SYNOPSIS OF NEARCTIC ICHNEUMONINAE STENOPNEUSTICAE
WITH PARTICULAR REFERENCE TO THE NORTHEASTERN
REGION (HYMENOPTERA). SUPPLEMENT 3

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Résumé

Un nouveau genre Terebraella est décrit dans ce travail ainsi que son espèce-type culicicoporum n. sp.


À l’espèce Neolinycus michaelis Heinrich, connue jusqu’à maintenant par la femelle, s’ajoute une description du mâle. L’aire de distribution de Barichneumon ibens Cresson, s’étend à la Florida et aux états voisins du sud-est. L’association de la femelle avec le mâle de cette dernière espèce faite par Heinrich [SNIS, p. 627] est arronie et une autre femelle a été désignée et décrite. Le statut taxonomique de Barichneumon sorea Heinrich est mis en doute. L’exactitude de l’association des sexes pour cette espèce est discutée et deux hypothèses possibles sont formulées. Pour la première fois, une clé de toutes les espèces néarctiques appartenant au genre Barichneumon Thomson est présenté. Ce travail est complété par une clé des espèces du genre Melanichneumon Thomson rencontrées dans le sud-est de la région néarctique.

Abstract

A new genus Terebraella is introduced, with culicicoporum, new species, as the type-species.

To the Nearctic fauna are also added 14 species and 5 subspecies from the southeastern United States, and one species from New York.

The new species and subspecies are: Protichneumon radtkearum, Ichneumon weemsi, Eutanyatra nigratarsis, Barichneumon archboldi, B. danielli, B. carolinensis, B. floridanus, B. fuscosignatus, B. neosorex, Melanichneumon mystificans, Vulgichneumon pheogenops, Craticheumon floridensis, C. exers, C. valdefuscus, C. horani; Barichneumon calliandros peramoenus, Melanichneumon honastus milleri, M. disparitis flavipods, Neolinycus michaelis georgianus, Craticheumon exers circumflavidus.

To the species Neolinycus michaelis Heinrich, based originally on the female sex only, the associated male is described.
Introduction

This third supplement to the "Synopsis of Nearctic Ichneumoninae Stenoneusticae with particular reference to the Northeastern Region" comprises the fauna of the Southeastern United States; it consequently alters the regional restriction originally indicated in the title of the Synopsys, adding the Southeast to the region of "particular reference".

The supplement complements our knowledge of the Nearctic Fauna substantially by the addition of 15 new species and 3 new subspecies; these new findings are the result of a special project carried out by the author over a period of five years, with the support of the Bureau of Entomology (Florida Department of Agriculture), Gainesville, Florida. The aim of the project was, and remains, the exploration of the fauna of Florida primarily, and of the neighboring States, west to Louisiana, as well. A comprehensive synopsis of all species occurring in these regions is planned for publication in the series "Arthropods of Florida and the Neighboring Land Areas" after conclusion of the project. I would like to express my appreciation and gratitude for all the support granted to me for the execution of the project.

1. Tribe Protichneumonini

Continuation of Supplement 1, Naturaliste can., 96, p. 937-940 and of Supplement 2, Naturaliste can., 98, p. 959-1026.

1. Genus Ichneumon Linnaeus

As already mentioned in Supplement 1 and 2, a revision of this genus in the frame of a monograph on the Ichneumoninae of Florida is waiting for publication. The genus is therefore not treated here, except for the description of the following, new species.

8. Protichneumon radtkoerum, new species

Types

Holotype.—♀, "Fort Myers, Florida, U.S.A., 1.V.1968." C.G.H. II.

Allotype.—♂, same locality, 2.VII.1967. C.G.H. II.

Paratypes.—9♀, 52♂, same locality, 2.IV.-9.VIII. 1967 and 1968. C.G.H. II.

Distribution

From Florida north to Virginia and Maryland; sporadic records from Pennsylvania and New York; west to Kansas (Lawrence).

Preamble

Shares with grandis Brullé and sartoris Heinrich the extremely coarse and dense sculpture of tergites 1-4 and the general color pattern. For the differences from sartoris see Supplement 2 (Naturaliste can., p. 962). Very similar in appearance and color to grandis and sympatric with that species over most of its range. Neither females nor males ever display a white mark on the apical part of scutellum, as occurs frequently in grandis; otherwise there are no tangible chromatic differences, particularly in females. Females are to be distinguished from grandis by the following structural characters: (1) femora III considerably more slender and elongate; (2) temple profile markedly narrowed behind eyes, with nearly straight outline; (3) basal segments of flagellum completely cylindrical (that is, not in the least swollen apically) and slightly more elongate; (4) the widest segment of flagellum on the flat side only slightly more than twice as wide as long [in grandis more than 3 times as wide as long].

Female

Black, including legs and first segment of abdomen; rest of abdomen dark brown-red; wings uniformly and very deeply infuscated; white only: anterior side of tibiae I, minute marks on vertical orbits and usually indications of small marks on upper frontal orbits. Level with lower ocellus; rarely (in northern specimens) a small white mark on upper facial orbits; marks on orbits varying from white to dull-redish; flagellum with white annulus; coxae III with scopo; length 25 mm.

Male

Shows the same dark color as the female, with always entirely black scutellum and usually entirely black legs III. It is distinguished by the tyloids being elliptic, rather long and somewhat broader than in most other species.

II. Tribe Ichneumonini

A. Subtribe Ichneumonina

Continuation of Supplement 1, Naturaliste can., 96, p. 940-954 and of Supplement 2, Naturaliste can., 98, p. 955-1026.

1. Genus Ichneumon Linnaeus

98. Ichneumon weemsi, new species

Types


Distribution

Florida.

Preamble

Females of this species are closely related in structure of mandibles and other characters to creperus Cresson; they differ as follows: (1) coxae III with distinct scopo; (2) basal segments of flagellum distinctly less abbreviated; (3) tergites more densely punctured, the third completely opaque; (4) femora III less stout; (5) wings distinctly, though not strongly infuscated.

Female

Ferruginous: the following black: prosternum, sometimes also mesosternum, base of propodeum (particularly laterally), all coxae and trochanters ventrally extensively to entirely, broad basal bands on tergites 3 and 4, usually petiole, apex of tibiae III broadly, and the tarsi III predominantly: scutellum faintly yellow-tinted; wings somewhat infuscated: flagellum tricolored, with dorsal white annulus; coxae III with distinct scopo; length 11-14 mm.

Male

Head black, with frontal orbits narrowly, outer orbits broadly, and face and clypeus entirely yellow; thorax black.
including entire mesosternum, mesopleura, and mesoscutum (the latter sometimes with short, lateral, yellow stripes at tegulae); propodeum with entire declivity yellow, including most of area superomedia and of areae dentiparae and parts of areae spiracularia; yellow are also: collarae, pronotal ridge and base, subalarum, tegulae, and scutella; legs I and II almost entirely yellow and light ferruginous, with only coxae basally restricted black; legs III with most of coxa and femora and broad apices of tibiae black, their tarsi infuscated toward apex; abdomen black, with apical yellow bands on tergites 1-5, the 6th tergite apically and the 7th entirely ferruginous; flagellum without annulus, basally and ventrally ferruginous; length 13-15 mm.

B. Subtribe Amblytline

Continuation of Supplement 1, Naturaliste can. (1969, 96, p. 954-963) and of Supplement 2, Naturaliste can. (1971, p. 969-1026).

Genus Eutanyatra Cameron

18. Eutanyatra melanotarsis, new species

Types


Paratypes.—2♀, type locality, 14. and 17.VI.1971. C.G.H. II.

Distribution

Louisiana (type locality): Florida [1 ♂, Jacksonville, 22.XII.1967, leg. C.F. Zeiger].

Preamble

One of the numerous species of the genus with ferruginous basic color of the body and black-banded abdomen. Females are well distinguished from the majority of similar species by considerably swollen temple profile and cheek profile, distinctly (though not as strongly as in succincta Brullé) infuscated wings, and by broadly black apices of femora and tibiae III combined with uniformly deep black tarsi III; they are consequently most closely related to valdicesis Heinrich and may well represent the southern vicarious form of that species. There are, however, the following, tangible differences from valdicesis: (1) all femora distinctly slenderer and comparatively longer; (2) basal segments of flagellum comparatively longer; (3) tarsi III uniformly deep black; (4) wings distinctly infuscated. On account of these differences this form is treated here as a full species rather than a subspecies of valdicesis.

Ferruginous; the following black: base of propodeum, sutures of axillary troughs and basal furrow of propodeum narrowly, basal margin of 2nd tergite and/or gastrocoeli, broad basal band on 3rd tergite, end of femora III, more than apical third of tibiae III, and the tarsi III; flagellum tricolored: ferrugineous, dorsal annulus white, black beyond annulus; wings moderately infuscated; length 12-13 mm.

Flagellum.—Bristle-shaped, long and slender, not widened beyond middle, with 38-39 segments, the first 2.5 times as long as apically wide, in lateral view the 6th square, none wider than long. Ferruginous, with dorsal white annulus on segments 6 or 7 to 11, apical section from the 14th segment on black; scape ferruginous.

Male

The male differs from valdicesis only by lack of black markings on head and sternum; tarsi III, in contrast to female whitish, as in valdicesis; wings barely infuscated; the 4th tergite also, with basal black band.

Ferruginous: scutellum and basic color of all tibiae and tarsi yellowish; more than apical third of tibiae III and the end of femora III black; tergites 2-4 with basal black bands, the one on the third tergite broader than the others; wings barely infuscated; length 13 mm.

Flagellum.—Lacking in allotype.

Note

In the specimen from Florida, the flagellum is light ferruginous, black beyond the 15th segment, segments 3-7 dorsally black.

As in this specimen, in contrast to allotype, the face, clypeus, apical part of metepilepleura, subalarum, and a band on anterior part of metepileplura are pale yellow, it may well represent another subspecies.

C. Subtribe Craticheumona

(Continued from Supplement 2, Naturaliste can., 96, 1971).

Genus Craticheumona Thomson

(Continued from Supplement 2, Naturaliste can., 96, 1971).

55. Craticheumona valdlescus, new species

Types


Distribution

Eastern U.S.A. from New York south to Central Florida and west to Louisiana.

Biology

Ecologically restricted to lowland forests with dense undergrowth. Has in the Southeast two generations, with the first peak of frequency at the beginning of May, the second in October.

Preamble

A very distinct species of medium to fairly large size. Males are chromatically well distinguished by (with very rare exceptions) almost entirely black color of anterior or most tergites, the first one being always apically narrowly white-banded (the following tergites with pale brownish or fulvous apical margins); they are in general appearance rather similar to southern populations of variegatus Provancher, but can be easily distinguished from that species by examination of tyliodes and clypeus, the former being narrow and bacalliform (instead of broadly-oval), the latter not being dimpled-shaped-concave as a whole, but being only a small apico-median cavity.

Females display, as the males, uniformly fulvous (pale ochreous) tibiae III, without a trace of a yellow mark on annulus, but, in contrast to the male,
only the first tergite is black (with an apical, ivory band). They thus approach in color of legs variegatus on one side, and in color of abdomen gracilior Heinrich, paraparatus Heinrich, and subtilatus Heinrich on the other. They are clearly distinguished from variegatus by not widened beyond middle and barely attenuated at apex flagellum, by narrower temples and cheeks, and by uniformly black mesopleura. They differ from paraparatus by the distinctly, though only moderately densely and moderately strongly punctured 2nd tergite and also by the more slender flagellum, from gracilior by presence of a very distinct scopa on coxa III. Specimens are most closely related to subtilatus, differing only slightly by a trifle more slender flagellum, but can easily be distinguished by chromatic characters, in the first place by the ivory apical band of postpetirole (never occurs in subtilatus) and furthermore by the complete lack of a yellowish mark on tibiae III and by the almost uniformly black face, clypeus, cheeks, and outer orbits.

Male
Head and thorax dorsally black, with extensive white markings, ventrally predominantly white; mesoscutum with large, median white mark, propodeum with white W-pattern; all femora fulvous, without black parts; all tibiae orange-tinted fulvous, without black or yellow or ivory marks; all tarsi yellowish-white; upper surface of abdomen predominantly black; postpetirole with apical ivory band and lateral surfaces; the following tergites, usually at least tergites 2 and 3, with narrowly fulvous, sometimes yellowish-tinted, apical and lateral margins; the extent of apical fulvous bands on the following tergites gradually increasing, at least the last two tergites entirely or predominantly fulvous; flagellum with white annulus; length 12-17 mm.

Female
(Description based on allotype.) Head and thorax black, only the following white: small spots on upper end of facial orbits, upper part of frontal orbits fairly broadly, band on temples and vertical orbits, collar, pronotal ridge, subalarum, scutellum, median mark on mesoscutum (smaller than in variegatus), areae posteroexternae together with apices of areae spiraculariae and base of carina metapleuris; abdomen light ochreous, only the first tergite black, with apical ivory band; femora and tibiae uniformly fulvous, without black or yellow (ivory) marks; tarsi yellowish-tinted; flagellum with complete broad white annulus; length 13-15 mm.

Flagellum
Of male: with 37-43 segments and with narrow, almost parallel-sided, elongate-oval tyloids on segments 5 or 6 or 7 to 14 or 17, the longest on segments 7 or 8 to 12 or 13 almost reaching from bases to apices of segments. Black, with complete white annulus on segments 13 or 14 to 24 or 25, sometimes even to 29; scape ventrally white, rarely only marked with white.

Of female: subtiliform, barely widened beyond middle, only a trifle tapering toward apex, with 36 (paratype) to 41 (allotype) segments, the first fully twice as long as apically wide, the 8th in lateral view square, the widest on the flat side barely wider than long. Black, with complete white annulus on segments 8-18 or 20.

56a. Cratichneumon expers, new species

Types
Holotype.—9. "Tall Timber Research Station, Tallahassee, Florida, 7-17 May 1968". C.G.H. II.

Allotype.—♀, Gold Head Branch Station Park, Florida, 27.IV.1971. C.G.H. II.


Distribution
Northern Florida.

Preamble
This species is particularly distinguished by a strongly abbreviated propodeum, a character it shares with the rubricus-group. Otherwise females are in structure and color similar to gracilior Heinrich, the two species having a subbristled-shaped, fairly long and slender (contrasting with rubricus) flagellum, lacking the scopae, and having a punctured 2nd tergite: differing clearly from gracilior by considerably more swollen temple— and cheek profiles, by the strongly abbreviated propodeum, and by less attenuated apical section of flagellum. In color also similar to paraparatus Heinrich, but distinguishable from this species (in addition to the different structure of propodeum and flagellum) at once by distinct and dense punctuation of 2nd tergite and complete lack of scopae on coxae III.

Males are well distinguished by strongly abbreviated propodeum, with area superomedia usually 3 times as wide as long, by rather wide, curved temple profile, and by subobsolete malar space, combined with the chromatic characters described below.

Females from North Carolina and Mississippi differ slightly in color of head, tibiae III and propodeum from the typical population of northern Florida.

Flagellum.—Subbristle-shaped, fairly long, only slightly widened beyond middle and slightly attenuated toward apex, with 30-31 segments, the first not quite twice as long as apically wide, in lateral view the 7th square, the widest on the flat side near 1.5 times as wide as long. Black, with nearly complete white annulus on segments 7 or 8 to 15, ventrally toward base or entirely, brownish-scape ventrally orange, dorsally partially infuscated.
Males are distinguished by uniformly orange-ferruginous abdomen with apical ivory band on postpetiole, by black mesoscutum with white (usually surrounded by rufous) median mark, and by whitish, basally and apically blackish-infuscated tibiae III; they share all these chromatic characters with *Hexarchus* Heinrich, which differs decisively by the obsolete malar space, especially propodeum with strongly transverse area superomedial, and by only very restrictedly black-marked propodeum.

**Female**

Basic color of entire body, including legs, orange-ferruginous; head, legs, and thorax extensively white; thorax also restrictedly black-marked, tibiae III basally and apically black on dorsal side: the following white: orbits broadly around eyes, collar, pronotal ridge (entirely or apically), pronotal base partially, often median mark on mesoscutum, supraventral, irregular marks on mesopleura, areas superomedial, carina triangle, coxae I and II predominantly, coxae III dorsally extensively, all trochanters, median section of all tibiae on dorsal side, and usually marks on metapleura; all tarsi orange-tinted whitish; flagellum with annulus; length 8-10 mm.

**Flagellum.**—Subbristle-shaped, slightly widened beyond middle, distinctly tapering toward apex, with 31-32 segments, the first about twice as long as apically wide, in lateral view the 7th square, the widest on the flat side nearly 1.5 times as wide as long. Black, with complete white annulus on segments 7 or 8 to 16; scape predominantly ferruginous.

**Male**

Basic color of mesoscutum, in contrast to female, black, with white median mark, the environment of which usually is ferruginous-tinted; head white, with only antennal cavity, middle of trans. ocellar and occipital regions black; thorax with the following white parts: collar, pronotal ridge and base broadly, subalarum, tegulae, median mark on mesoscutum, scutella, entire postscutum, entire mesoscutum, mesopleura (except restricted black mark in their upper hind corner), broad exterior belt of prepectus all around, metapleura (except black areal coxales), declivity of propodeum area superomedial and areae, spiracular, usually predominantly ferruginous; color of abdomen, legs, and flagellum as in female; coxae III with dark dorsal-apical spot; sometimes partially blackish on exterior side; tip of femora III often blackish-infuscated: length 9-11 mm.

**Flagellum.**—With 34-35 segments and with small, narrowly-oval tyloids on segments 7-14. Black, ventrally brown, with complete white annulus on segments 13-21; scape ventrally white.

**Note**

Named in honor of Mr. Michael Horan who helped greatly to advance my research on the Ichneumoninae of Mississippi by successful insect trapping.
Distribution
An endemic species of Florida, the northern border of its range roughly coinciding with the borderline of the State; south so far recorded to Ft. Myers, north to Jasper (Hamilton Co.), Jacksonville (Duval Co.), and Tallahassee (Leon Co.).

Preamble
This species belongs to the parasitus-group, distinguished by impunctate, alutaceous 2nd tergite. It replaces geographically pseudovinclus which inhabits the Lower and Upper Austral Zones. These two species could be considered as associated subspecies, but is seems to me that the differentiation in color and sculpture is considerable and calls for specific status. Besides, no intergradation of the two forms has been observed, although their ranges approach each other closely.

The sculpture of tergites, in both sexes, is still finer than in pseudovinclus and shows a distinctly stronger gloss. Females are chromatically distinguished by the vivid blood-red basic color of the entire body including legs, contrasting sharply with the dorsally coal-black tibiae III displaying a clear-white annulus beyond base. Males also differ from pseudovinclus by the vivid blood-red basic color of femora III and abdomen, the latter in most specimens lacking the black-and-yellow-banded pattern of anterior tergites, characteristic for pseudovinclus males.

Female
Head uniformly blood-red, without light or dark markings: thorax blood-red, the following white: collar, usually extreme apex of pronotal ridge, usually marked on subalarum, scutellum, sometimes postscutellum, rarely more or less distinct marks on areas posteroexternae: the following black: narrowly exterior margin on mesoscutum, basal furrow and lateral slopes of scutellum, axillary troughs, basal furrow of propodeum all around, areae coxae more or less extensively, base of proventrum, median furrow of mesoscutum, short band below subalarum, and sometimes a mark on middle of pronotum: abdomen uniformly blood-red: legs ferruginous-red, femora III blood-red, rarely with black tip: tibiae III coal-black with complete white annulus beyond base, tibiae I and II with dorsal, median white mark: trochanters I and II white, trochanters III and coxae I and II pale orange to whitish: tarsi III pale ferruginous to almost whitish, the metatarsus III basally more or less extensively infuscated: flagellum with white annulus: length 5-11 mm.

Flagellum.—Filiform, short, a trifle narrowed toward base, with 25-29 segments, the first about 1.5 times as long as apically wide, in lateral view the 6th square, the widest on the flat side about 1.3 times as wide as long. Black, with complete white annulus on segments 8-12 or to 14 or 15: scape: scape uniformly red.

Male
Head white, the following black: apex of mandible, antennal cavity, middle of frons broadly, occipital and occular regions: mesoscutum black, often medially or predominantly blood-red, always with median white mark: white are: sterna, most of mesopleura, declivity of propodeum, and scutellum: pleura with black and red parts: abdomen blood-red, tergites 1 and 2 often basally more or less extensively blackish-infuscated, sometimes also with whitish apical bands: legs ferruginous and vivid red, coxae I and II and all trochanters white: tibiae III dorsally coal-black, with broad, white annulus beyond base, tibiae I and II orange-ferruginous, with white dorsal mark beyond base: tip of femora III usually black: all tarsi whitish, base of metatarsus III usually more or less extensively infuscated: flagellum with white annulus: length 6-12 mm.

Flagellum.—With 29-34 segments and with bacilliform tyloids on segments 4 or 5 to 13 or 14 or 15, the longest, on segments 8-11, reaching close to bases and apices of segments. Black, with complete white annulus on segments 12 or 13 or 14 to 18 or 20 or 21, ventrally usually dark brownish-tinted: scape ventrally white.

Genus Barichneumon Thomson
(Continued from Supplement 2. Nat. can., 90, 1971).

Preamble
A comprehensive faunistic exploration of the Ichneumonidae of the Southern Eastern States, which I carried out over a period of about five years with the support of the Florida Department of Agriculture (Bureau of Entomology), has led to the discovery of a surprising number of new species and subspecies. The majority of these new forms belong to the genus Barichneumon Thomson, sensu stricto, which in North America seems to have reached the highest degree of specialization in the Austro-riparian Zone.

The definition of Thomson's subgenus Barichneumon was rather vague, and the taxon has subsequently been applied to a multitude of heterogenous elements. It has since long been my aim to recognize, separate, and define the various different groups involved: this can be done only cautiously and gradually. The introduction of the genera Stenobarichneumon, Vulgichneumon, and recently (for the Palaearctic fauna) Baranisobas I. are the first steps in this direction.

The new forms described below almost all belong to Barichneumon Thomson, sensu stricto, which, under consideration of the greatly increased number of species and clearer conception of its morphology, is now treated as a full genus. Only the two species, excelsior Heinrich and seticornutus new species, both included in the new key to the species of Barichneumon, do not fully agree in structure (particularly of flagellum and gasterocelli) with the rest of the species, and may later on deserve generic separation.

It appears, that in this genus, in contrast to most others of the subfamily, the males display stronger differentiated and more obvious chromatic characters of specific distinction than the females, which are similar in color and often very difficult to distinguish: this is the reason why in the following descriptions more often males have been chosen for holotypes than females. The association of sexes is still incomplete in and in several cases tentative.

Structural characters
(1) Gastrocoeli very small, often punctiform or obsolete, with small, often indistinct thyridia, which in males are usually more distinct than in females but not removed from the base of second tergite (as in Vulgichneumon).
(2) Flagellum of female short and more or less stout, filiform, or subfiliform, the first segment usually less than twice as long as wide, at the most slightly more than twice as long.
(3) Abdomen of females short and convex, with fairly strongly sclerotized and neatly punctured tergites including postpetiole.
(4) Basal part of nervus basalis tends to curve slightly toward base of wing, thus rendering the lower, interior angle of the discocubital cell a right one.
(5) Spiracles of propodeum small, short, and usually not longer than 4 times as long as wide medially.

Basic color of Nearctic females (except black anatar) ferruginous or orange, sometimes with apical white mark on seventh tergite.

A more detailed treatment of this genus is included in the monograph on the Fauna of Florida and the Neighboring States, to be published soon.

New key to the species of Barichneumon Thomson of Eastern North America

Females

1. Flagellum stout, short, or fairly short, filiform or subfiliform, sometimes slightly tapering toward apex, but never with long attenuated, sharply pointed end. (Barichneumon sensu stricto) ........................................ 2
   — Flagellum long, slender, bristle-shaped. ........................................ 18
2. Abdomen uniformly black, tergites 6 and 7 with white apical marks. (Head and thorax black with restricted white markings; legs predominantly red; length 7-8 mm.) 1. anatar Fabricius (SNIS, p. 621) Holarctic; not recorded from Western North America.
   — Abdomen predominantly ferruginous or orange. (6th tergite always, in majority of species also 7th tergite without white mark.) ........................................ 3
   — Scutellum clearly and entirely white. (6th tergite usually with apical white mark.) ........................................ 4
   — Scutellum ferruginous (as the mesosternum), at the most indistinctly whitish-tinted at apex and sides. ........................................ 7
   — Orbit broadly white around eyes; pronotal ridge entirely or predominantly white; coxae III white-marked dorsally. ........................................ 5
   — Orbit not, or restrictedly white-marked; pronotal ridge at the most apically white; coxae III not white-marked dorsally. (Length 5.5-9 mm.) ........................................ 6
   — Apices of femora III and of tibiae III not infuscated; tarsi III ferruginous; median part of pronotum black. (Basic color of body dark ferruginous-red; length 10 mm.) ........................................ 10. archboldi, new species Florida
   — Apices of femora III and of tibiae III blackish-infuscated; tarsi III nearly entirely blackish; pronotum not marked with black; basic color of body light orange-ferruginous; length 6-7 mm. ........................................ 13. flaviscuta Heinrich (Suppl. 2) Mississippi, Georgia

6. Black markings less extensive; the following are usually black: base of proternum narrowly, base of prepectus, small mark below subalarum, mesocoxae, lower border of area coxae; apices of femora III and of tibiae III usually only slightly infuscated. ........................................ 2 a. sator sator Crescen (SNIS, p. 623) Delaware, Pennsylvania
   — Black markings much more extensive; the following usually black: proternum and propodeum extensively, prepectus and area coxae entirely, mesosternum partially, area postero medial partially; often all median areas of propodeum, and coxae in part, black; apices of femora III and of tibiae III extensively black 2 b. sator bivinatoris Dallas Torre (SNIS, p. 824) Québec, Ontario, Maine

7. 7th tergite with apical white mark. ........................................ 8
   — 7th tergite without apical white mark. ........................................ 9
8. Cheek profile in frontal view distinctly flattened toward mandible base; malar space considerably longer than width of the latter; flagellum slender, and more distinctly tapering toward apex. (Scutellum never marked with white; length 5-6 mm.) ........................................ 7. sphageti Heinrich (Suppl. 2) Maine, New York, Mississippi
   — Cheek profile barely flattened toward mandible base, malar space markedly shorter than width of the latter; flagellum stout and less tapering toward apex. (Scutellum, as a rule, more or less extensively to entirely white.) ........................................ 6
9. Orbits usually extensively white, at least vertical orbits so marked. ........................................ 10
   — Orbits without distinct white or yellow markings. ........................................ 16
10. Orbits clearly white all around eyes, except on malar space. (Flagellum fairly short, not widen beyond middle, slightly tapering toward apex; scutellum laterally faintly carinate close to middle; apices of femora III and of tibiae III never infuscated; length 7-8 mm.) ........................................ 9. neozonax, new species Florida, Georgia, Mississippi, Louisiana
   — Vertical orbits, sometimes also frontal white-marked, but never exterior orbits. ........................................ 11
11. Flagellum exactly filiform; male profile barely to slightly narrowed behind eyes, with curved outline; scutellum not depressed and not completely flattened. ........................................ 12
   — Flagellum subfiliform, moderately widened beyond middle and gradually tapering toward apex; male profile rather strongly narrowed behind eyes, with almost straight outline. ........................................ 14
13. Carolina, new species
North Carolina south to southern Florida and west to Louisiana

14. Apices of femora III and of tibiae III distinctly blackish; infuscation on apices of femora III and of tibiae III indistinct, often lacking; black markings on thorax, as on propodeum, on mesoscutum, on mesoscutellum below subalarum, on propodeum, and on sutures around mesoscutum and basal furrow of propodeum only at base, partially lacking. (Length 6—7 mm.)

15. Apices of femora III and of tibiae III distinctly blackish infuscated;

16. Apices of femora III and of tibiae III distinctly blackish infuscated; punctation of tegmina 1—4 coarser than in all alternative species; areas dentiparuae elongate and slanting down close to base of coxae III. (Area superomedial apically about as wide as medially long; length 6 mm.)

17. Scutellum with fairly pronounced lateral carinae almost to its end. [Pale orange-ferruginous, only head and mesoscutum a shade darker; almost no black markings; first flagellar segment more than twice as long as apically wide; length 8 mm.]

18. Apices of areae dentiparuae slanting downward, drawn out, long, and narrowed gradually; gastrocoeli and thyridia very inconspicuous; basic color pale orange-ferruginous; ventral orbits usually with narrow, whitish band. (Length 8 mm.)

19. At the most frontal orbits narrowly white; pronotal ridge, at the most apically, pronotal base and coxae I and II not at all, white; sterna, propodea, and propodeum extensively black marked; femora II and III considerably thicker than in alternative species. (Length 8—10 mm.)

20. Orbits broadly white all around eyes; pronotal ridge and base and coxae I and II entirely white; sterna, propodea, and propodeum without black markings; femora II and III considerably slenderer. (Length 8 mm.)

21. Basic color of entire abdomen black. (Flagellum without annulus; length 7—9 mm.)

22. at, Fabricius (SNIS, p. 621) Holarctic

23. formosus Heinrich (Suppl. 2.) Georgia (Athens)
Abdomen without black bands, orange-ferruginous, at least tergites 1, or 1–2, often 1–4, rarely 1–5 with apical white bands; femora III and tibiae III apically not infuscated; tarsi III orange, partially white.

9. Tyloids larger than in all other American species of this genus, elongate-oval, nearly parallel-sided, and on segments 5–11 reaching almost from bases to apices of segments. (Mesoscumum usually only with two longitudinal medias white stripes, sometimes also with two short lateral ones: length 7–9 mm.)

10. Mouseaum with at least two longitudinal, median white lines, sometimes also with two lateral white lines.

11. Mesoscumum without longitudinal white lines, usually uniformly black, rarely with an indistinct, pale yellowish or orange median mark.

12. At least the postpetiole with a large black mark, usually also the 2nd tergite with a black, often bipartite mark, exceptionally most tergites marked with black. (Tarsi III black, apices of femora III and of tibiae III not infuscated; length 8 mm.)

13. Fuscosignatus, new species


15. Mesoscumum with two short median and usually also two short lateral white stripes, its basic color mediately sometimes varying to ferruginous: larger species, 9–11 mm long; infuscation on apex of femora III and of tibiae III always distinct; tarsi III black or blackish; malar space with black mark.

16. Mesoscumum usually with two short median white lines only, exceptionally also with two short lateral lines, never partially ferruginous: small species, 6–7 mm long; infuscation on apex of femora III and of tibiae III lacking or indistinct; tarsi III not infuscated; malar space never black-marked.

17. Excelsior Heinrich (SNIS, p. 627) Quebec, Ontario, Maine

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Abdomen without black bands, orange-ferruginous, at least tergites 1, or 1–2, often 1–4, rarely 1–5 with apical white bands; femora III and tibiae III apically not infuscated; tarsi III orange, partially white.

9. Tyloids larger than in all other American species of this genus, elongate-oval, nearly parallel-sided, and on segments 5–11 reaching almost from bases to apices of segments. (Mesoscumum usually only with two longitudinal medias white stripes, sometimes also with two short lateral ones: length 7–9 mm.)

10. Mouseaum with at least two longitudinal, median white lines, sometimes also with two lateral white lines.

11. Mesoscumum without longitudinal white lines, usually uniformly black, rarely with an indistinct, pale yellowish or orange median mark.

12. At least the postpetiole with a large black mark, usually also the 2nd tergite with a black, often bipartite mark, exceptionally most tergites marked with black. (Tarsi III black, apices of femora III and of tibiae III not infuscated; length 8 mm.)

13. Fuscosignatus, new species


15. Mesoscumum with two short median and usually also two short lateral white stripes, its basic color mediately sometimes varying to ferruginous: larger species, 9–11 mm long; infuscation on apex of femora III and of tibiae III always distinct; tarsi III black or blackish; malar space with black mark.

16. Mesoscumum usually with two short median white lines only, exceptionally also with two short lateral lines, never partially ferruginous: small species, 6–7 mm long; infuscation on apex of femora III and of tibiae III lacking or indistinct; tarsi III not infuscated; malar space never black-marked.

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Abdomen without black bands, orange-ferruginous, at least tergites 1, or 1–2, often 1–4, rarely 1–5 with apical white bands; femora III and tibiae III apically not infuscated; tarsi III orange, partially white.

9. Tyloids larger than in all other American species of this genus, elongate-oval, nearly parallel-sided, and on segments 5–11 reaching almost from bases to apices of segments. (Mesoscumum usually only with two longitudinal medias white stripes, sometimes also with two short lateral ones: length 7–9 mm.)

10. Mouseaum with at least two longitudinal, median white lines, sometimes also with two lateral white lines.

11. Mesoscumum without longitudinal white lines, usually uniformly black, rarely with an indistinct, pale yellowish or orange median mark.

12. At least the postpetiole with a large black mark, usually also the 2nd tergite with a black, often bipartite mark, exceptionally most tergites marked with black. (Tarsi III black, apices of femora III and of tibiae III not infuscated; length 8 mm.)

13. Fuscosignatus, new species

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Abdomen without black bands, orange-ferruginous, at least tergites 1, or 1–2, often 1–4, rarely 1–5 with apical white bands; femora III and tibiae III apically not infuscated; tarsi III orange, partially white.

9. Tyloids larger than in all other American species of this genus, elongate-oval, nearly parallel-sided, and on segments 5–11 reaching almost from bases to apices of segments. (Mesoscumum usually only with two longitudinal medias white stripes, sometimes also with two short lateral ones: length 7–9 mm.)

10. Mouseaum with at least two longitudinal, median white lines, sometimes also with two lateral white lines.

11. Mesoscumum without longitudinal white lines, usually uniformly black, rarely with an indistinct, pale yellowish or orange median mark.

12. At least the postpetiole with a large black mark, usually also the 2nd tergite with a black, often bipartite mark, exceptionally most tergites marked with black. (Tarsi III black, apices of femora III and of tibiae III not infuscated; length 8 mm.)

13. Fuscosignatus, new species
16. *sericornutus* Heinrich (Suppl. 2.) Georgia

- Seventh tergite with apical white mark; area superomediala strongly transverse. [Mesosternum extensively white, mesopleura and propodeum pale-yellow; face, clypeus, cheeks, and orbits around eyes white; femora III and tibiae III extensively black; length 9 mm.]

- Seventh tergite without apical white mark; area superomediala not strongly transverse. [Tarsi III and spicules of femora III and of tibiae III black.]

15. Mesosternum uniformly black. (Tarsi III blackish.)

16. Mesosternum partially to entirely white or yellow.

17. Metapleurae black, with large white mark on lower half; metapleurae uniformly black; femora III and tibiae III apically not infuscated; notauli obsolete. (Length 8 mm.)

- Mesopleura and metapleurae more or less extensively brownish-red, without white markings; femora III and tibiae III apically black; anterior fourth of notauli distinct. (Length 8 mm.)

2b. *sorex bimaculatus* Dalla Torre (SNIS, p. 624) Québec, Ontario, Maine

- Mesopleura, metapleurae, and coxae without farrugineous parts; mesosternum more than lower half of mesopleura, and markings on coxae III white; white band around orbits not interrupted, except narrowly on malar space. (Length 7 mm.)

18. Mesopleura, metapleurae, and coxae III extensively to predominantly farrugineous; mesosternum more or less extensively pale yellow; this color often extending onto anterior and/or lower part of mesopleura; white band around orbits usually broadly interrupted on temples and narrowly also on malar space. (Length 7 mm.)

3. *Barichneumon sored* Heinrich


**Types**


*Allotype.*—a. same locality, 31.VII.-1960. C.G.H. II.

**Discussion**

Both sexes, as represented by the holotype and allotype, were collected in numbers at the type locality. The association of sexes has therefore been regarded as secured. However, new evidence obtained recently in Georgia and northern Florida, has raised some doubts.

Broad series of males collected (mainly in Georgia) seem to be morphologically identical with the allotype of *sorex*; these southern populations show, however, a broad spectrum of individual chromatic variability and only very few of them are almost identical with the typical northern males. More puzzling is the fact, that in spite of very extensive collecting extended over a period of about 5 years and conducted with the help of Malaise traps as well, neither in Georgia nor in Florida has a typical female of *sorex* ever been found. The only female similar to *sorex* occurring in Georgia and Florida is the one, in all probability, correctly associated with *libens* Cresson, 5. This situation leads to the following hypothesis: supposing that the association of sexes for the species *sorex*, as originally published by Heinrich, is not correct, then the species *sorex* (based on female) could perhaps represent a subspecies of *libens*, in which case the originally associated male would belong to another species as it is not conspecific with *libens*. This other species could be *sphageti* Heinrich, the female so far without associated male and recorded from Maine and Mississippi. An alternative hypothesis would be that *sorex* is indeed a full species with correctly associated sexes, of which the females are almost indistinguishable from *libens*, while the males are strikingly different. There is no conclusive evidence in support of one or the other hypothesis. The problem remains unsolved and is recommended for further observation.

4. *Barichneumon libens* Cresson


*Melanichneumon* (Barichneumon) *libens* Heinrich, 1962. SNIS, p. 627. 6 (exc 91)

**Types**


**Distribution**

Illinois and Maine south to New Jersey and North Carolina.

**New records**

Florida, Georgia, Mississippi, Louisiana.

**Preamble**

Distributional pattern, as revealed by comprehensive and systematic research of the southeastern *Ichnoeumoninae* during the past five years, indicates that the female associated with the holotype of *libens* Cresson, loc. cit. 1962 (under reservation of later confirmation), was not correct. The female now attributed to this species was found in broad series together with great numbers of typical *libens* males. In a very restricted biotope in southern Florida and under circumstances which made the association of these sexes undoubted. Besides, these females match the *libens* males in the obsolete gastrocerci which are barely indicated by sculpture, a character of this species so far overlooked and not present in the originally associated female; the latter I consider now a dwarf specimen of *sphageti* Heinrich (SNIS, Suppl. 2. Naturaliste Can., 1971).

**Male**

(For full description see SNIS, loc. cit. 1962).

The chromatic pattern of males is amazingly constant in all populations of the eastern United States from Maine south to southern Florida. Characteristic
Flagellum.—(Nealtotype): exactly filiform, not widened beyond middle, with 25 segments, the first nearly twice as long as wide, in lateral view the 6th square, none wider than long. Black, with dorsal white annulus on segments 7-12, segments before annulus light brownish on ventral side, darker brown on dorsal side, particularly toward apices; scape ventrally ferruginous, dorsally blackish.

Note
I can not find tangible structural differences between southern females of *libens* and the nealtotype of that species on one side and the holotype and type series of *Heinrich* (from Mt. Blue, Maine) on the other. However, the specimens from Maine are definitely darker than southern populations of *libens*, with head and thorax considerably more extensively marked with black, and the average size is tangibly larger. See also discussion of species sorex.

5. *Barichneumon peramoenus* Heinrich


Types
Holotype.—♀, “Québec, Gatineau, 17.X.1956, Gerd H. Heinrich.” C.G.H. II.

Nealtotype.—♀, Amherst, Massachusetts, 15.V.1968, leg. R. Duffield, C.G.H. II.

Distribution
Southeastern Canada (Québec and Ontario), south to southern Georgia and west to southern Georgia and to Louisiana (Bayou Chicot and Natichoches); not found in Florida.

Preamble
Numerous trapping records suggest that, in all probability, the female described below is associated with the holotype. A hypothesis also confirmed by the facts that in both sexes the femora III and tibiae III are blackish-infuscated apically (though in males, on the average, more extensively than in females) and that the scutellum is laterally carinate at the base, often to beyond middle. The newly associated and below described female establishes the, so far uncertain, generic position of the species.

Female
Ferruginous, the ends of femora III and of tibiae III more or less extensively blackish, tarsi III usually infuscated; the following ivory: at least vertical orbits, (usually also frontal orbits), base of mandibles, collar, pronotal ridge, and sides and apex of scutellum more or less distinctly and clearly in southern specimens trochanters I and II, often also postscutellum, subalar, coxae I and II, and trochanters III ivory-tinged; the following black: base of prepectus, axillary troughs, and basal furrow of propodeum narrowly; in nealtotype and northern specimens also posterior middle of mesosternum, propodeum, areae coxales, and parts of coxae III black; flagellum black, with white annulus; length 7-8 mm.

Flagellum.—Subfiliform, fairly stout and short, moderately widened beyond middle and gradually tapering toward apex; with 28-30 segments, the first about twice as long as apically wide, in lateral view the 6th or 7th square, the widest on the flat side slightly to 1.5 times as wide as long, Black, with dorsal white annulus on segments 7 or 8 to 13 or 14; scape ferruginous.

Structural characters
Temple profile, in vertical view, strongly narrowed behind eyes, with straight outline; cheek profile in front view likewise narrowed toward mandible base; malar space somewhat longer than width of mandible base; scutellum completely flat, with scattered, coarse punctures, running into some irregular, longitudinal rugae, and with distinct, though low, lateral carinae to about middle or almost to the end; horizontal part of propodeum fully as long as area postscutellum; area superomedia usually distinctly longer than wide, hexagonal, with costulae before middle, narrow from costulae toward area basalis; area dentiparae nearly parallel-sided, longer than wide, not markedly slanting toward their apices, the carinae dentiparae interiors meeting the area postscutellum considerably behind apical margin of area superomedia; tergites 1-3 and basal third to half of 4th tergite coarsely punctured; gastric coxal fairly small but distinctly impressed.

5b. *Barichneumon peramoenus callidros*, new subspecies

Types

Allotype.—♂, same data. C.G.H. II.


Distribution
Florida, from Gainesville and Keystone Heights south to Fort Myers.

Preamble
Females of this form differ from *peramoenus* Heinrich only slightly in color (mainly by lack of black apices of femora III and of tibiae III) and not all in structure; they apparently replace *peramoenus* Heinrich in Florida; the form is therefore treated here as a subspecies of *peramoenus*, although the associated males are chromatically strikingly differentiated from the males of the nominate form.
Females are rather similar to soror Cresson and soredix Heinrich, differing from these two species mainly in structure of head and flagellum, the temple profile being more narrowed behind eyes (with almost straight outline), the flagellum tapering more distinctly toward the apex.

Female

Ferruginous; in contrast to nominate form, apices of femora III and of tibia III not infuscated: the following ivory: vertical orbits; sometimes also frontal orbits narrowly, base of mandibles, collar, extreme end of pronotal ridge (rarely pronotal ridge more extensively), subalarum apical and usually also lateral margins of scutellum, rarely postscutellum, trochanters I and II, coxae I extensively to predominantly, and apices of coxae II: flagellum with white annulus: length 7-8 mm.

Structural characters as in peramoenus peramoenus.

Male

Males differ from peramoenus peramoenus strikingly, not only by lack of black pattern on legs III but also by complete absence of black banding on abdomen: they are at once recognizable from all other Barichneumon species occurring in Florida by the combination of the following three characters: (1) flagellum with white annulus: (2) tarsi III partially white: (3) mesoscutum black with white longitudinal lines.

Head white, middle of trans, ocellar and occipital regions black: thorax ventrally white, dorsally predominantly black, with rich white markings: the following white: 4 short, longitudinal lines on mesoscutum, prescutellar carinae, scutella, tegulae in part, subalarum, collar, pronotal ridge and base broadly, propodeum (except black three central areas, areae superoexternae, and most of areae metapleurales and coxales), mesopleura (except upper part): legs and abdomen ferruginous, red, with the following white parts: coxae I and II, all trochanters (trochanters III often basally ferruginous or black), all tarsi extensively to predominantly, usually a basal mark on tibiae III, apical bands on at least tergite 1 (with rare exceptions), or 1 and 2, often on tergites 1-4, exceptionally 1-5, sides of usually the first tergite, sometimes also the 2nd, coxae III ventrally and a large mark on their dorsal side: black on pleura and propodeum often partially replaced by red: flagellum with complete white annulus: length 7-10 mm.

7. Barichneumon sphagneti Heinrich


Holotype. — 9. Chesterville, Maine. C.G.H. II.


Holotype. — 9. Chesterville, Maine. C.G.H. II.

Distribution


Barama

I am now convinced that the female originally associated with ibenis Cresson 9 (see treatment of that species above) represents a small specimen of sphagneti.

If soredix Heinrich, 9, now suspected to be either a synonym or a subspecies of ibenis, will be conclusively proven to be one or the other, the male originally associated with soredix would, also definitely, not belong to that species but instead, in all probability, to sphagneti.

If soredix Heinrich, 9, now suspected to be either a synonym or a subspecies of ibenis, will be conclusively proven to be one or the other, the male originally associated with soredix would, also definitely, not belong to that species but instead, in all probability, to sphagneti.

The final solution of this complicated case must be postponed until conclusive evidence will turn up.

Female

One of the few American species of the genus which display a white mark on the 7th tergite; in this character similar to soror Cresson and flaviscuta Heinrich; easily to distinguish from the latter species by complete lack of white on scutellum, postscutellum, and orbits; from the former species by the considerably more narrowed temple profile and cheek profile and by the longer malar space, as well as by the slenderer, not widened beyond middle, flagellum. In general appearance deceivingly similar to Rubicundula perturbans Heinrich; the character best distinguishing spheretis from that species is the densely and regularly punctured postpetiole without indication of a median field.

9. Barichneumon neosoredix, new species

Types


Distribution

Florida, Georgia, Mississippi, Louisiana. The most common species of the genus throughout the Southeastern States.

Male

The male of this species is prominently distinguished from all similar species of the genus (particularly from soredix Heinrich and archboldi, new species) by the shape of the tyoids: the tyoids are elongate-elliptic, almost parallel-sided, and unusually wide: they reach, on seg-

ments 5-11, almost from bases to apices and cover the entire length of segments.

Chromatically superficially resembling peramoenus callianthus Heinrich and rather closely archboldi; at once distinguishable from the former species by black tarsi III and lack of flagellar annulus; it shares these chromatic characters with archboldi, from which it can be distinguished only by structural features, mainly by the shape of tyoids as described above and also by the cheek profile, which is considerably more narrowed toward mandible base than in archboldi.

Head white, with middle of trans, ocellar, and occipital regions, and constantly also a mark on malar space, black; thorax ventrally white, dorsally predominantly black; mesoscutum always with two median, longitudinal white lines, sometimes also with two, more or less distinct, lateral white lines: scutella always white, prescutellar carinae never white-marked: legs and abdomen ferruginous, the tibiae III often apically very slightly infuscated, tarsi III black or blackish, coxae and trochanters I and II uniformly white, coxae III more or less extensively to predominantly white; petiolar black or blackish: posterior with apical ivory band or lateroapical ivory marks, usually also the 2nd tergite, sometimes the 3rd, rarely even the 4th with apical ivory band; flagellum black, without annulus: length 7-9 mm.

Flagellum. — With 27-28 segments and with tyoids of striking shape and size (as described above) on segments 4-12, the longest on segments 5-11 covering the whole length of segments. Black, ventrally brownish, without annulus; scape ventrally white.

Female

Less strikingly characterized than the male and therefore less easily disting-
inhable from a number of similar species in Florida, particularly from peramoenus caliandros with which it shares the weak lateral carinae of scutellum. The carinae, however, are less extended in neosorex than in peramoenus.

Best to be recognized by the following characters: (1) orbits broadly ivory almost all around eyes (except only area of malar space); (2) flagellum filiform, not widened beyond middle, and not tangibly tapering toward apex; (3) scutellum weakly carinate laterally at the base to nearly the middle.

Ferruginous, with restricted white and practically without black markings, except sometimes black median-basal area of prepectus; the following white: orbits broadly around eyes (except only on malar space), collar, extreme apex of pronotal ridge, and subalarum; flagellum with dorsal white annulus; length 7-8 mm.

10. Barichneumon archboldi, new species

Types


Distribution

Central Florida.

Preamble

This species is somewhat larger than all other, sympatric forms of the genus; particularly distinguished in both sexes

by structure of the head: cheek profile in front view very broad and barely narrowed toward mandible base, the malar space extremely short. The female is chromatically well distinguished by the combination of (for the entire length) broadly white pronotal ridge with entirely white scutellum and postscutellum. The male is rather similar in color to neosorex Heinrich, but distinguishable at once by normally-shaped, narrow tyloids and by much wider cheek profile.

Male

Head white, with middle of frons, ocellar and occipital regions, and with a mark on malar space black; thorax ventrally white, dorsally predominantly black: meseutrum always with two median, longitudinal, white lines (often apically confluent), usually also with two short lateral white lines: scutella always white, prescutellar carinae never white-marked: legs and abdomen ferruginous, apices of femora III and of tibiae III, and the tarsi III black: coxae and trochanters I and II uniformly white, coxae and trochanters III usually partially, sometimes predominantly white: tibiae III basally not white marked: petiole more or less extensively black: postpetiole usually, tergites 2 and 3 often with apical ivory band: flagellum black, without annulus; length 9-11 mm.

Flagellum.—With 31-33 segments and with long and narrow tyloids on segments 5-12 or 13. Black, ventrally light brown, without annulus; scape ventrally white.

Female

Ferruginous-red, with rich white markings on head and thorax and with restricted black pattern on the latter; the following white: orbits broadly around eyes (except only on malar space), collar, pronotal base, pronotal ridge broadly for entire length, scutellum, postscutellum, subalarum, extreme apices of areae
dentiparum together with areas posteroexternae, coxae I and II apically, apical margin of first trochanters I and II dorsally, and long, dorsal mark on interior side of coxae III: the following black: base of proepistemum, entire prepectus, longitudinal median band on mesosternum, middle of pronotum behind collar, narrow band below subalarum, exterior margin narrowly all around mesocutum, axillary troughs, basal furrow of propodeum narrowly all around, apical mark on area posttermeda, base of petiole, and base of first trochanters III: flagellum with dorsal white annulus: length 10 mm.

Flagellum.—Subfiliform, slightly widened beyond middle, only a trifle narrowed toward apex, with 30 segments, the first fully twice as long as apically wide, in lateral view the sixth square, the widest on the flat side about 1.5 times as wide as long. Black, with dorsal white annulus on segments 6-13; scape ventrally ferruginous.

11. Barichneumon tuscosignatus, new species

Types

Holotype.—♂, "Archbold Biological Station, Lake Placid, Florida, 16.III. 1968." C.G.H. II.


Distribution

Florida, Georgia, Mississippi, Louisiana.

Preamble

In both sexes of this species the scutellum is laterally distinctly carinate nearly for its entire length. In this character tuscosignatus approaches neosorex Heinrich and particularly peramoenus Heinrich. However, the lateral carinae of the scutellum are more distinct and more extensive than in the former species, and the scutellum is less completely depressed and flattened than in the latter. The male is chromatically well distinguished from peramoenus by lack of white antennal annulus and by uniformly ivory metapleura. It shares with peramoenus, neosorex. and archboldi Heinrich the black mesocutum with its white markings (consisting of two median and two shorter lateral, longitudinal lines, the prescutellar carinae, and scutella), but differs from these three species, and all others of the genus, by a large, black mark covering the surface of the postpetiole (except an apical, ivory band). Usually the 2nd tergite bears also a black, often bipartite mark (in exceptional variations most tergites may be marked black). The basic color is markedly lighter all over than in most other species, it is a pale, partially ivory-tinted orange on abdomen and legs, ivory on sterna, pleura and propodeum.

The female can be easily mistaken for peramoenus caliandros from Florida, but may be recognized by complete lack of white pattern on orbits and, in direct comparison, by the temple profile behind the eyes somewhat less narrowed and by slightly more elongate basi segments of flagellum. Besides, the lateral carinae of the scutellum are more pronounced and extend closer to the end of the scutellum.

Male

Head ivory, including malar space; middle of frons, ocellar and occipital regions black; thorax ventrally and la-
terally (including the entire metatibia), ivory, dorsally predominately black; mesoscutum always with two longitudinal, and two shorter, longitudinal lateral ivory lines; scutellum and prescutellar carinae always ivory; propodeum ivory, only the areas supero-externae and the three median area black, as are also a median, narrow band on pronotum and a narrow band below subalar on mesopleura; legs and abdominal pale orange; dorsal surfaces of postpetiole black, except narrow apical ivory band; 2nd tergite often also with a (usually bipartite) black mark, exceptionally also the following tergites marked with black: femora III and tibiae III apically not infuscated; the tarsi III black; in somewhat lesser extent also the dorsal side of tarsi II blackish-infuscated; all coxae and trochanters ivory, the coxae III usually black-marked on exterior side; flagellum without annulus; length 8 mm.

Flagellum.—With 30 segments and with small, elliptical tyldos on segments 4–18, the longest, on segments 7–14 covering approximately the median half of the length of segments. Black, ventrally pale ochreous, scape ventrally white.

Female

Almost uniformly pale orange-ferruginous, without distinct ivory or white markings, only collar whitish: apex of pronotal ridge and of scutellum, and the coxae and trochanters I and II faintly yellowish-tinted; sternum a shade paler than dorsal side of thorax; only the following blackish: axillary troughs, a small mark below subalar and usually very narrowly the lateral margins of mesoscutum and the extreme base of its median lobe behind collar: flagellum with white annulus: length 8 mm.

Flagellum.—Subfiliform, fairly slender, ventrally flattened beyond middle but not widened, a trifle tapering toward apex, with 24–27 segments, the first more than twice as long as apically wide, in lateral view the 6th or 7th square, the widest on the flat side also approximately square. Black, with dorsal white annulus on segments 6–13, the segments before annulus on dorsal side apically, on ventral side predominantly brown; scape ferruginous.

12. Barichneumon floridanus, new species

Types

Holotype.—♂, "Highlands Hammock State Park, 28.IV.1968.” C.G.H. II.


Paratypes.—1♀, allotype locality, 14.V.1967; 4♂, type locality, 24.IV–1970; 1♂, type locality, 28.VI.1971. All in C.G.H. II.

Distribution

Central Florida: so far only from Sebring (Highland Hammock State Park) and from Lake Placid (Archbold Biological Station).

Preamble

The males of this, and the following, species differ chromatically strongly from the 4 species treated above by uniformly bright orange-ferruginous mesoscutum. The floridanus male is, in addition, distinguished from all other species by the following blackish: axillary troughs, a small mark below subalar and usually very narrowly the lateral margins of mesoscutum and the extreme base of its median lobe behind collar: flagellum with white annulus: length 8 mm.

Flagellum.—Subfiliform, fairly slender, ventrally flattened beyond middle but not widened, a trifle tapering toward apex, with 25–27 segments, the first more than twice as long as apically wide, in lateral view the 6th or 7th square, the widest on the flat side also approximately square. Black, with dorsal white annulus on segments 6–13, the segments before annulus on dorsal side apically, on ventral side predominantly brown; scape ferruginous.

13. Barichneumon carolinensis, new species

Types

Holotype.—♂, Raleigh, North Carolina, 10.VI.1969. C.G.H. II.

Allotype.—♀, Athens, Georgia, 1.VI.–1969. C.G.H. II.


Distribution

North Carolina south to southern Florida and west to Louisiana.

Preamble

One of the smallest and most common species of the southeast. Males share with floridanus Heinrich the uniformly orange-ferruginous mesoscutum but not the white flagellar annulus. They are distinguished in color particularly by constantly white-marked prescutellar carinae.

Females are well distinguished by combination of three structural characters: (1) flagellum exactly filiform, short, apically blunt, slightly tapering toward base; (2) areae dentipariae ab-
breviated, the carina denticara exterior, as a rule, shorter than exterior carina of area superoexterna; 
(3) scutellum laterally not carinate except at the extreme base.

**Male**

Head white, middle of frons, ocellar and occipital regions black, more or less variegated with farruginous; thorax ventrally ivory; mesoscutum orange-ferruginous; ivory are: collar, pronotal base and ridge, subalarum, tegulae, prescutellar carinæ, scutella, declivity of propodeum except area posteromedia, all pleura extensively to predominantly, usually orange-tinted in parts; the following black: usually short, median band on pronotum, exterior margin of mesoscutum narrowly, mark below subalarum, basal furrow of scutellum, axillary troughs, basal furrow of propodeum medially on horizontal part: legs orange-ferruginous, the following ivory: coxae and trochanters I and II and coxae III dorsally on interior side and ventrally on interior side; terga III a trifle infuscated; abdomen usually uniformly orange-ferruginous, rarely anterior tergites apically ivory-tinted; flagellum without annulus; length 6-8 mm.

**Flagellum.**—With 23-25 segments; tyloids as described in preamble. Scape ventrally dull orange-ferruginous.

**Types**


*Paratypes.*—7 ♀. same locality, 12-30.VIII.1966. C.G.H. II.

**Distribution**

New York (Catskill Mountains).

**Preamble**

The eight types, all collected during August 1966 at the same locality, are congruent in color and structure and distinctly different from all other species of the genus. The peculiar structure of the tyloids, as described below, is only paralleled by the southeastern species *mesorex* Heinrich. Chromatically characteristic is the large, white mark on mesopleura.

Tyloids on segments 3-11, elongate, the longest on segments 5-10 parallel-sided, and reaching from bases to apices of segments.

**Female**

Orange-ferruginous, with very restricted ivory markings; ivory are only: a more or less distinct, short and narrow band on vertical orbits, collar, extreme marginal of pronotal ridge, and subalarum in part; sometimes scutellum apically and/or apico-laterally faintly yellow-tinted; coxae and trochanters I and II faintly orange-tinted yellow; the following black: central part of propodeum, small mark below subalarum, narrowly exterior margin of mesoscutum, basal furrow of scutellum, and axillary troughs: flagellum with white annulus; length 5-6 mm.

**Flagellum.**—Filiform, short, apically thick and blunt, slightly narrowed toward base, with 24 segments, the first about 1.3 times as long as apically wide, in lateral view the 5th square, the widest on the flat side about 1.3 times as wide as long. Black, with dorso white annulus on segments 6 or 7 to 11, 12 or 13, brownish toward base; scape ferruginous, dorsally blackish toward apex.

14. *Bacirchnoeum daniei, new species*

**Note**

Named in honor of Mr. Daniel Smiley who collected for many years the ichneumonids caught on the windows of Lake Mohonk Mountain House, and who made in this way many valuable contributions to our knowledge of this group.

**Genus Melanicneum Thomson**

(Continued from Supplement 2, Naturaliste canadien, 98. 1971.)

Key to the species and subspecies

of the genus *Melanicneum* Thomson (sensu stricto),

of the Southeastern Nearctic Region

**Females**

1. Tergites 6 and 7 without apical white marks. (Terga III never infuscated apically: basic color of mesoscutum entirely or partially black.) ........................................ 2

   — Tergite 7 or 6 and 7 with apical white mark. (Terga III often apically infuscated: basic color of mesoscutum ferruginous.) ........................................ 3

2. Mesopleura ivory, except black uppermost section: basic color of mesoscutum black, except in rare variations red median lobe. (Length 10-12 mm.) ................ 6b. *honestus* minori, new subspecies. Florida, Georgia, Mississippi, Louisiana

**Males**

Head black, with white markings: the following white: mandibles except teeth, Clypeus, face, orbits broadly around eyes, the white expanding downward on outer orbits gradually over the entire width of cheeks but not quite reaching to the mandible: major space black: thorax black, the following white: collar, pronotal ridge and base, subalarum, tegulae in part, scutellum, postscutellum, two marks on propodeum (covering the ends of areæ dentipennae and of areæ spiracularis together with the areae posteroexternæ), a large mark on lower half of mesopleura, and the coxae and trochanters I and II: all femora, tibiae and tarsi ferruginous, except only the tarsi III black; coxae III and trochanters III dark ferruginous, extensively blackish infuscated, the coxae III rarely with dorsal white mark: abdomen uniformly ferruginous: flagellum black, ventrally brownish, without annulus; length 6-8 mm.

**Flagellum.**—With 23-25 segments; tyloids as described in preamble. Scape ventrally dull orange-ferruginous.

**Structural characters**

Temple profile not narrowed behind eyes, strongly curved; head in front view with approximately circular outline; major space slightly more than half as long as width of mandible base; median field of face tangibly protruding; lateral fields and Clypeus somewhat convex.

Mesoscutum moderately convex, without notauli, densely punctured, shiny: sternauli on the mesosternum distinct: scutellum slightly convex; area posteromedia considerably longer than horizontal part of propodeum mediately; area superomedia with the very oblique costae far beyond middle, strongly narrowed from costulae toward area basalis, the latter confluent with basal furrow of propodeum.

Petiole gradually widened into postpetiole, the latter with indicated median field, densely punctured; gastrocoeli fairly distinct, about as long as wide.

**Note**

Named in honor of Mr. Daniel Smiley who collected for many years the ichneumonids caught on the windows of Lake Mohonk Mountain House, and who made in this way many valuable contributions to our knowledge of this group.
Mesopleura partially orange or ferruginous; basic color of mesoscutum at least mediately, sometimes predominantly red. (Length 9–11 mm.)

3. Ivory band around orbits on temples interrupted, or at least narrowed to a thin line. (Tip of femora III usually infuscated; length 9–10 mm.)

3b. disparilis flavidos, new subspecies, Northern Florida, Georgia, Mississippi, Louisiana

4. Basic color of abdomen chestnut-red; hypopygium ferruginous as the rest of sternites; femora III apically distinctly black; tyloids obtrusive, being light-colored, short-oval, and somewhat larger than in alternating species. (Area superomedial much wider than medianly long. Its posterior bordering carina angularly projecting toward its middle; length 11–12 mm.)

15. mystificans, new species, Georgia

Males

1. Basic color of mesopleura ferruginous-red, at the most with small, irregular ivory markings. (Hypopygium never white; basic color of body close to chestnut-red, with very variable ivory and black markings; sometimes anterior tergites with black basal bands; length 10–14 mm.)

Mesopleura extensively to predominantly ivory.

2. Basic color of abdomen orange-ferruginous; anterior tergites with apical ivory bands, basally not black, except rarely first and second tergites restrictedly.

3. Basic color of abdomen chestnut-red or pale yellow; extensive basal black bands on tergites 1–3 or 4 or 5.

3b. Melanichneumon disparilis flavidos, new subspecies

Types

Holotype.—♂, "Gainesville, Alachua Co., Florida, 3.V." C.G.H. II.


Distribution

Northern Florida (type locality). Georgia, Mississippi, Louisiana.

Preamble

This form replaces heiligbrodtii Cresson from northern Florida on, northward and westward in Georgia, Mississippi, and Louisiana. It is sympatric with honestus Cresson over this entire range of distribution. As all the species involved display an extraordinary degree of individual variability and sexual dichrosism, the taxonomic puzzle appeared at first unsolvable. The evidence gathered by collecting very broad series of specimens from many different localities over a period of 5 years, has at last led to the following conclusions, which are, in all probability, correct: females of disparilis flavidos are very similar to heiligbrodtii.
brodtii, while the associated males are strikingly different from heiligbrodtii males but resemble very strongly the erythric phase of the sympatric honestus males: the honestus females. On the other hand, are strikingly different chromatically from both, heiligbrodtii and disparilis flavidops females as well.

Male

Distinguishable from honestus (everythric phase) by the combination of 3 chromatic characters: (1) hypopygium ferrugineous (instead of white), (2) fourth tergite without continuous, apical ivory band (though often with latero-apical ivory marks), (3) in most specimens tip of femora III more or less blackish-infuscated.

Light orange-ferrugineous, with ivory and black markings: basic color of mesoscutum usually black, with two long, median and two short lateral longitudinal ivory lines, the basic black color sometimes varying to, medially or entirely, ferrugineous; prescutellar canal rarely white-marked; black on propodeum restricted to anterior part, on mesopleura to a short band below subalarum; posterior part of propodeum and mark on upper posterior part of mesopleura ferrugineous; black are also: antennal cavity, occellar and occipital regions, sometimes band along middle of frons, prepectus (except ivory exterior belt), small mark on mesopleura at base of coxae II, axillary troughs, basalar furrow of propodeum with base of horizontal part, areae coxae, usually part of area posteroapicalis, often extreme base of pronotum, always an apico-dorsal mark on coxae III, often base of first trochanters III; in majority of specimens the apex of femora III, often also tip of tibiae III, more or less distinctly infuscated; the following ivory: head (except black markings mentioned above), collar, pronotal ridge and base broadly, subalarum, mark on tegulae, markings on mesoscutum (already described), scutellum, postscutellum, carinal triangle, areae postero-externae, extreme end of metapleura, pronotum entirely or predominantly, mesosternum, mesopleura extensively or (usually) predominantly, exterior belt of prepectus, all trochanters, coxae I and II, posteriorly, coxae III dorsally on inner side and ventrally (rest of coxae III ferrugineous with black dorsal mark), apical, laterally widened bands on tergites 1-3, often latero-apical marks (but never a continuous apical band) on 4th tergite, usually the 6th tergite apically in the middle, always the 7th tergite predominantly and all tarsi predominantly: hypopygium never ivory: basic color of entire abdomen and of femora and tibiae orange-ferrugineous, the femora and tibiae I and II pale yellowish-tinted on anterior side; flagellum with white annulus: length 12-13 mm.

Flagellum.—With 32-33 segments and with very small, short, bacilliform tyloids on segments 7 or 8 to 15. Black, ventrally brown, with complete white annulus on segments 11-19 or 20: scape ventrally ivory.

Female

Distinguishable from heiligbrodtii (Florida populations) in color only by the ivory band around orbits being constantly interrupted (or at least reduced to a narrow line) on temples; furthermore mesoscutum, particularly the lateral lobes, markedly denser punctured than in heiligbrodtii and lateral edges of scutellum never prominent.

Strongly different in color from the northern subspecies disparilis disparilis by reduction of black on head, thorax, and legs (as described below), and also by much more extensive yellow markings on head and thorax.

Ferrugineous, mesosternum, mesopleura, and declivity of propodeum a shade paler than the rest; ivory are: broad band around orbits (interrupted or almost interrupted on temples and on malar space, widened on outer orbits gradually over entire width of cheeks and reaching downward to mandible), mandible base, collar, pronotal ridge, subalarum, scutellum, postscutellum, areae postero-externae more or less distinctly, usually all first trochanters partially or entirely, usually a dorsal mark on coxae III on inner side, coxae I and II apically or more extensively, laterally widened apico-lateral marks on tergites 1-3 (varying in size, sometimes lacking on postpetiole), and apical marks on tergites 6 and 7: segments 2-4 of tarsi II and III ivory-tinted: apices of femora III more often than not blackish-infuscated; the following black: short band on propodeum behind collar, base of propectus, base of propodeum medially, short band below subalarum, exterior margin of lateral lobes of mesoscutum, basal furrow of scutellum, axillary troughs, and basal furrow of propodeum: flagellum with white annulus: length 9-10 mm.

Flagellum.—Lanceolate, with 34 segments, the first nearly twice as long as wide, the 6th in lateral view square, the widest on the flat side about 3 times as wide as long. Black, with dorsal white annulus on segments 6-15, the basal segments apically on dorsal side, ventrally more extensively, brownish; scape ventrally ferrugineous.

6 b. Melanichneumon honestus milleri, new subspecies

Types


Allotype.—♀, same locality, 27.IV.-1968. C.G.H. II.


Distribution

Florida, Georgia, Mississippi, Louisiana.

Preamble

For a long time I believed that individuals of this striking form represented a species. However, the evidence found through examination of hundreds of specimens collected during the past years, in different southeastern States, suggests strongly a subspecific association with honestus Cresson.

Typical females of honestus milleri are distinguished by constant lack of apical white marks on segments 6 and 7 and of tangible black infuscations on apices of femora and tibiae III: the mesosternum and most of mesopleura are white and the mesoscutum is black with two longitudinal median and usually two short lateral white lines and white prescutellar cariniae.

The color of the male is even more striking and quite different from the type of honestus (a male). Tergites 1-5 are basally extensively black, with ivory apical bands, the apical part of the 5th tergite and the entire 6th tergite are ferrugineous, the 7th together with valvae and hypopygium white. The pattern of mesoscutum agrees with the female: the honestus male differs by uniformly light orange-ferrugineous basic color of the entire abdomen, with apical ivory bands on tergites 1-4: the last tergite, valvae, and hypopygium are white, as in honestus milleri, and the pattern of the mesoscutum also agrees with this subspecies.
In central Florida males with orange-furrinuous basic color of abdomen do not occur. The only specimen of this color type, found so far in Florida comes from the northern part of the state (Gainesville). In central Louisiana (Evangeline Parish) the honestus-colored males are likewise lacking: but, in northern Mississippi (Yalobusha and Lafayette Co.'s) the number of honestus and honestus milleri-type males is about equal, and intermediate specimens occur. The ratio of the two phases is about the same in northern Georgia.

Doubtless associated with the male populations of northern Mississippi and Georgia mentioned above are females which display an increase of red color as compared with typical honestus milleri, particularly in northern Mississippi where, in the great majority of specimens, either the median lobe of the mesoscutum or also parts of the lateral lobes are red. These females are clearly approaching the neallotype of honestus as described by Heinrich, 1962. SNIS, p. 593.

Female

Head white, with middle of frons, ocellar and occipital regions, sometimes also antenal cavity black, and with face and clypeus more or less extensively and more or less intensively furrinuous-tinged; mesoscutum black, the median lobe varying occasionally to red, always with two long median and usually also two short lateral ivory lines; ivory also: prescutellar carina, scutellum, postscutellum, subalarum, collaria, pronotal ridge and base, apex of prosterum, exterior belt of prepectus, entire mesosternum, most of mesopleura, usually parts of metapleura and decivity of propodeum: the following black: base of prosterum, most of propectus, propleura, uppersmost section of mesopleura, and horizontal part of propodeum basally to entirely; black on prosterum, propleura, and horizontal part of propodeum often varying to partially furrinuous: abdomen orange-furrinuous, often the first tergite, sometimes also the base of the second black; apical band on postpetiole and apico-lateral marks on 2nd and 3rd tergites yellowish-white: tergites 5-7 often extensively (except laterally) yellow-tinted orange, but never with distinct apical white marks; legs orange-furrinuous, all coxae and trochanters white, the coxae III laterally orange-furrinuous and with black dorsocentral mark; flagellum with white annulus; length 10-12 mm.

Flagellum.—Lanceolate, with 35-37 segments, the first less than twice as long as apically wide, in lateral view the 7th approximately square, the widest on the flat side about 3½ times as wide as long, black, with complete white annulus on segments 6-15 or to 16; scape ventrally furrinuous.

Male

Head as in female, but face and clypeus always clearly white; thorax as in female, but prosterum uniformly ivory, the lateral ivory lines on mesoscutum always distinct, the decivity of propodeum (including area posteroarum) entirely, the metapleura nearly entirely, ivory, the latter with only the base and the area coxales black: first tergite black, with broad basal ivory band, tergites 2-5 basally broadly black, the second to beyond middle (excluding gastrocoeli), tergites 2-4 ivory beyond black section, the 5th furrinuous beyond black part, the 6th entirely furrinuous: the 7th tergites and the hypopygum white; all coxae and trochanters ivory, the coxae III black on exterior side; all terst ivory, the femora and tibiae pale orange-furrinuous with yellowish ventral sides and partially yellowish interior sides: flagellum with white annulus; length 11-13 mm.

Flagellum.—With 35 segments and with obtuse, very small and short tyloid on segments 7 to 15 or 16, the basal ones close to bacilliform, the apical ones short-ovate, the first and last punctiform. Black, ventrally brown, with complete white annulus on segments 11 or 12 to 20 or 21: scape ventrally white.

Note 1

Throughout the range of distribution (except Florida south of Gainesville) of honestus milleri, another, sympatric Melanichneumon mysticus occurs, the males of which share with honestus milleri the light orange-furrinuous basic color of the color of the abdomen and are also otherwise deceivingly similar to the latter form. The distinguishing characteristics are treated under the subspecies disparis flavidus, described above.

Note 2

Named in honor of Mr. R. W. Miller, Highlands Hammock State Park, who's assistance, especially the running of a Malaise trap for a number of months, lead to the discovery of the first male of this subspecies.

15. Melanichneumon mysticus. new species

Types


Allotype.—[Tentative]. ♀, Forsyth, Georgia, 5.—10.VI.1971. C.G.H. II.

Paratypes.—7 ♀, type locality. July and August, one from May 23rd, 1970 and 1971. C.G.H. II.

Distribution

Georgia, Forsyth, Monroe Co.

Preamble

All eight male type specimens are strikingly, and almost congruently distinguished in color by a tricolored, bandoned abdomen: black, chestnut-red and ivory (similar to some specimens of heiligbrotii), combined with distinctly black apex of femora III and black mesoscutum with four longitudinal white lines. They also show a few structural charaters of importance: (1) a fairly long row of rather obtrusive (though not large) short-ovate, orange-colored tyloids; (2) a peculiar shape of the area superomedial, which is much wider than long, the area posteroarum usually projecting angularly into the area superomedial; (3) comparatively narrow, nearly parallel-sided tergites 2 and 3.

The structure of the tyloids combined with furrinuous hypopygium, black-tipped femora III, and the above-mentioned type of carination distinguishes this form sufficiently from honestus Cresson (including subspecies milleri) Heinrich. The structure of tyloids and the constantly different type of carination of the propodeum seem to rule out the possibility of treating the series as a chromatic mutation of disparis flavidus Heinrich. These two characters, however, agree well with the Florida population of heiligbrotii, and the black, red and ivory-banded abdomen occurs also as a variation in the latter species. But, among more than 100 males of heiligbrotii, not one specimen with predominantly white mesopleura and white mesosternum has been found, a character which distinguishes the form treated here. Different from heiligbrotii (Florida population) is also the markedly greater extent of black, which color covers, in all specimens, almost the entire horizontal part of propodeum (excluding only the tips of area dentipes), the pronotum (except white ridge and base), the mesoscutum (except white lines), the upper third of mesopleura, the areas spiraculifera, part of metapleur, and exterior side of coxae III.
It appears doubtless that this is a distinct form. The question whether it represents a full species or a subspecies of heiligbrodtii remains, until further populations from outside Florida are available.

**Male**

Head ivory, with antennal cavity, broad middle of frons, ocellar and occipital regions black; thorax black and white; white area: collar, pronotal ridge and base, two long median and two short lateral lines on mesoscutum, prescutellar carinae, scutellum, postscutellum, subalarum, tegulae predominantly, prothorax except base, mesosternum entirely or predominantly mesopleural except black upper third, declivity of propodeum, tips of areae dentariae, end of areae spiraculiferae, areae metapleuralis apically to predominantly, carinal triangle; first tergite black with apical ivory band, often ferruginous between ivory band and black petiolus, tergites 2-4 or to 5 basally extensively black, 2-4 with apical ivory bands, chestnut-red between both colors, the following tergites chestnut-red, the 7th, rarely also the 6th tergite with apical white marks: legs ferruginous, apex of femora III black, usually also apex of tibiae III slightly infuscated; all trochanters and coxae ivory, exterior side of coxae III extensively, often entirely black, as is also base of first trochanters III dorsally; tarsi I and II, segments 3-5 of tarsi III, and inner side of femora and of tibiae I and II yellowish-tined: flagellum with white annulus; length 11-12 mm.

Flagellum.—With 33-34 segments, with rather distinct, short-oval, orange-colored tyloids on segments 7-17 (often also a punctiform tyloid on the 6th and 18th segment recognizable). Black, ventrally brown or black-brown, with white annulus on segments 10 or 11 or 12 to usually 16, sometimes 18; scape ventrally ivory.

**Female**

The female collected at the type locality and tentatively associated with the holotype shares the white apical marks on tergites 6 and 7, the broad ivory band on orbits, including the temple region, and the ferruginous basic color of the mesoscutum with heiligbrodtii. It differs from the latter species by broader, more curved temple-profile and in color by four longitudinal ivory lines on the mesoscutum, by yellow-tined mesosternum and mesopleura, and by continuous, apical ivory bands on tergites 1-3.

Light ferruginous; face, Clypeus, mesoscutum, and mesopleura extensively yellow-tined; the following ivory: broad band all around orbits, collar, pronotal ridge and base, two long median and two short lateral longitudinal lines on mesoscutum, prescutellar carinae, subalarum, scutella, areae posteroexternae, apical part of areae metapleuralis, continuous apical bands on tergites 1-3, small apical mark on tergite 6, a large apical mark on the 7th, coxae I and II almost entirely, large dorsal mark on interior side of coxae III and their ventral side, and all trochanters partially: black: are: marks on bases of propleura, exterior margin of mesoscutum narrowly, mark below subalarum, basal furrow of scutellum, axillary troughs, and basal furrow of propodeum medially: flagellum with white annulus; length 11 mm.

Flagellum.—Lanceolate, with 40 segments, the first slightly less than twice as long as apically wide, in lateral view the 6th square, the widest on the flat side more than 3 times as wide as long. Black, with dorsal white annulus on segments 7-15; scape ventrally ferruginous.

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Genus Vulgichneumon Heinrich

(Continued from Suppl. 2. Naturaliste can., 98, 1971)

3. Vulgichneumonphaeogenops, new species

**Types**


Allotype:—♂, Archbold Biological Station, Lake Placid, Florida, 22.VI.1967, C.G.H. II.


**Distribution**

North Carolina south to Florida, west to Mississippi.

**Preamble**

One of the smallest species of the subfamily. The spiracles of the propodeum are very small and only a trifle longer than wide, suggesting a relationship to the tribe Phaeogenini, while all other structural characters rather agree with the tribe Ichneumonini. The species is tentatively attributed to the genus Vulgichneumon, although the head structure is markedly different from the type species, brevicinctor Say.

**Female**

Uppermost part of face bearing the antennal sockets, in lateral view, strongly protruding, the face and clypeus gradually receding from this culminating point toward the apical margin of clypeus; cheeks broad, convex, and slightly receding toward carina genalis.

Light orange-ferruginous, tergites 5-7 predominantly black, the 7th with apical white mark, sometimes also the 6th apically white; apices of femora III and of tibiae III somewhat infuscated: flagellum with white annulus; length 5 mm.

Flagellum.—Short, filiform, not at all attenuated toward apex, slightly narrowed toward base, not distinctly flattened ventrally beyond middle, with 20 segments, the first nearly 1.5 times as long as apically wide, in lateral view about the 5th square, none wider than long. Ferruginous, with dorsal white annulus on segments 8 or 9 to 10; section beyond annulus blackish-infuscated: scape ferruginous.

**Male**

Light orange-ferruginous, only tergites 6 and 7 predominantly, the 5th not at all or restrictively, black; 7th tergite with apical white mark; apices of femora III and of tibiae III more extensively and intensively infuscated than in female, tibiae III sometimes blackish on dorsal side close to their bases: tarsi III more or less extensively, sometimes entirely, except only extreme bases of segments) blackish-infuscated: the following white: face, clypeus, collar, subalarum, tegulae in part, all trochanters, coxae I and II, and apical mark on 7th tergite: scutellum indistinctly ivory-tined, particularly apically and laterally: flagellum without annulus; length 6 mm.

Flagellum.—With 25 or 26 segments, slightly nodose beyond middle by transverse bristle-ridges on ventral side of segments, without clearly recognizable tyloids. Dorsally blackish-brown, ventrally ferruginous or brownish, scape ventrally pale orange-ferruginous.
V. Tribe Plesiobini

Genus Neolynicus Heinrich

(Continued from Supplement 2. Naturaliste can., 98, 1971)

1. Neolynicus mckelis Heinrich


Holotype.—♀, Water Valley, Mississippi, C.G.H. II.

Neallotype.—♂, Powhatan, Natchitoches Co., Louisiana, 11.VI.1971. C.G.H. II.

Distribution

Northern Mississippi (type locality); new record: northern Louisiana (neallotype locality).

Preamble

The neallotype and another male from the same locality differ rather strongly in color of the thorax from the holotype. I suppose that this is a matter of normal sexual dichromism rather than an indication of subspecific differentiation.

A second female, recently collected in Georgia, however, is chromatically so strikingly different from the holotype (of the same sex) that I suppose it represents another subspecies, which is described below.

Male

Head white, a transverse band on antennal cavities, occular and occipital regions, and a narrow stripe along carina genitalis, black; thorax orange and white with some black markings; orange are: median lobe of mesoscutum, exterior belt of lateral lobes, horizontal part of propodeum predominantly (including more than anterior half of areae spinuliferae), and a patch on and around scutellum: the following black: lateral lobes of mesoscutum predominantly, basal furrow of scutellum broadly, a mark on posterior part of propleura, a mark below subalar, axillary troughs, and basal furrow of propodeum; the rest of thorax white, including two longitudinal median lines on mesoscutum, the prescutellar carinae, and scutellum; legs orange, the coxae and trochanters I and II, coxa III dorsally and ventrally, extensively trochanters III ventrally in part, white; abdomen orange, petiole basally black, postpetiole with apical white band, sometimes also tergites 2-5 with blackish-infuscated basal bands; flagellum with white annulus; length 6 mm.

Flagellum.—With 32 segments, without (at 6 times magnification) recognizable tyloids. Black, with almost complete white annulus on segments 9 or 10 to 14 or 15, ventrally sometimes brownish; scape ventrally white.

Neolynicus mckelis georgianus, new subspecies

Types

Holotype.—♀, "Forsyth, Monroe Co., Georgia, USA., 7-28.VIII.1971"; leg. F. Naumann, C.G.H. II.

Distribution

Georgia.

Female

Agrees in structure with mckelis mckelis, except that the tibiae III and femora III are, in dorsal view, slenderer. Chromatically strikingly different, particularly by color of mesoscutum and pleuron.

Basic color of mesoscutum uniformly deep black, with two longitudinal median white lines reaching to the anterior border of the mesoscutum; all pleura orange, without white parts, except a white mark in lower apical corner of mesopleuron; prescutellar carinae white; otherwise as mckelis mckelis.

VII. Tribe Phaeogenini Ashmead


Allophaeogenini Townes, 1951, Hym. of Am. N. of Mexico, p. 276, and following publications.


Phaeogenini Walkley, 1967, Hym. of Am. N. of Mexico, 2nd Suppl. p. 130.

Type genus.—Phaeogenes Wesmael.

Preamble

This tribe, often separated from the rest of the subfamily under the name "Ichnoleoninae cyclopteinae", was not included in the SNIS. It is planned to treat the tribe comprehensively in a later supplement and only a new genus and species are described here. Terebraella, new genus, is placed, tentatively, in the tribe Phaeogenini on account of the small, circular spiracles of the propodeum, although the other structural characters are quite different from the type-genus, Phaeogenes.

Genus Terebraella, new genus

Type species.—Terebraella culicicica, new species.

Types


Allotype.—♂, same locality, 24.VI.1967. C.G.H. II.

Paratypes.—1 ♀, 2 ♂, same data as holotype; 1 ♀, same locality, 21.VI.1967; 1 ♀, Gainesville, 2.V.1968; 1 ♀, Highlands Hammock State Park, Highlands Co., Florida, 29.IX.1969; 2 ♀, same locality, 22.-30.IX.1969. All in C.G.H. II.

Distribution

Florida.

Female

Pale ochreous-orange, without white markings: apex of femora III, the tibiae III, tarsi III, and usually tergites 5 or 6 to 7, slightly infuscated: flagellum with white annulus; length 6 mm.

Flagellum.—Bristle-shaped, long and very slender, with 22 segments, the first about 6 times as long as wide, all segments distinctly longer than wide. Black, with complete white annulus on segments 7-10 or 11 (base); the first, and less distinctly the second segment ferruginous-tinged; scape ochreous-orange.

Male

Ventral side of thorax with coxae and trochanters somewhat paler than female; flagellum without white annulus; otherwise as female; length 4-5 mm.

Flagellum.—With 22 segments and with moderately distinct, broadly-bacilliform tyloids on segments 9-12. Black, without annulus, the scape and first segment (the latter at least ventrally) ochreous-orange. The following segments ventrally more or less distinctly brownish.