite. *Eutanyacra* females are furthermore recog-

nizable by the comparatively stout abdomen, always slightly compressed towards the apex and by the rather short propodeum with subquadrate or transverse area supermedia.

Since *Eutanyacra* Cam. evidently designates a natural group of species, strongly characterized in the male sex, recognizable also in the female sex, I propose to introduce this genus into the taxonomy of the North American Ichneumoninae, separating it from the collective genus *Pseudamblyteles* Ashm.

The diagnosis of *Eutanyacra* Cam. in short is this:

♀ ♂

Mandibles normal, upper tooth somewhat longer than lower, often blunt. Propodeum short, the area supermedia being subquadrate or more often transverse.

Male

Hypopygium with acute process in the middle length variable but sometimes considerable. Apex of abdomen of blunt appearance, the last tergites, especially the 7th, being more or less abbreviated, truncated and transverse. Thyloides tending to be parallel-sided, narrow, reaching from base to apex of flagellar joints.

Hypopygium with a bunch or fringe of long, stiff bristles covering the middle of the apical part. Abdomen short, slightly compressed towards apex, last tergites short. Legs stout. Temples and cheek usually broad.

The genus is represented in Europe only by one species as far as I know (*glaucoatorius* Wesm.), in the oriental region by several species including the genotype, in North America by a fair number of species including primarily the *succinctus* group and *improvisus* Cress.

Eutanyacra chillcottii spec. nov. ♀ ♂

Type locality:—Salmita Mines (64°05'N, 111°15'W), Northwest Territory, Canada.

Holotype:—♀, 4.VII.53, J. G. Chillcott, C.N.C. No. 6395.

Allotype:—♂, Frobisher Bay, Baffin Island, N.W.T., Canada, 10.VII.48, T. N. Freeman.

A striking, tricolored species.

Female:—Head including antennae uniformly black, only a little spot at the top of eye-margins white. Thorax black with white marks. White: Scutellum, broad upper margin of pronotum, squamulae, two convergent short lines on the hind half of mesonotum, a short line on each side of mesonotum beside tegulae. Abdomen tricolored: 1st segment, last 3 sternites and tergites 3-7 black, the last tergites all with broad, regular white bands at the apex.—2nd tergite, narrow sides of tergite 3 and the rest of sternites bright orange-red. Legs red with black coxae, trochanters and femora II and III, coxae II and III with a white mark above. Length 10.5 mm.

Male

2nd and 3rd tergite entirely orange-red, tergites 4-7 regularly white-banded at the apex. White marks of head and thorax reduced to scutellum, squamulae and an indistinct short line on upper margin of pronotum. Legs as in the female. Length 12 mm.

Female

Head transverse, temples broad, rounded. Cheeks broad, swollen. Middle field of face distinctly, side fields slightly convex.

Mandibles normal, the upper tooth not very much longer than the lower.

Flagellum with 38 stout joints, short, sharply pointed, 1st joint seen from above not longer than wide at the apex, the second almost transverse, the broadest little broader than long, the last 4 joints distinctly longer than broad.

Scutellum flat, hardly raised above postscutellum.

Propodeum abbreviated, the sloping part about twice as long as the horizontal in the middle. Area supermedia broader than long.

Postpetiole broad with distinctly defined, longitudinally striated, middle area.

Gastrocoeli triangular, fairly shallow, the interval little broader than one.

Abdomen rather short, slightly compressed towards the apex. Sternites 1-3 with plica. Hypopygium with a dense fringe of long, stiff bristles.

Legs short and stout, Femora III only 2.65 times longer than wide in the middle.

Male

Thyloides on joint 1-13 of flagellum in shape of narrow parallel sided ridges over the whole length of the joints.

Hypopygium with a comparatively short but acute process in the middle.

Ichneumon masoni spec. nov. ♀

Type locality:—Cold Bay, 163W, Alaska.

Holotype:—♀, W. R. Mason, 25.VII.52, C.N.C. No. 6396.

A striking coloured species, probably related to *subdohus* Cress. but doubtlessly distinct.

Female:—Head and antennae uniformly red, the latter with indication of a yellowish annulus and black apex. Thorax and coxae (not trochanters) black, scutellum white; mesonotum, tegulae squamulae, broad upper margin of pronotum, collar and a longitudinal band in the upper half of mesopleurae light red. Abdomen bright red except base of petiole. Tergites 2-5 with broad, regular ivory-yellow apical bands, the one of the 5th broadened in the middle; tergites 6 and 7 with broad apical marks of the same colour. Legs including trochanters light red; all tibiae with a yellowish area beyond the base. Length 13.5 mm.

Head transverse, temples little narrowed behind the eyes, cheek profile in front view very little narrowed towards mandibles.

Mandibles broad, upper tooth not much longer than lower.

Flagellum stout, filiforme, inconspicuously broadened and on one side flattened beyond middle; not attenuated towards apex; with 36 joints; first joint 1.45 times longer than broad at the apex; seen from the side the 4th joint as long as broad; joints towards the apex of flagellum distinctly transverse.

Mesonotum distinctly longer than broad in the middle.

Scutellum flat, somewhat raised above postscutellum.

Area supermedia subquadrate.

Postpetiole with clearly defined, longitudinally striated middle field.

Gastrocoeli shallow, triangular, their interval about as wide as one of them.

Abdomen fairly broad and blunt.

Coxae III densely and strongly punctured; without any brush.

Ichneumon byrdiae spec. nov. ♀ ♂

Type locality:—Spence Bay, Northwest Territory, Canada.

Holotype:—♀, J. G. Chillcott, 21.VII.51, C.N.C. No. 6397.

Allotype:—♂, Frobisher Bay, Baffin Island, F. G. Dilabio, 5.VII.48 in Canadian National Collection.

Paratypes:—1 ♀, Herschell Island, Yukon Territory, F. Johannsen, 30.VII.16; 1 ♂, Repulse Bay, Northwest Territory, Canada, J. E. H. Martin, ex *Byrdia rossi*, larva coll. 28.VI.50. Paratypes in Canadian National Collection.

Host:—*Byrdia rossi* Curt. (Holotype and 1 ♂ paratype).

Female:—Biggest of the known arctic species of the genus. Black with the legs (except coxae and trochanters), mesonotum, scutellum, postscutellum, upper

margin of pronotum, collar, squamulae, upper part of mesopleurae and sometimes the propleurae (specimen from Yukon Territory) dark red. First segment of the same colour. Second tergite dark red in variable extent: in the holotype black only towards the hind margin, in the specimen from Repulse Bay with red sides. Head black without red marks. Antennae black in the holotype with the 5 basal joints of flagellum and the scape dark red. Length 15 mm. (paratype 13.5 mm.)

Male:—Only the following parts dark red: scutellum, postscutellum and legs (except coxae and trochanters). In the specimen from Repulse Bay postpetiole and sides of 2nd tergites with a dark reddish tint. Length 15 mm.

Female

Ha transverse covered by long, fuscous hair, strongly irregularly punctured (except lower part of cheeks), frons irregularly reticulate-punctured, temples roundly and not strongly narrowed behind the eyes, cheeks profile considerably narrowed towards mandibles. Middle field of face strongly convex.

Mandibles; upper tooth acute and considerably longer than the somewhat reduced lower tooth.

Flagellum with 41-43 joints, slender, of medium length, lightly broadened and distinctly flattened at one side beyond the middle, then attenuated and sharply pointed, the first joint being about 2 times longer than broad at the apex, about the 8th joint square, the broadest joint being only slightly broader than long.

Mesonotum densely punctured and haired. Scutellum fairly flat above, truncated at the end and highly elevated above the post-scutellum.

Mesopleurae considerably swollen and protruding behind the epinemiae.

Propodeum very short, the area superomedia being more than twice as broad as long in the holotype.

Postpetiole exceptionally broad in the holotype, fairly broad in the paratype, the middle area rather clearly defined and longitudinally striated.

Abdomen broad, the second tergite considerably broader than long, the third at least three times broader than long. Gastrocoeli transverse, their interval about equal in width to one of them.

Coxae III densely punctured, more finely on the inner, strongly on the outer side, covered by long, fuscous hair but without brush.

Mesonotum strongly and densely punctured.

Male

Thyloides on joint 7-16 of flagellum only, longish oval, the longest neither reaching to the base nor to the apex of the joint.

Scutellum strongly and much more raised above the post-scutellum than in the female.

Ichneumon byrdiops spec. nov. ?

Type locality:—Seward, Alaska.

Holotype:—♀, W. J. Brown, 12.V.1951, C.N.C. No. 6398.

Paratype:—♀, from type locality, W. J. Brown, 15.VI.1951.

This species shows considerable convergency in colour with *I. byrdiae* Heinr. It is very distinctly different in shape of flagellum and mandibles.

Female

Black:—2nd tergite and sides of 3rd (holotype) or 2nd and 3rd tergite (paratype) dark red. Scutellum more or less obscure red. Legs including trochantelli clear red. Flagellum black. Wings smoky. Length 13 mm.

Head and thorax covered by long hair. The former transverse, temple profile rounded, little narrowed behind eyes, cheek profile somewhat narrowed

towards mandibles. The latter with a strong, long upper tooth and a much shorter, almost obsolete lower.

Flagellum stout, rather short, nearly filiform, a bit broadened and distinctly flattened below beyond middle and slightly tapering at the apex with 40-41 joints, first joint 1.35 times longer than broad at the apex, seen from the side the 5th or 6th joint as broad as long, the broadest seen from the flat side about 1½ times broader than long.

Mesonotum densely haired with shallow, not dense puncturation. Notauli indistinctly indicated at the very base. Scutellum weakly convex, hardly raised above postscutellum.

Area superomedia slightly transverse.

Postpetiole with fairly distinct middle field which is (in both specimens) irregularly transversely striated.

Gastrocoeli relatively small, triangular, the interval much broader than one.

Coxae III rather densely punctured without trace of scopula.

Ichneumon amauropus spec. nov. ?

Type locality:—Alert, Ellesmere Island (between 82° and 83°N!) Northwest Territory, Canada.

Holotype:—♀, summer 1951, C.N.C. No. 6403.

Female

A red species very distinctly characterized by its unusually long, straight, strongly narrowed cheek profile (reminiscent of the genus *Hoplismenus*), the slender, gradually attenuated though not very sharply pointed flagellum, the transverse gastrocoeli with narrowed interval, the distinctly striated postpetiole and the area superomedia being not transverse.

Red:—Only the following black: sterna, the black colour extending from the mesosternum up onto the lower part of mesopleura, metapleura partially, epinomial field, coxae and trochanters below, clypeus and a vertical band on each side of the middle field of the face joining below the black of clypeus and a stripe on the outer orbits below. Flagellum blackish brown. Wings evenly infuscated. Length 10 mm.

Head transverse, vertex sloping down from the hind margin of eyes and ocelli, temple profile roundly and not strongly narrowed behind eyes, cheek profile strongly narrowed in a straight line towards mandibles, the malar space being considerably longer than the width of mandibles base. Middle field of face strongly, clypeus, slightly convex.

Mandibles normal, upper tooth little longer than lower.

Flagellum with 32 joints, slender, hardly broadened beyond middle but distinctly flattened beneath, gradually attenuated towards the end though not very sharply pointed at the apex, the first joint being approximately twice as long as wide at the apex, about the 7th joint as long as wide, the broadest joint seen from the flat side subquadrate.

Mesonotum and even the scutellum densely and rather strongly punctured all over, the latter considerably elevated above postscutellum and gradually sloping down to the latter at the end.

Area superomedia not transverse as in *Iariae* Curt. but as long as wide in the middle, its sides a little convergent toward base.

Postpetiole with distinct, longitudinally striated middle field.

Gastrocoeli transverse, their interval somewhat narrower than one.

Tergites 2 and 3 densely and rather strongly punctured, not much shining.

Coxae III densely punctured all over, without scopula.

Tarsi III especially the metatarsus, long and slender, tarsi I somewhat abbreviated.

Key for the *Ichneumon* species of boreal Canada with basic black colour of the whole body and red legs

- ♀ ♀
1. Antennae slender, strongly attenuated (tarsi III blackish) 2
Antennae filiform, not strongly attenuated but sometimes a little pointed at the very apex (tarsi III usually red, seldom blackish) 3
 2. Scutellum black, flagellum without distinct annulus (Western Yukon Territory)
cestatorops sp. nov.
Scutellum entirely white, flagellum with broad white annulus (Quebec)
cestatorops kasabazuae ssp. nov.
 3. Scutellum, whole upper margin of pronotum, inner orbit, and large marks on tergites 5-7 white. (Antennae stout with short joints. No scopula. Area superomedia longer than wide) (Ft. Chimo, Quebec) *gairicolor* spec. nov.
No white marks on head, thorax, and 5th tergite 4
 4. Scutellum and postscutellum yellowish red. Middle field of postpetiole not sharply defined and with fine, irregular, sometimes obsolete aciculation. (Tergites 1 and 2 with shallow punctures which are separated by at least the length of their diameter or more. Flagellum slender, neither broadened nor pointed at apex. Head and thorax with long hair) (Labrador) *perretti* sp. nov.
Scutellum and postscutellum black, rarely the former with an irregular obscure reddish mark. Middle field of postpetiole sharply separated from the sides, almost always sharply aciculated 5
 5. Disc of 2nd tergite with shallow punctures separated in average by several times their own diameter. Flagellum stout and thick, first joint being only 1.2 times longer than wide at the apex. (End of abdomen blunt, ovipositor almost hidden) (Labrador) *nebulareum* sp. nov.
Disc of 2nd tergite much stronger and denser punctured. Flagellum more elongated, first joint longer compared with width. (Ovipositor distinctly extending beyond last tergite) 6
 6. Area superomedia longer than wide. Tibiae III, 5.4 times longer than wide at the apex seen from the side view. Tergites 6 & 7 narrowly white marked. (Notauli obsolete. Coxae III, with rather distinct scopula) (Northwest Territory, Manitoba)
trigenellus spec. nov.
Area superomedia usually transverse, sometimes subquadrate. Tibiae III, 6.1 times longer than wide at apex. Last tergites usually black. Exceptionally 7th tergite with an indistinct white mark. (Notauli distinct at base or obsolete. Coxae III, with ± distinct scopula) (Colorado, Alberta, Manitoba, Newfoundland) *arctus* Viereck

***Ichneumon perretti* spec. nov. ♀**

Type locality:—Hopedale, Labrador.

Holotype:—♀, W. W. Perrett, 31.VII.26, C.N.C. No. 6399.

Paratypes:—29 ♀ ♀, from type locality, W. W. Perrett, 1924-1928. In Canadian National Collection, Ottawa and in collection G. H. Heinrich, Dryden, Maine.

Female

Black.—Legs red. Always reddish or yellowish red are: scutellum, postscutellum, tegulae, apex of dorsal margin of pronotum, collar, coxae I, base of flagellum. Apex of clypeus and middle of face usually reddish. Coxae II and III, usually partially, sometimes entirely black. Flagellum dark towards apex. Length 11-12 mm.

Variability (based on 30 specimens):

- | | |
|--|---|
| Mesonotum with a dark red mark in the middle..... | 4 |
| Mesonotum with two dark red stripes in the middle..... | 1 |
| Tergites 5-6-7 indistinctly dark reddish..... | 8 |
| Tergite 7 with a white spot..... | 1 |

Female

Head transverse strongly irregularly punctured except cheeks and with fairly long reddish hair. Temples and cheeks broad, the former hardly narrowed behind eyes, cheek profile only slightly narrowed towards mandibles. Middle field of face elevated. Mandibles normal, the upper tooth being somewhat longer than the lower.

Flagellum with 40-41 joints, filiform, slender, fairly long and of even width throughout, neither broadened beyond the middle nor attenuated at the apex, inconspicuously flattened on one side towards the end, the first joint being 1½ times longer than broad at the apex, seen from the side about the 7th joint as long as broad, about the last 10 joints transverse.

Mesonotum shining, strongly and rather densely punctured. Scutellum slightly convex. No trace of notauli.

Pleura and sterna with long, reddish hair.

Propodeum rather short with the area superomedia subquadrate or slightly transverse.

Postpetiole with rather distinct though not clearly defined middle field, the latter usually with fine, more or less irregular sometimes indistinct, striation; sometimes smooth.

Gastrocoeli triangular, transverse, their interval distinctly broader than one.

Abdomen longish, 2nd and 3rd tergites with shallow but distinct puncturation and fine, coriaceous, undersculpture between punctures.

Coxae III, strongly and fairly densely punctured, less strongly and more densely punctured on the inner side where, at the apex, punctures are running into transverse striae; hairy but without scopae.

***Ichneumon nebulareum* spec. nov. ♀**

Type locality:—Hopedale, Labrador.

Holotype:—♀, W. W. Perrett, 31.VII.26, C.N.C. No. 6400.

Paratypes:—12 ♀ ♀, from type locality, W. W. Perrett, 1924-1928. In Canadian National Collection, Ottawa and in collection G. H. Heinrich, Dryden, Maine.

A very distinct, big black species with red legs easily identified by morphology of flagellum and postpetiole. Considerably bigger than *I. perretti* occurring in the same locality.

Female

Deep black all over including scutellum, coxae and trochanters. Legs including trochantelli red. Collare sometimes obscure reddish. Flagellum black: underneath at the middle and beyond the middle, and the basal joints at the apex, usually more or less distinctly reddish brown.

Head seen from above wider compared with its longitudinal diameter than in *I. perretti* Heinr. Otherwise similarly built to the above-mentioned species and similarly sculptured and haired.

Mandibles normal.

Flagellum with 38 joints, filiform but somewhat narrowed towards the apex; stout, thick, distinctly broadened and flattened beneath beyond the middle; first joint 1.2 times longer than broad at the apex, about 4th joint seen from the side as long as broad, broadest joint 1½ times broader than long.

Mesonotum rather strongly punctured, glossy. Notauli distinct at the base (absent in *perretti*). Scutellum with rather flat, glossy, sparsely punctured surface, considerably raised above postscutellum.

Pleura and sterna with long, reddish hair.

Propodeum short. Area superomedia transverse, sometimes more than 1½ times broader than long.

Postpetiole very broad with clearly defined strongly aciculated, middle field which is sharply separated and elevated at the knee. Exceptionally (1 specimen) striation obsolete.

Gastrocoeli triangular, transverse, their interval about as wide as one.

Abdomen longish, 2nd and 3rd tergites with shallow but distinct puncturation and fine coriaceous undersculpture between punctures. Distance of the latter averaging several times bigger than diameter of one. Apex of abdomen fairly blunt, ovipositor almost entirely hidden.

Coxae III densely and strongly, at the inner side more finely punctured, hairy but without scopa.

Ichneumon trigemellus spec. nov. ♀

Type locality:—Norman Wells, Northwest Territory, Canada.

Holotype:—♀, C. D. Bird, 25.V.1953, C.N.C. No. 6402.

Paratypes:—Gillam, Manitoba, Canada, J. F. McAlpine, 11.VI.1950, in collection Gerd H. Heinrich, Dryden, Maine.

Female

Deep black including scutellum, coxae and trochanters. Legs including trochantelli yellowish red. Inner orbits up to the vertex and down to the level of base of antennae narrowly yellowish red. Flagellum blackish brown in the holotype with slight indication of a lighter annulus beyond middle and blackish apex; reddish below. Length 13 mm.

Extremely similar to *I. artemis* Viereck. Differing from the latter by:

- 1) the shape of area superomedia which tends to be longer than wide.
- 2) stouter tibiae III which are only 5.4 times longer than wide at the apex (seen from the side).
- 3) presence of a distinct longitudinal mark on tergite 7 and a smaller one on tergite 6.

Flagellum with 42 joints, filiform, long, slender, not broadened and only slightly flattened beneath beyond middle, very little attenuated at apex, first joint 1.8 to 2 times longer than broad at the apex, seen from the side about 9th joint as long as wide at the apex, about 12 joints counted back from the apex of flagellum transverse.

Notauli obsolete even at extreme base.

Otherwise like *artemis* Viereck.

Ichneumon cessatorops spec. nov. ♀

Type locality:—Watson Lake, Yukon Territory, Canada.

Holotype:—♀, W. R. Mason, 23.VI.1948, C.N.C. No. 6404.

Female

In general appearance and especially in the sharply attenuated, long and slender flagellum this species approaches the European *I. cessator* Müll. In the latter species however the flagellum is still more slender and the scutellum is still more strongly elevated above postscutellum. Nevertheless *cessatorops* Heinr. might perhaps represent the nearctic vicarious form of *cessator* Müll. From all similarly coloured species of boreal America *cessatorops* Heinr. differs by the mentioned shape of the flagellum.

Deep black including scutellum, coxae and trochanters. Legs red including trochantelli. Apex of tibiae III blackish, tarsi III brownish. Narrow inner orbits of frons yellowish red. Narrow apical edge of tergites 2 and 3 reddish. Antennae

nae blackish, obscurely brownish beneath and around apices of basal joints of flagellum, with indistinct indication of a lighter annulus on joints 9-11. Length 14 mm.

Head transverse, temple profile considerably narrowed behind eyes, cheek profile the same towards mandibles, straight. Cheeks not swollen. Malar space longer than width of mandible base. Occiput sloping down immediately from hind margin of eyes and ocelli. Upper mandible tooth acute and considerably longer than lower.

Flagellum with 42 joints, attenuated, long, slender, distinctly though not strongly broadened beyond middle and simultaneously strongly flattened beneath, then tapering gradually into the acute apex, first joint twice as long as wide at the apex, seen from the side about the 10th joint as long as broad, seen from the flat side the broadest joint about 1.3 times broader than long, last 3-4 joints longer than wide.

Mesonotum rather strongly and densely punctured. Notauli slightly indicated at the base. Scutellum strongly elevated above postscutellum.

Area superomedia strongly transverse, about 1½ times broader than long.

Postpetiole with clearly defined, strongly striated middle field.

Abdomen longish, sharply pointed at the apex, the ovipositor distinctly projecting beyond last tergite. Second and third tergites strongly and densely punctured, punctures running into striae at base of second.

Gastrocoeli transverse, triangular, the interval distinctly broader than one.

Coxae III strongly and densely punctured all over without trace of scopula.

Ichneumon cessatorops Heinr.

Kasubazua sp. nov. ♀

Type locality:—Kazubazua, Quebec, Canada.

Holotype:—♀, F. A. Urquhart, 7.VI.37, C.N.C. No. 6405.

Agrees in morphology and sculptures exactly with *cessatorops cessatorops*, but differs in colour by the entirely white scutellum; the broad, white annulus of flagellum and the greater extent of yellowish red colour on inner orbits.

Second and third tergites with some obscure reddish tint on the discs.

Ichneumon gavisicolor spec. nov. ♀

Type locality:—Ft. Chimo, Quebec, Canada.

Holotype:—♀, R. H. MacLeod, 18.VI.1948, C.N.C. No. 6406.

A species distinctly characterised by its colour pattern and proportions of flagellum.

Black, flagellum, head and thorax white marked. Tergites 5-7 with conspicuous white marks. White are: the whole scutellum, squamulae, the entire broad upper margin of pronotum, collar, broad inner orbits from the upper part of face up to the top of vertex. Legs red, including trochantelli. Antennae black with broad, white annulus. Length 13 mm.

Head transverse, temple profile roundly and distinctly narrowed behind eyes, cheek profile considerably narrowed towards base of mandibles. The latter normal, the upper tooth a little prolonged.

Flagellum with 39 joints, stout and rather short, filiform, hardly attenuated at the apex, distinctly broadened and flattened beneath beyond the middle, 1st joint 1.3 times longer than wide at the apex, 4th joint seen from the side as long as wide, the broadest joint seen from the flat side almost twice as wide as long, all following joints except the end-cone transverse, joint 8-13 with white annulus.

Mesonotum rather strongly and densely punctured, shiny, without trace of notauli. Scutellum flat above, slightly raised above postscutellum.

Area superomedia longer than wide.

Postpetiole with clearly defined and distinctly aciculated middle field.

Gastrocoeli triangular, the interval little broader than one.

Abdomen sharply pointed at apex, the ovipositor extending distinctly beyond last tergite. Tergites 2 and 3 densely and strongly punctured, the punctures running into striae in the middle of 2nd tergite.

Coxae III strongly and densely punctured all over, shiny, sparsely hairy, without trace of scopula.

Ichneumon artemis Viereck ?

Origin:—*Cratichneumon artemis* Viereck, Ent. News 13, p. 87, March 1902.

Type locality:—Colorado.

Holotype:—Collection Am. Ent. Society, Philadelphia.

A specimen from Waterton Lake, Alberta was compared with the type by W. R. Mason and stated to be specifically identical. This specimen has dark tarsi III and no light mark on the inner orbits.

The Canadian National Collection contains about 12 further specimens differing but very little from the one mentioned above collected on different localities widely spread over the northern parts of Canada. Most of them have the tarsi III coloured yellowish red like the rest of the legs and the inner orbits marked with a reddish line. But there are also a few specimens represented with dark tarsi III and orbits, one of these from as far northeast as Labrador.

There are some very small morphological differences between the Canadian specimens especially in the degree of development of notaulics. I was unable however to find characters distinct enough for proving specific differences though I suspected the existence of the latter. The final solution of the problem has to be delayed until further material and information is available.

Patroclus walleyi spec. nov. ? ?

Type locality:—Smoky Falls, Mattagami River, Ontario, Canada.

Holotype:—♀, G. S. Walley, 16.VI.1934, C.N.C. No. 6407.

Allotype:—♂, from type locality, G. S. Walley, 8.VII.1934, in Canadian National Collection, Ottawa.

Paratypes:—2 ♀♀, Norman Wells, Northwest Territory, 17.VI and 21.VII. 1949, S. D. Hicks, and W. R. M. Mason; 1 ♀, Fort Smith, Northwest Territory, 27.V.1950, W. S. Helps; 1 ♀, Ogoki, Ontario, 26.VI.1952, J. B. Wallis; 1 ♂, Norman Wells, Northwest Territory, 30.VII.1949, W. R. M. Mason in Canadian National Collection, Ottawa; 1 ♀, from type locality, G. S. Walley, 12.VI.1934 in collection Gerd H. Heinrich, Dryden, Maine.

A distinct species reminiscent in colour pattern somewhat of the European *sputator* F. Differing from the latter by the very densely and strongly punctured, opaque mesonotum and the more narrowed, longer cheeks.

Female

Black.—Tergites 2-3 reddish yellow. All tibiae and tarsi and the knees I and II of the same colour. Antennae with a broad yellowish annulus on joints 3 or 4 or 5 to 11 or 12. Length 15-16 mm.

Male

Tegulae and squamulae yellow. Scape with a light spot beneath, in one specimen base of flagellum obscure reddish. Yellow colour of legs lighter and more extended: femora I entirely yellow, besides knees II also knees III yellowish. Light colour of tergites 2 and 3 somewhat darkened at the narrow apex and

sometimes base. In one specimen apex of postpetiole yellow. No annulus. Otherwise like female. Length 16 mm.

Female

Temple profile narrowed in straight line behind eyes, cheek profile strongly and in a straight line narrowed towards mandibles. The latter normal, the upper tooth but little longer than the lower.

Flagellum long, slender, strongly attenuated, with 40 joints, not broadened but distinctly flattened below beyond middle, first joint 2.7 times longer than wide at the apex, seen from the side about 12th joint as long as broad, the broadest joint seen from the flat side about as broad as long.

Mesonotum very densely and strongly punctured, opaque. Scutellum short, abruptly and deeply sloping down to the postscutellum.

Area superomedia great, subquadrate.

Postpetiole with sharply defined aciculated middle field, at the knee raised.