

# SYNOPSIS OF NEARCTIC ICHNEUMONINAE STENOPNEUSTICAE WITH PARTICULAR REFERENCE TO THE NORTHEASTERN REGION (HYMENOPTERA) — SUPPLEMENT 1

GERD H. HEINRICH,  
Dryden, Maine U. S. A.

## Résumé

Avec les descriptions originales présentées, trois espèces nouvelles, du genre *Ichneumon* viennent s'ajouter à la faune des hyménoptères nord-américains : *Ichneumon fulvipes*, *I. lacinae*, et *I. browniops*, toutes trois du Maine. Deux nouvelles sous-espèces de *Diphyus variegatus* (Cresson) y sont aussi décrites : *D. variegatus eximius* d'Alberta et de Colombie-Britannique ainsi que *D. variegatus orientis* du Maine.

La description originale des mâles de quatre espèces, jusque là connues seulement par les femelles, s'ajoute à ce travail. Il s'agit de *Coelichneumon nudus* Heinrich, *Ichneumon stagniphilus* Heinrich, *I. homorus* Heinrich et *I. feriens* Heinrich.

Après cette étude deux changements s'imposent à la nomenclature : ainsi *Coelichneumon tanna* Heinrich appartient désormais au genre *Syaspis* Townes (1965) et l'association de *Obtusa montana* Heinrich, femelle avec le mâle de *Ichneumon restrictus* Cresson, amène conséquemment la synonymie de *O. montana* à *I. restrictus*.

L'étude d'un matériel plus abondant a permis une critique réaliste de la variation chromatique des trois espèces suivantes : *Coelichneumon eximius* (Stephens), *Ichneumon trinus* Heinrich et *I. mendax* Cresson.

Ce travail est complété par de nouvelles données sur la biologie et la distribution de 13 espèces d'Ichneumoninae.

## Abstract

Three new species of the genus *Ichneumon* Linnaeus are added to the fauna of eastern North America : *Ichneumon fulvipes*, new species, *Ichneumon lacinae*, new species, and *Ichneumon browniops*, new species, all from Maine. Furthermore two new subspecies of the species *Diphyus variegatus* (Cresson) are named : *eximius*, new subspecies from Alberta and British Columbia and *orientis*, new subspecies from Maine.

To four species, originally based on the female sex only, *Coelichneumon nudus* Heinrich, *Ichneumon stagniphilus* Heinrich, *Ichneumon homorus* Heinrich, and *Ichneumon feriens* Heinrich, the associated males are described for the first time.

The species, *Obtusa montana* Heinrich ? was recognized as the associated sex of *Ichneumon restrictus* Cresson ♂, 1877, and consequently, the species name synonymized.

A chromatic variability greater than originally delimited has been found and discussed for the three species : *Coelichneumon eximius* (Stephens), *Ichneumon trinus* Heinrich, and *Ichneumon mendax* Cresson.

New biological observations or additions to the known ranges of distribution are given for 13 species.

The species *Coelichneumon tanna* Heinrich is transferred to the genus *Syaspis* Townes (1965).

The East American species *Diphyus coner* (Cresson), ♂, by mistake omitted in the author's *Synopsis of Nearctic Ichneumoninae*, is described and discussed in detail.

## Introduction

Eight years have gone by since the manuscript of my "Synopsis of Nearctic Ichneumoninae Stenopneusticae" was concluded. During these years a number of new species has been discovered, missing sexes have been found, and distributional records were completed. It is the aim of this publication to present all these new informations, as far as they contribute to our knowledge of the subfamily and represent valuable additions and corrections to the content of the synopsis mentioned above.

As it is planned to publish a special monograph on the Ichneumoninae of Florida in near future, the fauna of that state has been excluded here ; this exclusion comprehends the entire genus *Protichneumon* Thomson, which is going to be revised in the Florida monograph.

For the terminology and nomenclature used in this supplement see the introduction to the "Synopsis of Nearctic Ichneumoninae Stenopneusticae," p. 5-11.

The abbreviations used here also agree with the ones used in the Synopsis ; they are the following :

C.N.C.	Canadian National Collection, Ottawa, Ontario.
U.S.N.M.	United States National Museum, Washington, D.C.
A.N.S.	Academy of Natural Sciences, Philadelphia, Pa.
M.C.Z.	Museum of Comparative Zoology, Cambridge, Mass.
C.H.T.	Collection Henry Townes, Ann Arbor, Michigan.
G.H.H.	Collection Gerd Heinrich, Dryden, Maine.

One additional abbreviation will be used in this publication : S.N.I.S. for "Synopsis of Nearctic Ichneumoninae Stenopneusticae with Particular Reference to the Northeastern Region" by Gerd Heinrich, 1961-1963.

Certain changes in the tribal and subtribal classification of the Ichneumoninae published in my "Synopsis and Reclassification of the Ichneumoninae Stenopneusticae of Africa South of the Sahara" have been used in this publication.

tion. Consequently the sequence of genera will not agree completely with the generic sequence as appeared in S.N.I.S. The species, however, already in the latter monograph, as far as mentioned here (for completion or correction of the former treatment) are arranged in exactly the same sequence and under the same numbers as used in the S.N.I.S. New species named after appearance of the S.N.I.S. and quoted here will, in each genus, follow the section of references to species already treated in the S.N.I.S. under new numbers, subsequent to the last number used in the S.N.I.S. Species numbers given in parenthesis are quotations from S.N.I.S., numbers without parenthesis denote species not treated in the S.N.I.S.

### 1. Tribe *Protichneumonini*

#### PREAMBLE

The majority of species of this tribe is already fairly well understood and easily identifiable. Only the classification of the *Protichneumon* species and of the metallic-blue forms of the genus *Coelichneumon* Thomson still present considerable difficulties. These two groups (and also the metallic-blue *Platylabus* species) offer the greatest taxonomic problem within the north-american fauna of the Ichneumoninae. It will take many years, great patience, and relentless research before a clear diagnosis of the numerous species and subspecies of these groups will be achieved, and I doubt that this aim can be reached by the morphological approach alone without the support and confirmation based on biological characters. I recommend these groups and their taxonomic challenge to the attention of my successors, warning at the same time against rash synonymizations, which, if not based on new facts and proof, are apt to obscure the truth rather than to find it.

#### 1. Genus *Protichneumon* Thomson

The presentation of the speciation of this genus in North America, as given in my Synopsis of the Nearctic Ichneumoninae is incomplete. As a revision of the genus is planned for publication in the frame of a monograph on the Ichneumoninae of Florida, the treatment of the genus is omitted here.

#### 2. Genus *Coelichneumon* Thomson

##### [10.] *Coelichneumon nudus* Heinrich

*Coelichneumon nudus* Heinrich, 1961, S.N.I.S., p. 43-44, ♀ only.

#### Types

*Holotype*.—♀, U.S.N.M.

*Neotype*.—♂, North Berwick, southern Maine, U.S.A., July 1964.

C.G.H. II.

#### DISTRIBUTION

Georgia: Summerville (type locality).

#### NEW RECORDS

Southern Maine: North Berwick (1 ♀ and 4 ♂♂) and central Maine: Chesterville (♀).

#### ECOLOGY

Forests with admixture of oaks.

#### PREAMBLE

The female is chromatically characterized by metallic-blue basic color of the entire body including the thorax (which separates it at once from *eximius* Stephens) and by extensively white pronotal ridge, subalarum, collar, sides of scutellum, and orbits, combined with lack of white markings on the middle of mesoscutum and end of postpetiole. The white pattern of the female thus is similar to *leucographus* Heinrich, which differs clearly as a species by presence of a scopa (of moderate size) and particularly by considerably stouter femora.

The complete lack of any trace of a scopa on coxae III, now confirmed already in 3 specimens, represents an unique character among the blue-black species of northeastern America. It apparently can be considered as constant, the more so as the entire ventral surface of coxae III, including the area of the (lacking) scopa, is quite evenly (coarsely and densely) punctured.

The series of 4 males collected along with one female of *nudus* in North Berwick, can either belong to *magnificus* Heinrich or to *nudus*. The latter alternative seems to have the greater probability and is therefore assumed here. The most distinctive chromatic character of this male is the extensive white color of prescutellar carinae and of tegulae.

#### MALE

*Metallic-blue*; *white are*: mandibles (except their lower border and teeth), clypeus, fore (except part or most of median field), frontal orbits up to vertex, large marks on vertical orbits, outer orbits below temple region (the white band gradually widening below over the entire width of cheeks before mandible base), collar, pronotal ridge broadly, subalarum, tegulae entirely, prescutellar carinae entirely, sides of scutellum extensively, mark on exterior part of prepectus, dot on apex of mesoscutum, interior side of coxae I, apex of coxae II, apical margins of first trochanters partially, anterior side of femora I and of tibiae I and II, anterior side of femora II (except about basal third), anterior side of segments 1-4 of tarsi I and 1-3 of tarsi II, rarely a small dorsal mark on base of tibiae III and a mark on their exterior side beyond base; flagellum black, scape ventrally white; length 15-17 mm.

*Flagellum*.—With 44-45 segments and with small, narrow-oval tyloids on segments 8-20.

#### REMARK

Similar to the male of *sarsacus* Viereck, from which it differs by entirely white prescutellar carinae, tegulae, apex of cheeks (down to the base of mandibles), and ventral side of scape, while the first trochanters I and II are ventrally not white-marked.

#### (16.) *Coelichneumon eximius* (Stephens)

*Ichneumon eximius* Stephens, 1835, *Illustr. of Brit. Ent. Mandibulata*, 7, p. 486, f.

#### TYPES

*Holotype*.—♀, B.M., N. 3 b -1817.

*Neallotype*.—♂, C.G.H. II.

#### VARIABILITY

##### Female:

The scopa of coxae III is more or less distinct and not all too rarely entirely lacking, but in the latter case the region of the scopa is nevertheless indicated by fine sculpture and somewhat flattened surface of the coxa.

##### Male:

White markings on legs III variable, on outer side of femora III and tarsi III more or less extensive and sometimes entirely lacking, on outer side of tibiae III sometimes strongly reduced.

#### 3. Genus *Syspasis* Townes

*Syspasis* Townes, 1963, *Cat. Recl. Eastern Pal. Ichn.*, p. 603.

*Type species*.—*Ichneumon scutellator* Gravenhorst; monobasic.

##### 1. *Syspasis tauma* (Heinrich), new combination

*Coelichneumon tauma* Heinrich, 1951, *Bonner Zool. Beitr.*, II, p. 253, f.

*Coelichneumon tauma* Heinrich, 1961, *S.N.I.S.*, p. 57-58, f. 6.

#### TYPES

*Holotype*.—♀, Austria: Steiermark, 1100 m. C.G.H. II.

*Neallotype*.—♂, Ontario: Regan, C.N.C.

#### DISTRIBUTION

Holarctic; in North America: Ontario, Québec, Maine, New York, Minnesota.

#### NEW RECORD

South Carolina: Watasco, Pickens Co. C.H.T.

#### II. Tribe *Ichneumonini*

##### A. Subtribe *Ichneumonina*

#### 1. Genus *Ichneumon* Linnaeus

##### (11.) *Ichneumon stagniphilus* Heinrich

*Ichneumon stagniphilus* Heinrich, 1961, *S.N.I.S.*, p. 249-250, ♀ only.

#### TYPES

*Holotype*.—♀, C.G.H. II.

*Neallotype*.—♂, "Maine, U.S.A., Chesterville, 26.9.65." C.G.H. II.

#### DISTRIBUTION

Canada: near Ottawa, Ontario (type locality).

#### NEW RECORDS

Central Maine: Chesterville, Orono, and foot of Mt. Katahdin.

#### ECOLOGY

Confined to open spruce peat bogs with extensive growth of *Vaccinium* and *Sphagnum*.

#### FEMALE

The eleven specimens collected in Maine agree well with the original description and show a rather high degree of chromatic constancy, particularly in the yellow markings on tergites 1-2 and 6-7. None of them, however, has a yellowish middle of tibiae, the basic color of all tibiae being uniformly ferruginous. This character (perhaps caused by fading in the type specimen) consequently should be eliminated from the diagnosis of the species. The black basal band on tergites 3 and 4 is constant, although always more or less restricted on the 4th tergite. As in the male, at least the apex of tibiae II (rarely also of tibiae I) is ventrally black-marked and the 5th segment, sometimes segments 4 and 5, of tarsi III are slightly infuscated; collare sometimes yellowish-tinged;

in one specimen propodeum predominantly black, only areae dentiparæ ferruginous; the basal 3-6 segments of the flagellum are black with ferruginous apices or, rarely, predominantly so colored.

#### MALE

The association of the male described below seems to be sufficiently secure as both sexes were found at the same time only in the same, very special habitat.

Very similar to *canadensis* Cresson ♂ (as interpreted by Heinrich, 1961), but distinguishable by structure of the carina oralis which is fairly strongly raised before and shortly behind carinal junction, forming at this place a slightly projecting lamella. In addition two other, though more subtle, differences can be recognized: the hypopygium is slightly more protruding apically and the tyloids are slightly more elongate. Chromatically distinctive is the more or less extensive and intensive infuscation of the tarsi III combined with black apical marks on ventral side of tibiae I and II and with more or less extensive yellow marks on apices of areae dentiparæ.

Black, with extensive yellow markings; yellow are face, clypeus, frontal orbits, sometimes a small mark on low end of outer orbits, collar, subcollum, pronotal ridge (toward apex or for entire length), scutellum, postscutellum, more or less extensive marks on posterior part of areae dentiparæ (extending onto adjacent parts of areae posteroexternæ and spiracularæ), broad apical bands on tergites 1-4 (rarely the one on 4th tergite medially infuscated or interrupted), all trochanters, coxae I and II more or less extensively (except bases), exceptionally small mark on dorsal side of coxae III, tibiae and tarsi I and II (the tibiae except an apical black mark on ventral side, the tarsi usually except a moderate infuscation on apex of tarsi II), tibiae III (except broadly black apex and very narrowly, infuscated base), ventral side and apex of femora I, ventral side of femora II more or less extensively toward apex, metatarsus III except apex, and often base of second segment of tarsi III; segments 2 or 3 to 5 of tarsi III always more or less strongly and evenly infuscated or black; length 14-16 mm.

Flagellum.—With 35-37 segments, and with elongate, bacilliferous tyloids on segments 5-14, the longest (on segments 7-11) reaching almost to the bases and fairly close to the apices of segments. Black, ventrally light brown to almost orange; scape ventrally yellow.

#### (13.) *Ichneumon heterocampæ* (Cushman)

*Analytes heterocampæ* Cushman, 1933. U.S.N.M. Proc., 82, p. 2 ♀.

#### TYPES

*Holotype*.—♀, U.S.N.M.

#### DISTRIBUTION

Massachusetts, New York, New Jersey, Maryland, Ohio, Pennsylvania, Ontario.

#### NEW RECORDS

Central Maine: Chesterville, Mt. Blue (near Weld), Jefferson, Livermore.

#### ECOLOGY

Deciduous forests with admixture of oaks. Very common during the years 1966-1968.

#### FEMALE

The character "all tibiae medially yellowish" as given by Heinrich 1961 should be amended as follows: usually all tibiae, at least I and II, medially yellowish.

#### (17.) *Ichneumon tritus* Heinrich

*Ichneumon tritus* Heinrich, 1961, S.N.I.S., p. 256, ♀.

♂

*Holotype*.—♀, C.N.C., N° 7090.

#### DISTRIBUTION

Québec, Ontario, New York.

#### NEW RECORDS

Central Maine: Mt. Blue, near Weld (7 ♀♀ and one intersex, 29.VI.-30.VII., and hibernating).

#### FEMALE

Only two out of 7 specimens from Maine have ferruginous lateral lobes of mesoscutum as described in the original description. The description should be amended as follows: mesoscutum uniformly black or with ferruginous lateral lobes; seventh tergite with or without distinct yellowish apical mark.

The ferruginous markings of the head agree generally with the original description. Clypeus, frontal and vertical orbits are always ferruginous, sometimes also frontal orbits and middle of face; the outer orbits are usually only medially ferruginous, rarely entirely ferruginous or entirely black.

(26.) *Ichneumon terminatus* Provancher

*Ichneumon terminatus* Provancher, 1882, *Naturaliste can.*, XIII, p. 335, 357, ♀.

*Holotype*.—♀, Provincial Museum Québec.

## DISTRIBUTION

Québec (type locality), Ontario, Maine, Michigan.

## ECOLOGY

In central Maine the species was caught only on peat bogs where it also has been found in hibernation in the stump of a small tree.

## FEMALE

The number of flagellar segments of 6 specimens from Maine varied from 21 to 23.

The coxae are ferruginous, coxae III usually slightly to markedly infuscated.

(29.) *Ichneumon pusillamoenus* Heinrich

*Ichneumon pusillamoenus* Heinrich, 1961, *S.N.I.S.*, p. 272-273, ♀.

*Holotype*.—♀, C.G.H. II.

## DISTRIBUTION

Québec (type locality), Ontario.

## NEW RECORD

Maine: Mt. Blue near Weld; numerous females.

## ECOLOGY

Hibernates in Maine gregariously in mountain forests at moderate altitudes, always in moss covered stumps in humid locations as along forest brooks with grassy banks.

(35.) *Ichneumon maius* Cresson

*Ichneumon maius* Cresson, 1857, *Amer. Ent. Soc. Trans.*, 1, p. 307, ♀.

*Holotype*.—♀, A.N.S.

## DISTRIBUTION

Massachusetts (type locality), Québec, Ontario.

## NEW RECORDS

Central Maine: Chesterville (female); Livermore and Mt. Blue (females, hibernating).

## ECOLOGY

Found in Québec in vaccinatum on dry land, in Maine also on vaccinatum but on peat bog.

(69.) *Ichneumon feriens* Heinrich

*Ichneumon feriens* Heinrich, 1961, *S.N.I.S.*, p. 321-322, ♀ & ♂.

## TYPES

*Holotype*.—♀, C.G.H. II.

*Allotype*.—♂, C.G.H. II.

## DISTRIBUTION

Transcontinental in Transition and Canadian Zones.

## ECOLOGY

Found in all types of forests, deciduous as well as evergreen. In Maine one of the most common species.

## ♂ MALE

The male is distinguished by one structural character not mentioned in the original description: the oral carina is distinctly elevated, slightly less so than in *stagniphilos* Heinrich, slightly more than in *annulatorius* Fabricius. These differences are, however, too subtle to be used for distinguishing *feriens* ♂ from the two, otherwise very similar species. Here, as so often in the Ichneumoninae, certain chromatic characters are the most useful and trustworthy ones for identification. The male of *feriens* differs from *annulatorius* male and also from *stagniphilos* male by the ventrally, as well as dorsally deep black flagellum and by the white (ivory) instead of yellow color of the abdominal bands and other light markings. In addition the tyloids are shorter than in the two above-mentioned species, even the longest ones not reaching nearly to the bases of segments and leaving the apical third uncovered.

The light pattern is almost in all details identical with that of *stagniphilos*; the following are the only differences: lower part of pronotal base usually with an inconspicuous ivory mark or line; ivory mark on lower outer orbits more frequently present and tending to extend over the cheeks to the carina genalis, but almost never covering the entire apex of cheeks at mandible base; coxae I and II more extensively, often almost entirely ivory; ivory marks on propodeum, on the average, more extensive.

(70.) *Ichneumon homorus* Heinrich*Ichneumon homorus* Heinrich, 1961, S.N.I.S., p. 322-323, ♀ only.

## TYPES

*Holotype*.—♀, C.G.H. II.*Neallotype*.—♂ (described below), "Mt. Blue (Maine), U.S.A., 23. VII. 65." C.G.H. II.

## DISTRIBUTION

Québec (type locality), Ontario, Maine, Vermont, New Brunswick, New York.

## ECOLOGY

Forest; mixed with evergreens, particularly in moderate elevations; often together with *feriens* Heinrich.

## MALE

Until 1964 only a few specimens of this species have been collected in New England. In 1965 *homorus* suddenly appeared in great numbers in central Maine, where together with the females a male was frequently found; with all probability this male, as described below, is the associated sex. This hypothesis is also supported by chromatic characters, as the white bands of the abdomen of the male are confined to the second and third tergite, in a parallel to the strong reduction of the white markings on anterior tergites in the female.

Rather well distinguished by the combination of the following characters: (1) light markings are white (ivory) as in *feriens*, but restricted to apical bands on tergites 2 and 3 and sometimes small latero-apical marks on the postpetiole; (2) flagellum dorsally black, ventrally brownish or black; (3) tyloids on segments 4 or 5 to 12 or 13 very long, fairly narrow, the longest (on segments 6-10) nearly reaching to bases and apices of segments; (4) carina oralis not raised; (5) cheeks and propodeum uniformly black, first trochanters I and II at least dorsally black; (6) upper mandible tooth longer than usual as compared to the lower.

Black, with white (ivory) markings; white are: clypeus, face, almost always frontal orbits, mandibles except teeth, collar, subalarum, pronotal ridge (usually for whole length), tegulae predominantly, scutellum, postscutellum (at least apically), less than apical half of second tergite, more than apical half of third, sometimes latero-apical marks on postpetiole, interior side of coxae I, coxae II apically, all second trochanters, ventral side of first trochanters I and II, ventral side, apices, and extreme base of femora I and II, tibiae I and II (except black or infuscated apical mark on dorsal side), tibiae III except

about apical fourth, tarsi I and II, and metatarsus III except apex; sometimes restricted irregular whitish markings on apical half of 4th tergite; segments 2-5 of tarsi III predominantly black or blackish, rarely only slightly infuscated on dorsal side; flagellum black, usually ventrally brownish; length 15-16 mm.

*Flagellum*.—With 37-40 segments and with tyloids (as described above) on segments 4 or 5 to 12 or 13 or (rarely) 14. Black, usually ventrally brownish; scape ventrally white.

## REMARK

A population of males collected on a peat bog near Chesterville, Maine, agrees in every detail with the population from Mt. Blue (neallotype locality), but has constantly smaller and shorter tyloids.

(73.) *Ichneumon euryus* Heinrich*Ichneumon euryus* Heinrich, 1961, S.N.I.S., p. 325-326, ♀.*Holotype*.—♀, C.G.H. II.

## DISTRIBUTION

Ontario (type locality), Québec, Alberta, Northwest Territories.

## NEW RECORD

Central Maine: Mt. Blue (near Weld); hibernating, 1 ♀.

## DESCRIPTIVE NOTES

The specimen from Maine agrees with the holotype, except that it has a white apical dot on the 5th tergite also (as recorded already for a specimen from Alberta), and that the two lateral marks on the postpetiole are connected medially by a narrow white band.

(77.) *Ichneumon neomolitor* Heinrich*Ichneumon neomolitor* Heinrich, 1961, S.N.I.S., p. 325, ♀.*Holotype*.—♀, C.N.C., N° 7127.

## DISTRIBUTION

Alberta (type locality).

## NEW RECORD

Central Maine: Chesterville, ♀.



## ECOLOGY

One specimen (compared with type) on black spruce peat bog, a second hibernating in stump on border of bog.

## DESCRIPTIVE NOTES

*Female*: The two specimens from Maine are identical with the holotype from Alberta, except for the color of tarsi III, which are black (except base of metatarsus) and for the lack of the minute yellowish mark on facial orbits. These differences seem to be too subtle for subspecific separation of the eastern and western population. Number of flagellar segments in both specimens from Maine is 33.

(81.) *Ichneumon mendax* Cresson

*Ichneumon mendax* Cresson, 1877, Am. Ent. Soc. Trans., VI, p. 149, ♀.

## TYPES

*Holotype*.—♀, A.N.S.

*Neallotype*.—♂, C.G.H. II.

## DISTRIBUTION

Atlantic to 100° west in Transition and Upper Austral Zones.

## VARIABILITY

*Female*: Exceptionally the abdomen is not uniformly black but bears a small longitudinal apical white mark on the 7th tergite (1 ♀, Maine, Mt. Blue).

*Male*: According to description by Heinrich (S.N.I.S., 1961) the mesoscutum of the male is uniformly black; this is, however, not a constant character; 5 specimens from Maine (North Berwick and Chesterville) display two short median white lines on the mesoscutum.

(82.) *Ichneumon saucius* Cresson

*Ichneumon saucius* Cresson, 1864, Ent. Soc. Phila. Proc., III, p. 137, ♀.

## TYPES

*Holotype*.—♀, A.N.S.

♂ (*Ichneumon torvus* Cresson), A.N.S.

## DISTRIBUTION

Massachusetts to North Carolina, west to Michigan; Québec.

## NEW RECORD

Maine: Greenville (A.E. Brower, ♂ caught in night trap.)

(85.) *Ichneumon walleyi* Heinrich

*Ichneumon walleyi* Heinrich, 1961, S.N.I.S., p. 338, ♀.

*Holotype*.—♀, C.N.C., N° 7082.

## DISTRIBUTION

Ontario (type locality).

## NEW RECORD

Central Maine: Mt. Blue, at foot of the peak, ♀ hibernating in birch stump.

The specimen was compared with type and found to be indistinguishable from it.

92. *Ichneumon restrictus* Cresson

*Ichneumon restrictus* Cresson, 1877, Amer. Ent. Soc. Trans., VI, p. 109, ♂.

*Holotype*.—♂, New York, A.N.S.

This species has been transferred in this paper to the genus *Obtusodonta* Heinrich, with *Obtusodonta montana* Heinrich as synonym.

98. *Ichneumon differarum* Heinrich

*Ichneumon differarum* Heinrich, 1968, Naturaliste can., 95, p. 720-721, ♀.

*Holotype*.—♀, Central Maine, Mt. Blue, C.G.H. II.

*Female*: See description, loc. cit. 1968.

99. *Ichneumon lacupae*, new species

## TYPES

*Holotype*.—♀, "Dryden (Maine), U.S.A., hibernating", C.G.H. II.

## DISTRIBUTION

Central Maine: near Dryden (type locality).

## ECOLOGY

The female was found in hibernation, in a stump at the swampy border of a pond surrounded by forest.

## PREAMBLE

A smallish species with very short, stout femora and short, exactly filiform flagellum; related in general structure to *nigrovariegatus* Provancher, but somewhat larger and clearly different as a species not only in color but also by the structure of the flagellum, which is not in the least attenuated at apex, the apical segments being all markedly wider than long (in *nigrovariegatus* longer than wide).

Chromatically distinguished by bright yellow basic color of all tibiae, uniformly black thorax and coxae, with only the scutellum white, and by large apical white marks on tergites 6 and 7.

## FEMALE

Head and thorax black, scutellum white, frontal and vertical orbits narrowly ferruginous; abdomen tricolored: postpetiole and tergites 2 and 3 red, the latter with broad basal black band, tergites 4-7 black, and 6 and 7 with large apical white marks; legs black, including all coxae; all tibiae pale yellow, the apex of tibiae III broadly black, of tibiae II brownish; all tarsi pale ferruginous; flagellum tricolored, with pale ferruginous base and white annulus; length 10 mm.

Flagellum.—Short, exactly filiform, not the least attenuated apically, with 28 segments, the basal segments very short, the first about 1.3 times as long as apically wide, in lateral view the 4th square, the widest, seen on the flat side, about 1.5 times as wide as long, the last segments before the end-cone wider than long. Segments 1-5 light ferruginous, white annulus on segments 6-12 (ventrally faintly ferruginous-tinged), section beyond annulus black; scape and pedicel black, ventrally pale ferruginous.

Head.—Temple profile slightly curved and slightly narrowed toward mandible base; cheeks in lateral view broad and strongly convex; malar space a trifle shorter than width of mandible base; mandibles fairly wide, parallel-sided, with short, blunted apical teeth, the upper not much longer than the lower; clypeus short and wide, about 4 times as wide as medially long, shiny, with a few coarse, scattered punctures on basal part; median field of face and lower parts of lateral fields distinctly protruding; face coarsely, irregularly, and very densely, frons and vertex densely punctured. Black; clypeus obscure-ferruginous, frontal and vertical orbits narrowly light ferruginous.

Thorax.—Mesoscutum distinctly longer than wide, but clearly less elongate and wider than in *nigrovariegatus*, rather flat, moderately densely punctured; notauli obsolete; scutellum flat, not raised above postscutellum; area superomedial rectangular, markedly longer than wide, parallel-sided. Black, scutellum white, tegulae and collare dull ferruginous.

Legs.—Stout, similar in structure to *nigrovariegatus*; femora very short and thick, femora III in lateral view little more than 3 times as long as medially wide; coxae III ventrally on inner side finely and densely punctured, but without scopae; otherwise densely and moderately coarsely punctured. Color as described above; apical margin of first trochanters indistinctly whitish, all second trochanters ferruginous; all tibiae pale-ferruginous-tinged at the extreme base, tibiae I also apically pale-ferruginous-tinged.

Abdomen.—Elongate-oval; median field of postpetiole clearly defined, densely aciculate; gastrocoeli rather shallow, approximately triangular, the space between them about twice as wide as one of them. Color as described above; petiole predominantly black.

## REMARK

In the key to the females of the genus *Ichneumon* (Heinrich, S.N.I.S., 1961) this species runs to couplet 109, where it has to be separated from *hespius* Cresson chromatically by basic yellow color of tibiae and black color of all femora and coxae, and in structure by more abbreviated basal segments of flagellum, much stouter femora, tibiae, and tarsi, and wider temples and cheeks.

100. *Ichneumon browniops*, new species

## TYPES

Holotype.—? "Chesterville, Maine, U.S.A., 29.VIII.1966, peat bog." C.G.H. II.

## DISTRIBUTION

Central Maine: Chesterville (type locality).

## ECOLOGY

Black spruce peat bog, with dense cover of *Vaccinium*.

## PREAMBLE

The holotype has been compared with that of *browni* Heinrich (from Québec, Mt. Lyall, Gaspé, 1500 ft.). The two specimens are without doubt closely related, but obviously either subspecifically or specifically differentiated.



The latter hypothesis is tentatively accepted here. The following lists the differences between the two forms:

*browni* ♀

1. Femora III very stout, less than 3 times as long as medially wide (lateral view).
2. Flagellum exactly filiform, 3 segments before apical cone distinctly wider than long.
3. Propodeum uniformly black.
4. Head uniformly ferruginous.
5. Femora III laterally blackish-infuscated.
6. Flagellum without recognizable annulus.

*browniops* ♀

1. Femora III not quite that stout, more than 3 times as long as medially wide.
2. Flagellum not quite filiform, 3 segments before apical cone not wider than long.
3. Propodeum predominantly ferruginous.
4. Head extensively black.
5. Femora III black, except basal third.
6. Flagellum with recognizable, though not very distinct, dorsal white annulus.

*Female*

*Head* black with ferruginous median part of clypeus and with orbits broadly ferruginous around eyes, ferruginous on outer orbits extending almost over entire surface of cheeks; thorax ferruginous, except the following black: prosternum, mesosternum, prepectus, mesopleura (except ferruginous area of speculum and subalarum), propleura (except about upper third), sutures around propodeum, including areae coxales and base of carina metapleuralis; abdomen uniformly ferruginous; legs ferruginous, with the following black parts: apical two-thirds of femora III, apex of tibiae III, all coxae (except dorsal surface of coxae III), all first trochanters (except dorsal surface of trochanters III entirely and of trochanters I and II apically); flagellum tricolored, with narrow white annulus; length 9 mm.

*Flagellum*.—Subfiliform, distinctly tapering toward apex, with 32 segments, the first twice as long as apically wide, in lateral view the 8th square, none wider than long, including the last three segments before apical cone. Ferruginous, with dorsal white annulus on segments 9-12, the following 4 segments ferruginous, shading gradually into black, the rest black; scape black, apically ferruginous.

*Head*.—Temple profile moderately narrowed behind eyes, curved; cheek profile in front view distinctly narrowed toward mandible base, with almost straight outline; malar space somewhat longer than width of mandible base; mandibles normal; clypeus with a few scattered punctures; upper part of lateral fields of face transversely rugose and punctate, median field distinctly protruding,

coarsely and sparsely punctured; frons densely punctured, coriaceous between punctures, subopaque. Color as described above.

*Thorax*.—Mesoscutum slightly longer than wide, moderately strongly and densely punctured, finely coriaceous between punctures somewhat shiny; scutellum only slightly convex; area superomedia rectangular, somewhat longer than wide; costulae lacking. Color as described above.

*Legs*.—Fairly stout and short; coxae III very densely punctured on ventral side, without scopae. Color as described above.

*Abdomen*.—Fairly narrow, somewhat elongate; median field of postpetiole ill-defined, acuminate; gastrocoeli triangular, shallow, gradually narrowed and pointed toward middle of base of second tergite; the latter fairly strongly and very densely, the third tergite likewise very densely but slightly less strongly punctured, both coriaceous between punctures and moderately shiny. Uniformly ferruginous.

101. *Ichneumon hiltoni*, new species

## TYPES

*Holotype*.—♀, "U.S.A., Maine, Mt. Blue, 8.VII.1968," C.G.H. II.

## DISTRIBUTION

Central Maine: Mt. Blue, near Weld, Hilton-estate (type locality).

## ECOLOGY

Mountain meadow.

## PREAMBLE

A well distinguished species, related to *winkleyi* Viereck and *validopaeus* Heinrich, sharing with these two species the deep, transverse gastrocoeli and the bristle-shaped, long, and slender flagellum; from the latter species distinguished at once in head structure by the still more strongly narrowed and straight, not at all curved temple profile, and by the wider and deeper gastrocoeli, with narrow, acuminate space between them. Differs chromatically from *validopaeus* by white scutellum and distinct, large white anal marks on tergites 6 and 7. Agrees in structure of head and gastrocoeli with *winkleyi*, differing from that species by apically somewhat less strongly attenuated flagellum, the last three segments before apical cone of the latter being square and even a trifle wider than long (in *winkleyi* longer than wide), by somewhat shorter femora III, and by (at 60 times magnification) not punctured but only extremely finely

coriaceous fourth tergite; besides smaller in size and abdomen more elongate and slender than in *winkleyi*. In color different from *winkleyi* by almost uniformly light red head, predominantly red femora, and by presence of two large apical white marks on abdomen.

# FEMALE

*Head, mesoscutum, and abdomen (except large apical white marks on tergites 6 and 7) light ferruginous-red; scutellum white, rest of thorax black; all coxae black; rest of legs ferruginous, with restricted black markings; flagellum tricolored, with white annulus; length 10 mm.*

*Flagellum.*—Long, slender, bristle-shaped, apically strongly but not extremely strongly attenuated, with 32 segments, the first about 2.5 times as long as apically wide, in lateral view the 13th square, the widest barely wider than long, the three last segments before apical cone not longer than wide but rather a trifle wider than long. Tricolored: segments 1-6 light ferruginous, 7-12 with nearly complete white annulus, the 13th segment again light ferruginous, the following segments black, ventrally brown; scape light ferruginous.

*Head.*—In vertical view about three times as wide as medially long, the temple profile markedly narrowed behind eyes and practically straight; cheek profile in frontal view fairly strongly narrowed toward mandible base, barely curved; lower part of cheeks in lateral view moderately convex; malar space fully 1.5 times as long as width of mandible base; median field of face distinctly, lower parts of lateral fields slightly protruding; face moderately strongly and moderately densely punctured, very finely coriaceous between punctures; frons rather coarsely, irregularly, and densely punctured, finely coriaceous, subopaque. Uniformly ferruginous.

*Thorax.*—Mesoscutum fairly strongly and very densely punctured, finely coriaceous between punctures, somewhat shiny; notauli faintly indicated at the extreme base; scutellum a trifle convex, sparsely punctured; area superomedia approximately square; propodeum and pleura coarsely and very densely punctate or rugose-punctate, including speculum. Black, scutellum white; light ferruginous are: mesoscutum, about upper third of propleura, subalarum, tegulae, and collar, the latter faintly yellowish-tinged.

*Legs.*—Predominantly ferruginous, coxae black; blackish-infuscated are: all first trochanters entirely, femora III on exterior and interior side (except about basal third and apex); apex of tibiae III slightly infuscated.

*Abdomen.*—Somewhat elongate, gradually narrowed toward apex; postpetiole acuminate, with sharply defined median field; gastrocoeli large and deep,

with pronounced thyridia, triangular, strongly transverse, with very narrow, acuminate interspace; 2nd tergite coarsely and very densely punctured all over, coriaceous between punctures, slightly shiny, the 3rd tergite somewhat finer and toward apex not quite as densely punctured, likewise coriaceous between punctures and slightly shiny; the fourth tergite extremely finely coriaceous, without distinct punctation. Uniformly light ferruginous, tergites 6 and 7 with large, apical white marks, the one on the 6th tergite nearly triangular, with the anterior tip of the triangle reaching close to the anterior border of the tergite.

## 2. Genus *Patrocioides* Heinrich

### BIOLOGY

At the end of the treatment of *Patrocioides* (S.N.I.S., pp. 512-513) I mentioned that the collecting data suggest that females of this genus do hibernate, but that this fact could not be regarded as definitely proven yet. Since then undoubted proof has been found. In Europe, R. Hinz collected hibernating females of *Patrocioides chalybeatus* Gravenhorst, and in Maine I found a fair number of *Patrocioides perluctuosus* Prov. in hibernating quarters.

### B. Subtribe *Amblytelinae* Heinrich

## 1. Genus *Diphyus* Kriechbaumer

### PREAMBLE

The genus *Pseudamblyteles* Ashmead was synonymized by Townes in 1965 (Cat. Reclass. Pla. Ichn., p. 488). See also "Remarks" at the end of my treatment of the genus *Pseudamblyteles* in the S.N.I.S., 1961, p. 399.

### BIOLOGY

In the paragraph "Biology" I mentioned in the treatment of this genus (loc. cit., p. 399) that presumably all species may hibernate, pointing out, however, that many of them had never been found in hibernation. Since then, the final proof has been produced by R. Hinz in Germany that at least some species, among them the types species of *Pseudamblyteles*, do not hibernate. According to informations given to me by Hinz, he has raised the two (very closely related) species *palliatorius* Gravenhorst and *trifasciatus* Gravenhorst from caterpillars, which have been collected during the fall, before hibernation. I myself have found, on the other hand, several species (placed at present in *Diphyus*) hibernating during the early spring in stumps and logs. Such species were for example *indocilis* Wesmael (in considerable numbers) in Europe and *ornatus* Cresson, *flexilis* Cresson, *distinctipes* Heinrich, and *interstinctus* Heinrich in the Nearctic Zone (Maine). Hence, for the time being we have to accept

## DESCRIPTIVE NOTES

The two specimens from Maine agree completely with the original description, except that one of them has, in addition to the yellow markings mentioned in the original description, a small yellow mark on the lower end of the mesopleura as well as of the metapleura. The collar is yellow in one specimen, black in the other. The row of tyloids extends in one specimen to the 8th segment.

17. *Diphyus comes* (Cresson)

*Ichneumon comes* Cresson, 1854, Ent. Soc. Phil. Proc., III, p. 158, f.

## TYPES

*Holotype*.—♂, no locality. A.N.S., N° 946.1. (Sternites and hypopygium destroyed by dermestids)

## DISTRIBUTION

According to Townes ("Hymenoptera of America North of Mexico") 1951: New York, Pennsylvania, Delaware, Michigan.

## PREAMBLE

I failed to include this species in the S.N.I.S. by an oversight. It is treated therefore now in this supplement. The following description is based on the type specimen, which I examined recently, and on another specimen (from Pennsylvania) kindly given to me by H. Townes.

There is no doubt about the generic position of the two males and there is likewise no doubt that they match none of the female species newly named in the S.N.I.S. It seems possible to me that they belong to *bizonatus* Cresson as the associated sex, particularly as the latter species has a similar distribution. But this is so far a mere hypothesis without any proof.

## MALE

A fair-sized species, in general appearance similar to *robustus* Cresson, but somewhat smaller, and distinguished chromatically by extensively yellow-marked propodeum in combination with yellow markings on mesoscutum and mesopleura. Femora III rather long and slender compared with other, similarly sized and colored species of the genus.

Black; yellow are (among other parts): lateral-apical marks on postpetiole, more than basal half of second and the entire third tergite, longitudinal median lines on mesoscutum (confluent before scutellar region), marks on prescutellar carinae, scutella, apical part of pronotum extensively, and a more or less

extensive longitudinal band on lower half of mesopleura; legs predominantly yellow, the following black: femora III, apical third of tibiae III, femora I and II on posterior side in part, and coxae III nearly entirely; flagellum without annulus; length 18-19 mm.

*Flagellum*.—With 44 segments and with fairly narrow lanceolate tyloids on segments 7-19, the longest, on segments 10-15 reaching approximately to bases but not quite to apices of segments. Black, ventrally brown; scape ventrally yellow.

*Head*.—Temple profile moderately narrowed behind eyes, slightly curved; malar space more than half as long as width of mandible base; mandibles normal, the apical tooth large and pointed, the subapical tooth very small but distinct, moderately far removed from tip of mandible; frons, occiput, and cheeks rather coarsely and densely punctured, face slightly less so. Black, the following yellow: clypeus, face, frontal orbits up to vertex, mandibles except teeth, and a mark on cheeks at mandible base (not covering malar space).

*Thorax*.—Scutellum distinctly convex dorsally, markedly raised above postscutellum, truncate apically, with steeply downward curved apical slope; carination of propodeum very strong and complete except partially indistinct carinae coxales; costulae shortly behind middle of area supermedia, the latter slightly wider than long; areae dentiparae and posteromedia coarsely and irregularly, mainly transversely rugose; mesoscutum coarsely and, particularly on median lobe, very densely punctured. Black, the following yellow: collar, pronotal ridge, subalarum, tegulae, a small mark on lower end of propodeum, two longitudinal bands on mesoscutum (as described above), marks on prescutellar carinae, scutella, a more or less extensive longitudinal band on lower half of mesopleura, about apical half of areae spiraculariferae and dentiparae, areae posterexternae, and the upper part of area posteromedia.

*Legs*.—Femora III long and rather slender (much slenderer than for example in *flebilis* Cresson). Yellow; the following black: apical third of tibiae III, femora III, posterior side of femora I and II extensively, coxae III (except sometimes restricted yellow markings on ventral side at apex), bases of coxae I and II, and dorsal side of first-trochanters III basally.

*Abdomen*.—Postpetiole with distinct median field, strongly aciculate, the lateral fields apically also irregularly punctured; gastrocœli slightly longer than basally wide, with indistinct thyridia and distinct longitudinal ribs, the space between them longitudinally striate; rest of second tergite coarsely and very densely punctured, subopaque; hypopygium slightly, broadly, and bluntly produced apically, sternites 1-4 with plica. Color as described above; sternites 1-4 yellowish, 5-7 almost entirely black.

18. *Diphyus variegatus* (Cresson)

*Ichneumon variegatus* Cresson, 1864, Ent. Soc. Phila. Proc., III, p. 153, ♂.  
*Pseudanabylaster variegatus* Townes, 1951, Hym. Amer. N. of Mexico,  
 p. 294, ♂ (quotations until 1951; distribution).

*Holotype*.—♂, A.N.S.

## DISTRIBUTION

Colorado (type locality). (Alberta, British Columbia, Washington, New Mexico so far included in the range of the species will need confirmation in case of a revision of the complex).

## PREAMBLE

This is apparently the oldest named form of one of North America's most complex group of Ichneumoninae. Any attempt to advance the classification of this group has consequently to start with this species.

The most important morphological character of the above-mentioned group is probably the shape of the mandibles, which are seemingly unidentate, the subapical tooth being only weakly indicated by a small notch; this structure hints toward a relationship with the palaearctic genus *Triptognathus* Berthoumieu, but as the hypopygium of the males of the American group is normal, without the pointed projection characterizing *Triptognathus*, it can not be included in that genus.

The male of *variegatus* is supposed to be chromatically very variable, as Cresson indicated by his choice of the name, and later on (1877) mentioned again: "scarcely any two specimens being colored alike". I do not doubt a certain degree of variability of the *variegatus* males, but I suspect that the characteristic (tricolored) pattern of the abdomen of this species represents a kind of regional "uniform", displayed by a number of different species and subspecies of the (particularly western) *variegatus* group. If so, it will take much time, endeavour, and—last not least—caution to separate the forms involved, properly and correctly.

## MALE

(Description based on a homotype from Colorado in C.H.T.)

*Head and thorax black, with the following yellow parts*: clypeus, face, mandibles except tip, frontal orbits up to level with lower ocellus, collar, pronotal ridge (more broadly at tegulae than in front), subalarum, tegulae, scutellum, postscutellum, and an extensive W-pattern on propodeum covering

the upper half of area posteromedial, entire areae posteroexternae, apical half of areae dentiparae, and about apical third of areae spiracularae; abdomen tricolored, orange-ferruginous, yellow, and black; black are: first segment entirely, basal margin of second with gastrocoeli, apical margin of second tergite, and basal bands on tergites 3-5; tergites 4-7 and about apical third of second tergite ferruginous-orange, the rest yellow; legs yellow, the following black: femora III and coxae III entirely, base of coxae I and II extensively, dot on dorsal and ventral side of first trochanters III, and apex of tibiae III; tarsi III orange-tinged; flagellum without annulus; length 15 mm.

*Flagellum*.—With conspicuous, almost parallel-sided (= "beam-shaped") tyloids on segments 7-20, the longest, on segments 10-15, reaching from bases to apices of segments. Black; scape ventrally yellow.

*Head*.—Malar space fully as long as width of mandible base; face and clypeus strongly and fairly densely punctured; frons coarsely and very densely (partially rugose-) punctate, with faint indication of longitudinal median depression; notch indicating lower mandible tooth no. very far removed from tip of upper tooth: about as far as width of upper tooth at notch (the constancy of this character has still to be confirmed, as it may be the consequence of wear of the mandible).

*Thorax*.—Scutellum rather strongly convex, distinctly raised above post-scutellum; area superomedial large, approximately square (a trifle longer than wide); carination strong and complete, only costulae and carinae coxales indistinct; areae coxales coarsely longitudinally rugose.

*Legs*.—Femora III comparatively long and fairly slender, distinctly and densely punctured all over, except on the narrow ventral stripe; metatarsus I ventrally on exterior side rather distinctly flattened and toward apex concave, its exterior apical corner thus distinctly projecting in dorsal view. Color as described above.

*Wings*.—Nervulus slightly postfurcal; areolet pentagonal; radius long, very slightly sinuate. Practically clear.

*Abdomen*.—Median field of postpetiole strongly aciculate, lateral field rugose and punctate; gastrocoeli shallow, small, about twice as long as medially wide, with a few longitudinal ribs and with faint indication of very narrow thyridia; space between gastrocoeli shortly longitudinally rugose; rest of second tergite and tergites 3-4 finely and very densely punctured, opaque, the following tergites more finely and less densely punctured, coriaceous between punctures, slightly shiny.

18 b. *Diphyus variegatus euxoae*, new subspecies

## TYPES

*Holotype*.—♀, Canada: Alberta; ex *Euxoa ochrogaster*. C.G.H. II.

*Allotype*.—♂, Canada: Alberta; ex *Euxoa ochrogaster*. C.G.H. II.

*Paratypes*.—1 ♂, 2 ♀♀, same data; 1 ♀, British Columbia, ex *Euxoa messeria*. C.G.H. II.

## DISTRIBUTION

Canada: Alberta (type locality); British Columbia.

## PREAMBLE

This form holds a key position in the classification of the *variegatus* group as it is the only one in which both associated sexes are known beyond a shadow of a doubt, males and females being reared at the same locality and time from the same host. Unfortunately the males, although extremely similar to the holotype of *variegatus*, are not completely identical with it. This circumstance, combined with the fact that the female of *variegatus* is still unknown, makes the taxonomic position of this form rather precarious. I have chosen to treat it tentatively as a subspecies of *variegatus*, although the subtle differentiating characters of the males may turn out to be within the limits of individual rather than geographical variability of this species, or, on the contrary, the discovery of the female of *variegatus* may indicate specific distinction.

## FEMALE

Morphologically distinguished by the long, usually slender, not only bristle-shaped but also almost bristle-thin flagellum, combined with the long and fairly slender, seemingly unidentate mandibles, with rudimentary subapical tooth far removed from tip of mandible. Chromatically characterized by lack of a distinct white annulus on the flagellum and by predominantly ferruginous color of the entire body with restricted black markings on thorax and abdomen only, almost none on the legs and on the head.

*Ferruginous, with black but without white or yellow markings; black are: small mark on antennal concavity, ocellar triangle, narrow band or small marks on middle of pronotum, posteriorum in varying extent (sometimes only basal third, often entirely), prepectus entirely, mesosternum (usually except mark along sternauli or space between sternauli and mesopleura), longitudinal band on uppermost part of mesopleura (including area of speculum), lower hind corner of mesopleura, basal furrow of scutellum, basal furrow of propodeum (laterally down at least to coxae II, the black band sometimes extending all around propodeum to base of petiole), lateral slopes of scutellum, anterior tip of mesoscutum and its narrow lateral margin at and before tegulae, base of coxae*

*III on ventral side, ventral side of petiole, and narrow median basal bands on tergites 3 and 4, sometimes 2-4; flagellum light ferruginous with blackish apical section; length 10-14 mm.*

*Flagellum*.—As described above; with 48-50 segments, the first somewhat less than 3 times as long as apically wide, in lateral view about the 12th square, the widest, seen on the flat side, also approximately square, more than 20 segments, counted from the end, very narrow and distinctly longer than wide. Segments 1 to about 16 pale ferruginous, the rest blackish; scape ferruginous.

*Head*.—Temple profile moderately narrowed behind eyes, nearly straight, as is also the cheek profile in front view; malar space approximately as long as width of mandible base; cheeks in lateral view fairly wide, their lower part moderately convex; carina genalis subparallel to posterior margin of eyes, meeting carina oralis shortly before mandible base in a distance equal to nearly half the width of the latter; mandibles as described above; median field of face distinctly, lower parts of lateral fields slightly protruding, the former well separated from clypeus by transverse depression; clypeus a trifle convex; face and clypeus fairly coarsely and densely punctate, frons densely, mainly transversely rugose and irregularly punctate.

*Thorax*.—Notauli basally faintly indicated by a shallow depression, sternauli scarcely indicated; mesoscutum distinctly and moderately densely punctured, smooth and shiny between punctures; scutellum finely and sparsely punctured, shiny, somewhat raised above postscutellum; carination of propodeum prominent and complete except carinae coxales; area superomedia longer than wide, usually with parallel sides and approximately rectangular; lower part of propleura and of metapleura coarsely longitudinally rugose; upper part of mesopleura coarsely and moderately densely punctured, shiny, the lower part coarsely and very densely punctured, the punctures running into irregular longitudinal striation; the small speculum sparsely punctured and shiny.

*Abdomen*.—Oval, second tergite apically wider than medially long, the third tergite at least twice as wide as long; median field of postpetiole delimited, densely aciculate, lateral fields also aciculate; gastrococci small and shallow, with longitudinal ribs and narrow, fairly indistinct, thyridia, their interspace finely longitudinally striate; rest of second tergite uniformly moderately finely and extremely densely punctured, opaque, the third tergite more finely and toward the end less densely punctured, finely coriaceous between punctures, subopaque; the fourth tergite sparsely and extremely finely, toward the end indistinctly (60 x magnification) punctured and extremely finely coriaceous, somewhat shiny.

## Male

Differs chromatically barely from *variegatus* by black color of less than basal half of posterior side of femora I and II, by yellow parts on tergites 2 and



3 only indistinctly yellow-tinged and by black basal bands on tergites usually including the 6th tergite. Besides, the row of tyloids is longer and the rudimental lower mandible tooth is markedly further removed from the tip of the upper tooth than in the examined homotype of *variegatus*. The distinctive value of all these characters will depend upon the confirmation of their constancy in *variegatus*.

**Flagellum.**—With 48 segments and with conspicuous, parallel-sided (= "beam-shaped") tyloids on segments 6 to 22 or 23, the longest, on segments 8-21, reaching from bases to apices of segments. Black, scape ventrally yellow.

18 c. *Diphyus variegatus orientis*, new subspecies

#### TYPES

**Holotype.**—♀, "Mt. Blue, Maine, U.S.A., 4.VII.1968." C.G.H. II.

#### DISTRIBUTION

Maine: Mt. Blue, near Weld.

#### PREAMBLE

This is the first and only specimen of this species I have seen from eastern North America. Its specific identity with *variegatus euxaiae* Heinrich seems to be indubitable, the subspecific difference from that form being only slight. The relationship to *variegatus variegatus* from Colorado remains unknown until topotypical females of the latter form and/or males of *orientis* will be found. So far no male comparable with *variegatus* has been discovered in eastern North America, a fact which suggests to me that the male of *orientis* may be chromatically quite different from *variegatus*.

#### FEMALE

Flagellum still a trifle slenderer than in *variegatus euxaiae*, otherwise in structure and sculpture identical with that subspecies. Differs chromatically from the latter subspecies by less extensive black markings, particularly on the thorax, the mesosternum being almost entirely ferruginous, and furthermore by black apex of tibiae III.

**Ferruginous, with black but without white or yellow markings; black are:** ocellar region, small spot on each side of pronotum on epomiae, extreme base of prosternum, prepectus (except broadly ferruginous exterior belt all around), median furrow of mesosternum, a mark before coxae II, a short band on posterior, uppermost part of mesopleura (surrounding speculum), basal furrow of scutellum, basal furrow of propodeum (the black stripe continuing laterally around areae coxae), lateral slopes of scutella, a minute band on anterior median border of mesoscutum, very narrowly exterior margin of mesoscutum

at tegulae, base of coxae III on ventral side, ventral side of petiole, apex of tibiae III, narrow basal and apical bands on tergite 2 and the extreme base of tergite 3 in the middle; length 13 mm.

**Flagellum.**—Extremely slender, with 46 segments, the first slightly less than 3 times as long as apically wide, in lateral view the 16th approximately square, on the flat side all segments longer than wide. Segments 1-14 pale ferruginous, the rest black, scape ferruginous.

**Head, thorax, legs, and abdomen.**—Structure and sculpture as described for *variegatus euxaiae*; color as described above.

#### References

- HEINRICH, Gerd H., 1960. Synopsis of Nearctic Ichneumoninae Stenopneusticae with Particular Reference to the Northeastern Region (Hymenoptera). Part I. Introduction, Key to Nearctic Genera of Ichneumoninae Stenopneusticae, and Synopsis of the Proichneumonini North of Mexico. *Can. Ent.*, 92, Suppl. 15, 5-87.
- HEINRICH, Gerd H., 1960. Synopsis of Nearctic Ichneumoninae Stenopneusticae with Particular Reference to the Northeastern Region (Hymenoptera). Part II. Synopsis of the Ichneumonini: Genera *Orgichneumon*, *Cratichneumon*, *Hamotherus*, *Acutichneumon*, *Spilichneumon*. *Can. Ent.*, 92, Suppl. 18, 91-205.
- HEINRICH, Gerd H., 1961. Synopsis of Nearctic Ichneumoninae Stenopneusticae with Particular Reference to the Northeastern Region (Hymenoptera). Part III. Synopsis of the Ichneumonini: Genera *Ichneumon* and *Thyrateles*. *Can. Ent.*, 93, Suppl. 21, 209-358.
- HEINRICH, Gerd H., 1961. Synopsis of Nearctic Ichneumoninae Stenopneusticae with Particular Reference to the Northeastern Region (Hymenoptera). Part IV. Synopsis of the Ichneumonini: Genera *Chasmodon*, *Neamblymorphus*, *Anisopygus*, *Limerodops*, *Eupalamus*, *Tricholabus*, *Pseudamblysternus*, *Eucamptus*, *Ctenichneumon*, *Exephanes*, *Ectoplamus*, *Pseudamblysternus*. *Can. Ent.*, 93, Suppl. 23, 371-505.
- HEINRICH, Gerd H., 1961. Synopsis of Nearctic Ichneumoninae Stenopneusticae with Particular Reference to the Northeastern Region (Hymenoptera). Part V. Synopsis of the Ichneumonini: Genera *Protopelmus*, *Pterocloides*, *Probolus*, *Stenichneumon*, *Aoplus*, *Limnephilus*, *Hybophorellus*, *Rubicundiella*, *Melanichneumon*, *Stenobarichneumon*, *Platylabus*, *Hoplisomus*, *Hemithoplis*, *Trigonotoma*. *Can. Ent.*, 93, Suppl. 26, 509-671.
- HEINRICH, Gerd H., 1962. Synopsis of Nearctic Ichneumoninae Stenopneusticae with Particular Reference to the Northeastern Region (Hymenoptera). Part VI. Synopsis of the Ichneumonini (Genus *Piezotrypes*), *Acanthopimpla*, *Listrodromini* and *Platylabini*. *Can. Ent.*, 93, Suppl. 27, 677-802.
- HEINRICH, Gerd H., 1962. Synopsis of Nearctic Ichneumoninae Stenopneusticae with Particular Reference to the Northeastern Region (Hymenoptera). Part VII. Synopsis of the Trogini Addenda and Corrigenda. *Can. Ent.*, 94, Suppl. 29, 803-886.
- PECK, Oswald, 1964. Synopsis of Nearctic Ichneumoninae Stenopneusticae with Particular Reference to the Northeastern Region (Hymenoptera). Part VIII. Addenda and Corrigenda, Host-Parasite List and Generic Host Index. Index to Ichneumonid Names. *Mem. ent. Soc. Can.* No. 35, 889-925.