

NEW INDIAN ICHNEUMONIDAE.

By R. A. CUSHMAN, *Bureau of Entomology, United States Department of Agriculture.*

The insects described below have been received at various times from the Forest Zoologist at Dehra Dun, United Provinces, India.

Callipehialtes odinae, n. sp.

Female.—Length 12 mm.; antennae 8 mm.; ovipositor 16 mm.

Head twice as broad as thick, temples rather strongly receding; vertex, frons and temples polished, unsculptured; face with fine separated punctures and dense silvery pubescence interspersed with long hairs, slightly narrower than frons and slightly broader than long; clypeus medially hardly half as long as interfoveal line; malar space very short. Thorax about twice as long as deep, polished, mesoscutum sparsely and finely punctate, mesopleurum below and sternum more sparsely so; prescutum prominent, notauli deeply impressed anteriorly; upper part of metapleurum and propodeum rather coarsely and confluent punctate, the median groove sparsely punctate and apical slope polished; stigma and radial cell very narrow, second abscissa of radius strongly recurved at base; areolet large, more than twice as wide at base as at apex, first intercubitus nearly as long as second and strongly sloping; nervellus strongly reclivous, broken slightly above upper third, upper abscissa perpendicular to cubitella; legs slender, hind femur barely reaching apex of third tergite, basitarsus as long as remaining joints united. Abdomen slender, about two and one-half times as long as thorax, strongly punctate, confluent so medially on first five tergites; first two tergites not quite twice as long as broad at their junction, second with deep oblique grooves at base; third to fifth successively shorter, fifth about as long as broad at base, lateral elevations strong, round.

Black; clypeus piceous; palpi pale; tegulae and radices whitish; front and middle legs testaceous, paler in front; hind legs piceous black, sutures paler; wings hyaline with dark venation; abdomen more or less brownish at sides toward apex.

Male.—Face distinctly narrower than long; abdomen tapering slightly from apex of second tergite, elevations less prominent, tergites 5-7 nearly equal in length; genital sheath large, broad at apex; hypopigium very narrow; scape and pedicel white below; hind leg ferruginous, tibia black, its basal third stramineous, tarsus black. Otherwise essentially like female.

Host.—*Odina wodier*.

Type-locality.—Golattappar, Dehra Dun, United Provinces, India.

Type.—Cat. No. 40426, U. S. N. M.

One female and two males reared by N. C. Chatterjee, the males on January 3 and the female on January 13, 1923.

The male paratype is deposited in the British Museum.

Campoplegidea Viereck.

Campoplex Authors, not Gravenhorst.

Anisitsia Viereck, *Proc. U. S. Nat. Mus.*, XLII, p. 632 (1912).

Campoplegidea Viereck, *Proc. U. S. Nat. Mus.*, XLII, p. 633 (1912).

Viereckiana Strand, *Arch. Naturg.*, LXXX, p. 163 (1914).

Anisitsia, proposed for certain species of *Campoplex* Authors, was based entirely on characters of no more than specific significance; and, although he does not state so specifically, Viereck has apparently recognized this fact, for in his revision of the Charopsinae (*Trans. Roy. Soc. Can.*, sec. V, p. 259, 1925), he omits the genus from his key and uses the name *Campoplegidea* in that place in the key where the species formerly referred to *Anisitsia* will run.

Viereckiana is merely a renaming of *Anisitsia*, which was pre-occupied.

The following new species agrees with two of the five characters ascribed to *Anisitsia*, both of which are shared by *Campoplegidea* as originally restricted by Viereck, but disagrees with the other three.

***Campoplegidea deodarae*, n. sp.**

Runs nowhere satisfactorily in either Morley's key to Indian species of *Campoplex* or Schmiedeknecht's key to Palaearctic species.

Female.—Length 9 mm.; antennae 7 mm.; ovipositor hardly 1 mm.

Head from above transversely oval, twice as broad as thick, the temples strongly receding and continuing the curvature of the eyes; postocellar and ocell-ocular lines subequal, diameter of ocellus a half longer, ocell-occipital line as long as breadth of ocellar triangle; eyes deeply emarginate; face distinctly wider than frons, combined face and clypeus as long as broad, clothed with long, dense, silvery hair, the clypeus very broad and broadly rounded at apex; malar space at its narrowest point much less than half as long as basal width of mandible; flagellum thick, first joint twice as long as thick, those toward apex slightly transverse. Thorax stout, about a half longer than deep; pronotum in humeral angles and mesoscutum closely finely punctate opaque; mesopleurum sparsely punctate, shining, speculum polished; propodeum sloping, only slightly arched, not reaching middle of coxae, medially channelled, without distinct carinae, opaque coriaceous; stigma small and narrow; areolet briefly petiolate, recurrent far before middle; nervulus strongly postfurcal; abscissula about twice as long as intercubitella; nervellus unbroken; legs moderate, the hind femur reaching apex of second tergite; longer hind calcarium reaching distinctly beyond middle of basitarsus. Abdomen much less than twice as long as head and thorax, moderately compressed from base of second tergite; first segment rather stout, in profile of nearly uniform thickness, postpetiole depressed, nearly twice as broad as petiole, with two deep lateral foveae and a shallower median fovea between the spiracles, spiracles at apical third, sternite reaching slightly beyond spiracles; second tergite two-thirds as long as first, its spiracles at apical two-fifths, its sternite a half longer than third, other tergites successively shorter; ovipositor sheath little more than half as long as first tergite.

Black, with abdomen beyond second tergite red; mandibles, palpi, tegulae and radices whitish; antennae black, dark reddish toward apex;

coxae black, front pair pale at apex; front legs otherwise stramineous, femora slightly reddish; middle and hind trochanters and femora black, sutures brown; middle tibia and tarsus stramineous; hind tibia ferruginous, tarsus fuscous; wings hyaline, venation blackish; first and second tergites more or less dark reddish apically and laterally, third black in basal middle.

Male.—Middle leg, except base of coxa, stramineous; abdomen more slender; otherwise essentially like female.

Type-locality.—Bodyar, 8,300 feet, Chakrata, United Provinces, India.

Type.—Cat. No. 40427, U. S. N. M.

One female and three males reared by F. K. Makins in March and April, 1924, from a "Deodar defoliator."

A male paratype is deposited in the British Museum.

Charops ganges, n. sp.

Female.—Length 10 mm.; antennae 5 mm.; ovipositor less than 1 mm.

Head thin, more than twice as broad as thick, opaque; temples weakly convex; diameter of ocellus two-thirds postocellar line and nearly twice ocell-ocular line; combined face and clypeus as long as broad, finely rugulose punctate, distinctly broader than frons; clypeus in profile strongly inflexed at apex; mouth distinctly narrower than face; malar space half basal width of mandible; antennae stout, slightly tapering toward apex. Thorax barely a half longer than deep; pronotum strongly foveolate in groove, opaque punctate in humeral angle; mesoscutum and scutellum finely confluent punctate, scutellum broader than long, concave, not margined laterally; mesopleurum reticulate rugose, without well defined speculum or groove; sternum densely punctate; propodeum extending nearly to apex of coxa, all longitudinal carinae more or less defined, transverse carinae wanting; median and pleural areas transversely rugose, lateral areas reticulate rugose; metapleurum irregularly transversely rugose; hind femur barely reaching apex of first segment; longer calcarium three-fifths as long as basitarsus. Abdomen very slender; second tergite three-fourths as long as first and nearly twice as long as third; third to sixth subequal; ovipositor sheath half as long as first segment.

Black; mandibles, palpi, radices of wings yellow; front leg, except coxa, basal trochanter joint and a spot on under side of femur yellow; middle and hind legs black, with articulation of femur with trochanter, apex of middle femur, its entire tibia and basitarsus, and extreme base of hind tibia yellow; wings hyaline, venation dark; abdomen with tergites black, sternites brown, membrane yellowish; petiole piceous.

Male.—Essentially like female. Genital sheath broad at apex, barely exerted.

Type-locality.—Dehra Dun, United Provinces, India.

Type.—Cat. No. 40428, U. S. N. M.

One female and two males reared by C. F. C. Beeson, February 5 to March 3, 1916, from larvae of an arctiid.

The male paratype is deposited in the British Museum.

Hyposoter lymantriae, n. sp.

Female.—Length 7 mm.; antennae broken, but apparently reaching at least to apex of second segment; ovipositor not exerted.

Head very thin, temples and vertex sharply receding from eyes and ocelli; eyes broadly but rather deeply emarginate; face very slightly broader than frons; head granularly opaque, somewhat shining behind, not distinctly punctate; ocelli in a low triangle, diameter very nearly as long as postocellar line and much longer than ocell-ocular line; clypeus broadly subtruncate; malar space nearly as long as basal width of mandible; antennae rather stout, tapering toward apex. Thorax barely a half longer than deep; opaque, densely obscurely punctate on mesoscutum, scutellum and mesopleurum; speculum subopaque, groove indistinctly transtriate anteriorly; propodeum short, precipitate behind, finely opaque above, irregularly transrugose behind; areola fully as broad as long, confluent with petiolar area, costulae sub-distinct, spiracular carina not extending above spiracles, latter rather large, sub-circular; areolet small, petiolate, recurrent nearly at apex; hind femur reaching apex of third tergite. Abdomen twice as long as thorax, slightly compressed from base of third segment; petiole depressed, postpetiole twice as broad as petiole; second tergite nearly as broad at apex as long, third fully as broad at base as long.

Black; mandibles, palpi, tegulae, front leg, except femur, middle trochanter and tibia and apical joint of hind trochanter yellowish stramineous to yellow; hind coxa and basal joint of trochanter (largely) black; all femora red; hind tibia yellow, apically and sub-basally fuscous, tarsus black with base of first joint yellowish.

Male.—More slender; temples less strongly receding; but otherwise essentially like female.

Host.—*Lymantria concolor* (Walker).

Type-locality.—Kangra Forest, Punjab, India.

Type.—Cat. No. 40429, U. S. N. M.

One female and two males reared August 13-18, 1917, by O. H. Walters. The male paratype is deposited in the British Museum.

Diectes gardneri, n. sp.

Very closely related to *argenteopilosa* (Cameron) as identified below, differing conspicuously only in its black hind femur and darker tibia and tarsus and shorter ovipositor.

Female.—Length 7 mm.; antennae 4.5 mm.; ovipositor 1 mm.

Head and thorax clothed with dense silvery pubescence, longest on face and propodeum. Head rather thick, frons and vertex less densely pubescent, very densely and finely rugulose punctate, frons flat; ocelli rather large, their diameter about two-thirds length of postocellar line and nearly twice that of ocell-ocular line; malar space about one-third basal width of mandible; eyes distinctly emarginate opposite antennae; face distinctly though not much narrower than frons. Thorax hardly a half longer than deep, very densely and finely punctate opaque, the speculum opaque alutaceous; propodeum completely areolated, areola hexagonal, hardly longer than broad; stigma very small and narrow,

only a little more than half as long as radial cell (measured on metacarpus), fully four times as long as broad, and only slightly broader at junction of radius than at base; intercubitus longer than second abscissa of cubitus; hind legs short, femur barely reaching third tergite and tibia falling far short of apex of abdomen; tibia as thick at apex as femur; basitarsus little more than half as long as tibia and about as long as three following joints combined. Abdomen a third longer than head and thorax; second and third tergites subequal in length, first a half longer, postpetiole more than twice as broad as petiole; ovipositor sheath barely as long as first tergite.

Black, with abdomen beyond second segment red; mandibles, palpi, scape and pedicel except a black line dorsally, tegulae, radices, front and middle coxae and all trochanters whitish; flagellum fuscous, more reddish toward apex, wings clear hyaline, veins and stigma blackish; front and middle femora and tibiae testaceous, their tarsi paler; hind femur piceous black on outside, reddish piceous within; tibia black, with broad, indistinct reddish annulus in middle and paler at extreme base; tarsi black; second tergite with a subapical red band; third tergite black in basal middle.

Male.—Like female but areola narrower, and hind femur testaceous, tibia less extensively black, with paler annulus, and tarsi reddish fuscous; abdomen black dorsally throughout its length.

Host.—*Hyblaea puera*.

Type-locality.—Nilambur, Madras, India.

Type.—Cat. No. 40430, U. S. N. M.

Three females and one male, all reared from the same host by S. N. Chatterjee, the type and one paratype June 18, the other paratype June 15, and the allotype June 20, 1925.

In one of the paratypes the second abscissa of cubitus is as long as intercubitus, and the third tergite is somewhat shorter than second.

Dedicated to Mr. J. C. M. Gardner.

A female paratype is deposited in the British Museum.

***Diectes argenteopilosa* (Cameron).**

Zaporus? argenteopilosus Cameron, *Journ. Bombay Nat. Hist. Soc.*, 1907, p. 590, ♀.
Diectes argenteopilosa Morley, *Fauna Brit. India., Hym.*, III, Ichn., Pt. 1, p. 473, ♀ (1913).

Five specimens, two females and three males, that appear certainly to be of this species were reared by S. N. Chatterjee from the larvae of *Pyrausta macheralis* at Rahatgaon, Hoshangabad, Central Provinces. I had at first thought these specimens could not be referred to *argenteopilosa* because of their nearly circular propodeal spiracle and their yellow mandibles, scape and coxae. But Moreley says that the spiracle in the type is circular; and because of the close agreement of these specimens with the descriptions otherwise I am constrained to think that the red colour of the scape and mandibles in the type is due to staining.

The male, which has not been described, differs very little from the female, the most striking difference being in the extension of black medially the entire length of the abdomen. The hind tarsus is black rather than reddish fuscous and the basitarsus is hardly longer than the next three joints combined.

Very closely allied to *gardneri* Cushman, described above, but the hind basitarsus is distinctly more than half as long as the tibia and fully as long as the remaining four joints combined; the ovipositor sheath is distinctly longer than the first tergite; the hind femur is black only toward base, and the tarsus is distinctly red. Were it not for the structural differences in legs and ovipositor, I should be inclined to consider the two as no more than colour variants.

Pristomerus microdon, n. sp.

Female.—Length 6.5 mm.; antennae 3.75 mm.; ovipositor 2.7 mm.

Head very slightly wider than thorax; vertex, temples and frons opaque alutaceous, sparsely punctate; stemmaticum shining, medially longitudinally impressed; ocelli rather small, diameter slightly longer than ocell-ocular line, postocellar line nearly twice ocell-ocular; face shining, rather densely punctate, not quite twice as broad as long; clypeus rather flat, about twice as broad as long, weakly rounded at apex; eyes parallel within, a fifth longer than their distance apart; malar space hardly half as long as basal width of mandible; antennae rather stout. Thorax rather stout, polished, evenly but not densely punctate, mesoscutum anteriorly faintly alutaceous; pronotum weakly foveolate in lateral groove; mesepisternal groove deep, weakly transtriae anteriorly; speculum polished; propodeum short, precipitate behind, punctate above and at sides, transrugose behind; areola pentagonal, much more than half as broad as long and a little shorter than petiolar area; stigma twice as long as broad, radius beyond middle; nervellus faintly broken below middle; legs rather slender; femoral tooth very small, at about apical third. Abdomen basally longitudinally striate, alutaceous beyond second tergite; ovipositor apically sinuous.

Black; clypeus and malar space ferruginous; mandibles whitish; antennae fuscous, scape, pedicel and base of flagellum testaceous; wings hyaline, not at all infumate apically, venation brown, base of stigma pale, tegulae and radices white; front and middle legs pale testaceous to stramineous; hind legs black and white, coxa and femur except their apices black, tibia blackish at apex and sub-basally, brownish stramineous below, tarsal joints narrowly brownish at apices, last joint black; abdomen black; petiole hardly paler at base; second tergite narrowly pale at apex; third and following tergites blackish at base, reddish at apex.

Male.—Ocelli larger, their diameter nearly as long as postocellar line and nearly twice ocell-ocular line; areola longer than petiolar area; hind femur stouter with the much larger tooth at apical two-fifths.

Hosts.—*Pyrausta macheralis*; *Hyblaea puera*.

Type-locality.—Rahatgaon, Hoshangabad, Central Provinces, India.

Type.—Cat. No. 40431, U. S. N. M.

Two of each sex from the type-host and one male from *Hyblaea*, all reared by S. N. Chatterjee, July 9 to September 24, 1926.

In the paratype female the black and red of the apical tergites are blended, forming a nearly uniform reddish brown.

A female paratype and one of the males are deposited in the British Museum.

Mesochorus facialis Bridgman.

Four specimens, reared from some insect feeding on oak in Kangra Forest, Punjab, India, correspond to this species in both Morley's and Schmiedeknecht's keys, and differ from the description in no irreconcilable way.

Morley, who has seen cotypes of *facialis*, also records the species from India.