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Metopiinae Collected by the Hokkaido University Expedition to Nepal Himalaya, 1968* (Hymenoptera, Ichneumonidae)

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Abstract Five species belonging to 4 genera of the subfamily Metopiinae are reported from Nepal. Of them, 4 species are new to science: *Triclistus mandibularis* (also occurring in Japan), *Colpotrochia* (C.) *kumatai*, *C. (C.) balajensis*, and *Hypsicera nepalensis*; 1 species is new to Nepal: *Metopius* (*Ceratopius*) *dissectorius*.

This paper is a report on Nepalese ichneumonflies of the subfamily Metopiinae based on the material collected from Central Nepal by the Hokkaido University Expedition to the Nepal Himalaya, 1968.

So far as I am aware, no species of the Subfamily Metopiinae have been known to occur in Nepal. In this paper are dealt with 5 species, of which four are new to science, and the other is new to Nepal. The main part of the collection, including type specimens of the new species described herein, will be preserved in the collection of the Entomological Institute, Hokkaido University, Sapporo.

Metopius (*Ceratopius*) *dissectorius* (PANZER)

Ichneumon dissectorius PANZER, Fauna insectum germanicae 98: 14, 1805-1806.

This species is new to Nepal. Judging from MORLEY's (1913) redescription of *M. (C.) dissectorius* lar MORLEY, 1912, based on Indian material, the Nepalese form is similar to *M. (C.) dissectorius* lar, but differs in having the following aspects:

♂. Scutellum black, yellowish brown on the apical margin and on the basolateral corners; tegula blackish basally, dirty yellowish brown apically; post-scutellum blackish on the basal half, yellowish brown on the apical half; hind femur black, with the apical 2/7 yellowish brown to dark brown, though this marking is not well defined; hind tibia dark reddish brown, darker apically; hind tarsus infuscate; abdominal tergites purplish black, with an apical yellowish-brown band on the 1st to 5th tergites each.

Length: Body 12.4 mm., forewing 9.1 mm.

Specimen examined. Nepal: 1♂, Kuinibisona, No. 1 West, 6-vii-1968, T. KUMATA leg.

Distribution. Nepal, India (Sikkim; Bengal), China, Korea, Formosa, Japan,

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Ryukyu Is., Saghalien, Europe.

Triclistus mandibularis sp. nov.

♀. Face weakly and rather sparsely punctate and weakly mat; face and clypeus combined slightly narrower than height; clypeus wide, polished, almost flat, with sparse punctures, the apex widely truncate; malar space about $1/2$ as long as basal width of mandible; mandible (Fig. 5) very narrow, strongly tapering towards apex, 2.8–3.0 times as long as its basal width, strongly twisted, with a single apical tooth, and with sparse hairs on base; frons and vertex weakly and rather sparsely punctate as in *pallipes*; temple weakly swollen, about 1.4 times as wide as eye in lateral view, sparsely haired, the hairs being absent on median area and denser towards eye and occipital carina; distance between lateral ocelli and eyes 1.6 times as long as diameter of an ocellus. Antennae with 19–22 segments; 1st flagellar segment 2.8–3.1 times as long as wide at apex and 1.7 times as long as the 2nd. Punctuation of mesopleurum as in *pallipes*; metapleurum with 1–4 hairs on lower posterior corner; scutellum weakly convex, with sparse punctures. Propodeum (Fig. 1) with median longitudinal carina strong and complete; costula entirely absent; 1st and 2nd lateral areas rather sparsely haired, the hairs becoming sparser posteriorly and bare on inner posterior corner; 2nd pleural area weakly granulate with dense hairs, 2.8–3.4 times as long as its basal width. Forewing with nervulus postfurcal by $3/5$ – $2/3$ of its own length; stigma large, about 2.6 times as long as wide, with radius emitted from basal $4/7$. Hind femur 2.3–2.4 times as long as wide in lateral view; hind spur of hind tibia including hairs about 3.0 times as long as wide. First abdominal tergite 1.5–1.6 times as long as wide at apex, with rather strong median longitudinal carinae on basal $1/2$; 2nd tergite approximately as long as wide at apex; abdominal tergites with sparse and setiferous punctures on lateral $1/3$, bare on median $1/3$; subgenital plate rather densely haired, the hairs being weakly slanted backwards.

Black. Antennae yellowish brown to dark brown, a little paler basally; palpi pale yellow; mandible yellowish brown to dark brown, the apical tooth being dark ferruginous. Subtegular ridge weakly tinged with yellowish brown. Legs pale yellow to light yellowish brown, the tibiae and tarsi a little paler. Wings hyaline.

Length: Body 3.9–4.2 mm., forewing 2.9–3.4 mm.

♂. Unknown.

Holotype: ♀, Nepal: Godavari, Kathmandu Valley, em. 22-vii-1968, bred by T. KUMATA. Paratype. Japan: 1♀, Amami-ôshima, Ryukyu Is., Kyushu, 5-v-1966, K. KUSIGEMATI leg.

Host. An undetermined microlepidopteron on *Quercus* sp. (Npl-76).

Distribution. Nepal and Japan (Ryukyu Is.).

This species may be immediately distinguished from any other congeneric species by the characteristic mandible which is strongly twisted and with a single

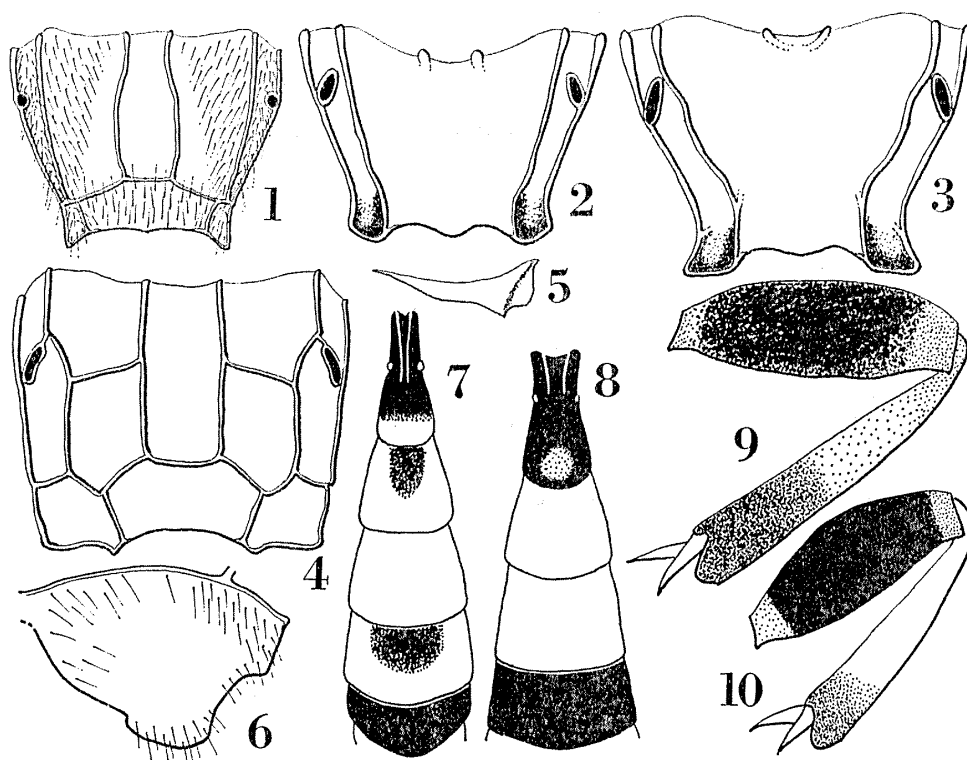


Fig. 1. Areolation and hair arrangement of propodeum, ♀, *Triclistus mandibularis* sp. nov. Figs. 2–4. Areolation of propodea. — 2, *Colpotrochia* (*C.*) *kumatai* sp. nov., ♂; 3, *C. (C.) balajensis* sp. nov., ♂; 4, *Hysicera nepalensis* sp. nov., ♀. Fig. 5. Mandible, ♀, *T. mandibularis* sp. nov. Fig. 6. Hair arrangement of metapleurum, ♀, *H. nepalensis* sp. nov. Figs. 7–8. Colour pattern and carinae of abdominal tergites, ♂. — 7, *C. (C.) balajensis* sp. nov.; 8, *C. (C.) kumatai* sp. nov. Figs. 9–10. Colour pattern of hind femora and tibiae, ♂. — 9, *C. (C.) balajensis* sp. nov.; 10, *C. (C.) kumatai* sp. nov.

apical tooth. Further, in general appearance this species is most closely related to the Holarctic and Oriental *T. pallipes* HOLMGREN, 1873, from which it is readily distinguished by the comparatively wide temple, by the very wide clypeus and by the narrow malar space.

***Colpotrochia (Colpotrochia) kumatai* sp. nov.**

♂. Face 8/9 as wide as high, subpolished, strongly and densely punctate with dense greyish long hairs; clypeus slightly convex, polished, coarsely and sparsely punctate with greyish long hairs; malar space narrow, 4/7 as long as basal width of mandible; mandibular teeth nearly equal in length and sharply pointed; interantennal process roundly arched, strongly narrowing towards the top in dorsal view of head, its horizontal rim very thin with a shallow and very narrow horizontal groove; distance between lateral ocelli and eyes about 3/7 as long as diameter of an

ocellus. Antennae with 57 segments, 1st flagellar segment 2.1 times as long as wide at apex and about 1.2 times as long as the 2nd; lateral sides of frons weakly and densely punctate with long greyish hairs. Upper margin of pronotum flat on posterior half, with a submarginal shallow groove on anterior half. Propodeum covered with whitish long hairs, with a median longitudinal bare area; lateral longitudinal carina (Fig. 2) strong, extending to apex of propodeum; pleural longitudinal carina (Fig. 2) strong, touching the propodeal spiracle and slightly sinuate just below the spiracle; propodeal spiracle (Fig. 2) large and elongate, with a vertical groove along the posterior margin; pleural area (Fig. 2) with a rather wide, deep concavity on posterior corner. Hind femur 2.9 times as long as wide in lateral view; hind basitarsus about 2.3 times as long as the 2nd and about 1.2 times as long as the 5th. First tergite 2.5 times as long as wide at apex, with obtuse and indistinct median longitudinal carinae, the carina not attaining beyond the spiracle (Fig. 8); 2nd tergite $8/9$ as long as wide at apex; 4th tergite with a lateral longitudinal suture throughout, the spiracle distant from the suture by 4.3 times of its own diameter; lateral longitudinal suture of 5th tergite present on basal $7/9$.

Black. Palpi yellowish brown; mandible yellowish brown except for dark brown base and apical teeth; flagellum yellowish brown to dark brown, paler ventrally; scape yellow with an apical dark brown band and a dark brown longitudinal stripe on the ventrolateral side; pedicel yellowish on the inner side, dark brown on the outer side. Subtegular ridge weakly tinged with yellowish brown; tegula yellowish brown, a little darker basally; scutellum black on the basal $3/5$, yellow to yellowish brown on the apical $2/5$; postscutellum black on the basal half, yellow to yellowish brown on the apical half. Front leg yellow to yellowish brown; coxa black, the inner side and apex yellowish brown; trochanter with a large dark brown marking on the outer side; basal $5/6$ of femur black on the outer side. Middle leg with coxa black except for apex yellowish brown; trochanter blackish except for both ends yellowish brown; femur black, the extreme base and apical $2/9-1/3$ yellow; tibia and tarsus pale yellow to light yellowish brown. Hind leg with coxa black except for extreme apex yellowish brown; 1st trochanter black except for extreme apex yellowish brown; 2nd trochanter yellowish brown; femur (Fig. 10) black except for both ends yellowish brown to dark brown; tibia (Fig. 10) pale yellow to light yellowish brown on the basal $5/7$, infusate on the apical $2/7$; tarsus yellowish brown to dark brown, darker dorsally. Abdomen (Fig. 8) with 1st tergite black with a subapical yellowish brown marking; 2nd and 3rd tergites entirely reddish brown; 4th and following tergites black. Wings subhyaline.

Length: Body 10.0 mm., forewing 8.3 mm.

♀. Unknown.

Holotype: ♂, Nepal: Thare, No. 1 West, 29-v-1968, T. KUMATA leg.

Distribution. Nepal.

This species is very closely related to the Indian *C. (C.) antennata* (MORLEY, 1913), but it may be distinguished from the latter by the scutellum slightly convex

and with an apical yellow band, by the hind basitarsus longer than the last segment, by the 1st tergite with a subapical yellowish brown marking, by the 2nd tergite entirely reddish brown. Furthermore, it is also allied to the Japanese and Chinese *C. (C.) jozankeana* UCHIDA, 1930, from which it is easily distinguished by the interantennal process of which the lamella is roundly arched and narrow with a very narrow and shallow horizontal groove on the horizontal rim, and by the 5th tergite with lateral longitudinal suture.

This species is named in honour of Dr. T. KUMATA who collected the type specimen.

Colpotrochia (Colpotrochia) balajensis sp. nov.

♂. Face about 0.9 times as wide as high, subpolished, strongly and moderately densely punctate with moderately dense greyish hairs; clypeus almost flat, polished, coarsely and sparsely punctate with sparse greyish hairs; malar space $\frac{3}{8}$ as long as basal width of mandible; mandibular teeth sharply pointed and nearly equal in length; interantennal process angulately curved, strongly narrowing towards the top in dorsal view of head, its horizontal rim thick with a rather deep horizontal groove; distance between lateral ocelli and eyes about $\frac{5}{9}$ as long as diameter of an ocellus; lateral sides of frons finely and densely punctate with moderately long greyish hairs. Antennae with 62–64 segments; 1st flagellar segment 2.1–2.2 times as long as wide at apex and 1.3–1.5 times as long as the 2nd. Upper submargin of pronotum with a shallow groove throughout. Propodeum covered with rather sparse greyish or dark brown hairs, with a median longitudinal bare area; lateral longitudinal carina strong and complete (Fig. 3); pleural longitudinal carina (Fig. 3) strong, touching the propodeal spiracle and straight, sometimes slightly sinuate just below the spiracle; propodeal spiracle large and elongate (Fig. 3); posterior concavity of pleural area moderately deep, without a oblique carina (Fig. 3). Hind femur 2.8–2.9 times as long as wide in lateral view; hind basitarsus 2.3–2.5 times as long as the 2nd and 1.6–1.8 times as long as the 5th. Scutellum slightly convex, with rather dense whitish hairs, the lateral ridge obsolete. First tergite 2.2–2.4 times as long as wide at apex, with obtuse and indistinct median longitudinal carinae, the carinae attaining beyond the spiracle (Fig. 7); 2nd tergite 0.9–1.0 times as long as wide at apex; 4th tergite with a lateral longitudinal suture on basal $\frac{3}{4}$, the spiracle distant from the suture by 3.0 times its own diameter; lateral longitudinal suture of 5th tergite entirely absent.

Black. Palpi yellowish brown; mandible yellowish brown except for dark brown base and apical teeth; flagellum light reddish brown, a little darker apico-dorsally; scape light yellowish brown, with a longitudinal dark brown stripe on lateral side; pedicel light yellowish brown. Pronotum usually with a transverse narrow marking on the anterodorsal submargin, the posterodorsal corner yellowish brown; tegula light yellowish brown, a little darker basally; subtegular ridge yel-

lowish brown to dark brown; scutellum and postscutellum entirely light yellowish brown. Propodeum entirely black, sometimes with a narrow reddish brown transverse subapical band. Front leg yellow to yellowish brown; coxa blackish, the inner side and apex yellow to yellowish brown; trochanters dark brown, a little paler ventrally; femur yellow, dark brown on about basolateral 1/2. Middle leg with coxa blackish, yellowish brown to dark brown on apicoventral side; trochanter dark brown; femur dark brown to blackish, yellowish brown to dull yellowish brown on about apical 1/3; tibia and tarsus light ferruginous. Hind leg with coxa blackish, sometimes the dorsal side weakly tinged with dark brown; trochanters dark brown, a little paler apically and ventrally; femur dull reddish brown to dark brown, a little paler apically (Fig. 9); tibia yellowish brown basally, dull reddish brown apically (Fig. 9); tarsus dull reddish brown. Abdomen (Fig. 7) with 1st tergite black, reddish brown on about apical 2/9; 2nd tergite reddish brown, blackish on basomedian 2/5–2/3; 3rd tergite entirely reddish brown; 4th tergite reddish brown, blackish on basomedian 1/2, sometimes blackish medially and reddish brown laterally; 5th and succeeding tergites black. Wings testaceous.

Length: Body 11.5–12.9 mm., forewing 8.9–9.6 mm.

♀. Unknown.

Holotype: ♂, Nepal: 16-iv-1968, Balaju, Kathmandu, T. KUMATA leg. Paratypes. Nepal: 1♂ (13-iv-1969) & 1♂ (16-iv-1968), Balaju, Kathmandu, T. KUMATA leg.

Distribution. Nepal.

This species is similar to the preceding species, *C. (C.) kumatai* sp. nov., but is easily distinguished from the latter by the 5th tergite without lateral longitudinal suture, by the horizontal rim of the interantennal process thick, by the scutellum and postscutellum entirely yellowish brown. Further, it is also allied to the eastern Palearctic and Oriental *C. (C.) pilosa* (CAMERON, 1909), from which it is distinguished by the interantennal lamella which is high and angulately curved, by the lateral longitudinal carina of the propodeum which is extending directly to the apex of the propodeum and by the scutellum without lateral carinae.

Hypsicera nepalensis sp. nov.

In general structures this species is most closely related to the cosmopolitan species *H. femoralis* (FOURCROY, 1785), from which it clearly differs in the 2nd lateral area of the propodeum more densely haired, the metapleurum sparsely haired and with a large bare area on the central portion, the hind femur comparatively slender, the radius emitted from basal 5/9, etc.

♀. Face strongly and densely punctate, weakly rugosopunctate dorsally, the punctures becoming a little weaker and sparser ventrally; clypeus polished, weakly and sparsely punctate, the punctures sparser ventrally, its apical margin slightly concave medially; face and clypeus combined 8/9 as wide as high; malar space about

1.6 times as long as basal width of mandible; mandible strongly tapering towards apex, the lower tooth very short; frons slightly convex, weakly and closely punctate; distance between lateral ocelli and eyes about as long as diameter of an ocellus; occipital carina obsolete, the lower portion being completely absent. Antennae with 39 segments; 1st flagellar segment about 2.5 times as long as wide at apex and 2.0 times as long as the 2nd. Punctuation of mesoscutum, scutellum and mesopleurum as in *femoralis*; notaulus very shortly impressed; metapleurum very sparsely haired, with a large central bare area (Fig. 6). Propodeum (Fig. 4) strongly and completely areolated; 1st and 2nd lateral areas almost entirely covered with rather dense hairs; 2nd lateral area 1.7 times as long as its basal width; propodeal spiracle long-ovate, closer to pleural longitudinal carina than to lateral longitudinal carina. Forewing with nervules postfurcal by $1/2$ of its own length; portion of cubitus between intercubitus and 2nd recurrent vein $2/3$ as long as intercubitus; stigma slender, about 3.9 times as long as wide, with radius emitted from basal $5/9$; nervellus weakly inclivous. Legs stout; hind femur about 2.3 times as long as wide in lateral view; front and middle tarsal claws strongly pectinate. Abdomen stout; 1st tergite about 1.2 times as long as wide at apex, with strong median longitudinal carinae on basal $5/9$; 2nd tergite $5/6$ as long as wide at apex, with lateral longitudinal carina obtuse, attaining near the apex.

Black. Palpi yellowish brown; mandible yellowish brown, the base and apical teeth dark brown; interantennal process stained with yellowish brown; antennae infusate, a little paler apicoventrally. Subtegular ridge and posterodorsal corner of pronotum weakly stained with yellowish brown. Tegula light yellowish brown. Legs light yellowish brown to reddish brown, the front and middle legs a little paler. Wings hyaline.

Length: Body ca. 5.9 mm., forewing 4.6 mm.

♂. Unknown.

Holotype: ♀, Nepal: Dunche, No. 1 West, 31-vii-1968, T. KUMATA leg.

Distribution. Nepal.

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