

## Genus CHEILOSIA Panz. (1809).

*C. fulvipes* n. sp.

♀. Eyes bare, dichoptic; front brilliant purple, sparsely clothed with black hair, a transverse median depression connected by a distinct longitudinal furrow with apex of ocellar triangle; the latter cupreous and bordered with black; frontal orbits at antennae with a silvery pubescence; lunular area black. Antennae situated well up on head, separated at base, 1st and 2nd joints black; 3rd joint of type and of all other specimens lost. Face shining purple, a patch of silvery tomentum and not excavated beneath antennae; distinct central knob black; sides of face sparsely clothed with short hair; facial orbits narrowly silvery pubescent; oral margin projecting somewhat; cheeks black and clothed with short silvery hair. Proboscis blackish-brown, palpi paler. Occiput purplish-black, depressed, posterior orbits narrowly silvery.

Thorax and scutellum brilliant cupreous, indistinctly clothed with very short hair. Wings somewhat translucent, stigma clouded with tawny; cell  $Cu_2$  very broad owing to veins 1st A and Cu curving into anal angle and cell M respectively; on one wing cross-vein  $r-m$  is forked, thus meeting vein  $M_{1+2}$  in two places; halteres rather tawny. Legs purplish-black, except apices of femora, tibiae, base of all protarsi, and apex of posterior protarsi, which are tawny. Anterior tarsi somewhat broadened; posterior tibiae slightly and middle tibiae distinctly broadened.

Abdomen rather ovate, shiny purplish-black.

♂. Eyes holoptic for a short distance; front black with some erect black hair and a greyish tomentum extending into short white hair below on facial orbits. Antennae black. Face greenish-black, central knob pronounced, black.

Thorax and scutellum rather dull black, with a coppery and purplish tinge and clothed with greyish hair. Legs as in ♀ but tibiae with distinct central dark area; anterior and middle tibiae, particularly the latter, greatly broadened except for very narrow basal portion; posterior tibiae slightly thickened, their protarsi swollen; anterior protarsi and epitarsi broadened somewhat.

Abdomen linear, somewhat shiny, almost black with pair of large glaucous spots one on each side of 2nd, 3rd, and 4th segments. Genitalia brownish.

♀. Length, 6 mm. ♂. Length, 7 mm.

Holotype: ♀, No. 1259, D. M.

Allotype: ♂, No. 1259A, D. M.

*Habitat*.—Otira (R. J. Harris); Mount Rolleston and Arthur's Pass (J. W. Campbell).

*C. captalis* n. sp.

♀. Eyes bare, dichoptic; front broad, greenish-black, clothed with delicate white hair; a silvery area of hair, seen in some lights, on each orbit opposite antennae. Antennae situated above middle of head, black with greyish tomentum; 3rd joint oval. Face convex, shiny black, central knob distinct; a silvery patch of tomentum below antennae; a distinct furrow on face from antennae to lower eye-margin. Proboscis and palpi black, Occiput black, depressed, orbits clothed with short silvery hair.

Thorax and scutellum rather shiny greenish or bluish black, clothed with short silvery hair. Wings rather translucent, stigma tawny; halteres

brownish. Legs greenish-black with short greyish vestiture on tibiae and tarsi; posterior protarsi swollen; joints of anterior tarsi broadened and flat.

Abdomen shiny greenish-black, sparsely clothed with short greyish hair; rather ovate, broadest across posterior margin of 2nd segment.

♀. Length, 6 mm.

Holotype: No. 1260, D. M.

*Habitat.*—Otira (J. R. Harris).

#### Genus *HELOPHILUS* Meigan (1822).

##### *H. taruensis* n. sp.

♀. Eyes bare; front brownish-black, clothed with delicate blackish-brown hair; a rather broad somewhat tawny band across front. Antennae blackish-brown with a rather greyish tomentum. Face lemon-yellow, a shiny stripe down middle and sparsely clothed with lemon-yellow hair. Oral margin broadly bordered with brownish-black; cheeks greyish-black and clothed with yellow hair. Proboscis and palpi blackish-brown. Occiput rather yellowish, clothed with short yellow hair; the narrow orbits pale greyish-yellow below, but blackish-brown above to vertex.

Thorax blackish-brown, pleurae dull, with a greyish-yellow tomentum, the whole clothed with yellowish to golden hair denser on pleurae and margin of dorsum; the shiny dorsum with a pair of broad greyish-yellow stripes and bordered on each side with this colour. Legs blue-black, sparsely clothed with greyish hair; posterior femora broadened, a tooth-like process present below and some short black spines distally; a tawny spot near apex; onychotarsi tawny; pulvilli and base of claws white, apex of latter black. Wings slightly tinged with brown, veins brown and stigma dark brown; squamae fringed with long branched reddish hair, the alulae with very short hair; cross-vein *r-m* slightly beyond middle of cell 1st  $M_2$ ; halteres tawny.

Abdomen ovate, somewhat shiny blue-black; 1st segment dull grey except for dark spot on each side at posterior margin; large very indistinct paler areas on each side of 2nd, 3rd, and 4th segments; the whole clothed with very short yellowish hair, longer along sides; black rather bristle-like hairs across posterior margin and at angles of 3rd and 4th segments.

♀. Length, 12 mm.

Holotype: No. 1262, D. M.

*Habitat.*—Tararuas, 2,600 ft. (J. G. Myers).

A specimen of what appears to be the male of this species was found by Mr. J. G. Myers at sea-level, Auckland. Colour and vestiture as in female, though vestiture of abdomen and legs is longer and more golden. Eyes dichoptic, angulated on front; a concave transverse groove at this point, above which orbits are parallel and below divergent. First abdominal segment greyish only on middle; indistinct paler areas on abdomen as in female. Length, 10 mm.

##### *H. hectori* n. sp.

♀. Front dull black with greyish tomentum, clothed with blackish hair. Antennae black but with reddish tint and greyish reflection. Face black, the central convexity and a broad area at oral margin widening to orbits clothed with cinereous tomentum; sides of face with a few long and delicate cinereous hairs; facial orbits and cheeks cinereous, the latter haired and

with a black spot at lower eye-margin. Proboscis and palpi blackish-brown. Occiput depressed, greyish-black, clothed with very delicate greyish hair; posterior orbits broad with short grey hairs below, but a single row, becoming double on vertex, of erect black hairs above.

Thorax clothed with greyish to yellow hair with some erect black ones on dorsum; pleurae cinereous to greyish-black. Dorsum velvet-black, a pair of cinereous rather narrow stripes tapering to a point before reaching scutellum; humeri and sides of dorsum cinereous; cinereous area posterior to humeri and extending over alar region. Scutellum clothed with brownish to golden hair, shiny blackish-brown, apex rather tawny. Legs blackish-brown, sparsely clothed with short whitish hairs, which are rather bristle-like and blackish on posterior femora; the latter distinctly thickened, without a distinct inferior tooth-like process but with stout spines and a reddish-yellow spot below distally; lower side of tarsi, particularly protarsi, with a few short stout spines. Wings slightly tinged with brown, stigma tawny; cross-vein *r-m* at middle of cell 1st  $M_2$ ; squamae fringed with tawny branched hair; halteres tawny.

Abdomen shiny bronze-black, extreme apex tawny; the whole sparsely clothed with short grey hair, longer on sides.

♂. Length, 9 mm.

Holotype: No. 1263, D. M.

*Habitat*.—Mount Hector, 5,000 ft. (J. G. Myers).

#### Genus OCYPTAMUS Macq. (1834).

##### *O. doralis* n. sp.

♂. Eyes bare, dichoptic, though more approximated at vertex; vertex and upper part of front shiny blackish-brown; anterior margin of this area, which ends a little in front of ocellar triangle, has a median triangular notch of yellow, the apex of which ends just in front of anterior ocellus; remainder of front yellow, the whole sparsely clothed with short blackish to yellowish hair; ocellar triangle bluish-black and elongate. Antennae short, inserted just above middle line of head; yellow except brown outer edge of 3rd joint, which is orbicular; arista dark brown. Face, cheeks, oral margin, and mouth-parts yellow; face descending almost vertically, without tubercle, though rounded at oral margin, which is not projecting.

Pleurae, halteres, and legs yellow; onychotarsi dark-brown and upper side of femora a rather darker yellow. Dorsum shiny bluish-green, margined with yellow, clothed with fine short hair giving a punctured appearance; scutellum bluish-green at base but otherwise brownish. Wings iridescent, clouded at stigma and apex above vein  $R_{4+5}$ ; vena spuria developed vein-like; halteres yellowish.

Abdomen narrow, linear, 2nd segment slightly constricted; shiny blue-black, sides of 1st segment yellow; a pair of tawny spots on 2nd, 3rd, 4th, and 5th segments, the last pair darker. Genitalia prominent and tawny.

♂. Length, 6 mm.

Holotype: No. 1264, D. M.

*Habitat*.—Wellington (J. W. Campbell).

*Studies of New Zealand Trichoptera, or Caddis-flies: No. 2, Descriptions of New Genera and Species.*

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## Plate 19.

IN No. 1 of these studies (*Trans. N.Z. Inst.*, vol. 53, pp. 346–50) I described a new genus and species belonging to the family Sericostomatidae. Succeeding parts were planned to take each of the more important families one by one, revising them thoroughly and adding the new genera and species proper to each. This plan has, however, been modified, as it is important that the new species should be published as soon as possible, while the revisions of the families may be left to later parts. In the present paper the family Rhyacophilidae is fully revised, with a key to all the known New Zealand genera; but there are also described some new genera and species belonging to other families, and the Calamoceratidae are for the first time shown to be represented in New Zealand.

At the present time twenty-seven species and sixteen genera of caddisflies are known from New Zealand. To these are now added seventeen new species and seven new genera, bringing the New Zealand totals up to forty-four species and twenty-three genera, or considerably more than are known for the whole of Australia. The new genera and species are distributed as follows:—

Family.	Previously described.		Added in this Paper.		Total.	
	Genera.	Species.	Genera.	Species.	Genera.	Species.
Rhyacophilidae ..	2	5	5	7	7	12
Hydroptilidae ..	1	1	1	1	2	2
Hydropsychidae ..	1	4	0	1	1	5
Polycentropidae ..	1	1	0	0	1	1
Calamoceratidae ..	1	1	0	1	1	2
Leptoceridae ..	4	6	0	1	4	7
Sericostomatidae ..	6	9	1	6	7	15
Total Trichoptera	16	27	7	17	23	44

NOTE.—The genus and species recorded in the first column under the family Calamoceratidae have been previously placed in the Sericostomatidae, but are here removed to their proper family, and constitute the first record of the occurrence of that family in New Zealand.

I wish here to thank all those entomologists in New Zealand through whose help specimens have been received for study or collected in the