

*Five new Asiatic Telenominæ (Hym., Proctotrupoidea).*  
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I AM describing below four species in *Telenomus* (s. str.) and one in its subgenus *Aholcus*.

The types are in the British Museum.

The material is interesting because the four species which I now place in *Telenomus* seem to invalidate the chief character (*i. e.*, presence or absence of hairs on eyes) on which I tried to base a division between this genus and the closely allied *Microphanurus* (Trans. R. Ent. Soc. Lond. lxxxiii. p. 74, 1935, and Ann. & Mag. Nat. Hist. xx. p. 116, 1937). According to the summary of differences given in the earlier paper, there is no doubt that the four new species in question are rightly placed in *Telenomus*.

Later on, I hope to be able to offer a redefinition of the two genera.

Subfamily *TELENOMINÆ*.

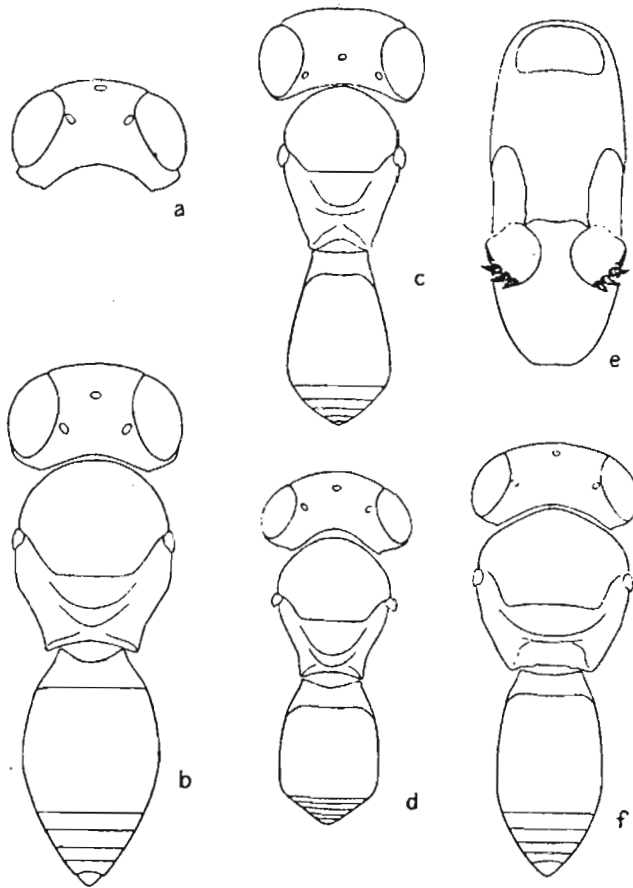
*Telenomus usipetes*, sp. n. (Fig. 1, *d.*)

♂♀. Brownish black, the abdomen slightly paler. Legs, except the anterior coxæ, whitish yellow. Except for the apical 4 segments of the ♀ antenna, which are darkened, antennæ in both sexes more or less same colour as the legs.

♀. *Head* markedly wider than the thorax. Frons almost everywhere smooth, shining. Vertex between the ocelli

shining, with hardly a trace of sculpture; behind the ocelli rather sharply declivous. Shortest distance between the eyes to their width as seen from above, as 6:5.

Fig. 1.



(a) *Telenomus olynthus*, sp. n., head of ♀ (from above and slightly from behind); (b) *Telenomus olynthus*, sp. n., body of ♀; (c) *Telenomus ochus*, sp. n., body of ♀; (d) *Telenomus usipetes*, sp. n., body of ♀; (e) *Telenomus usipetes*, sp. n., genitalia of ♂; (f) *Telenomus periparetus*, sp. n., body of ♀. All, except (e), drawn to the same scale.

Antennæ rather long (fig. 2, *h*); funicle 1 very slightly longer than wide; club sub-5-segmented. Eyes with

scattered, excessively short hairs, just discernible at magnification of ( $\times 60$ ).

*Thorax* not at all flattened, short and high in profile. Mesonotum feebly shining, its sculpture very weak and quite indefinite. Scutellum convex, smooth and shining, not markedly transverse. Postscutellum rugulose. Wings very pale; venation pale, indistinct; hind wings virtually parallel-sided beyond the nervature, their fringe slightly longer than their greatest width. Legs fairly slender; segment 1 of the middle tarsus nearly four times as long as wide.

*Abdomen* about one and a half times as long as wide. Tergite 1 strongly transverse, with a row of foveæ at base; 2 striate at extreme base, the striæ quite inconspicuous.

♂. Funicle rather thick (fig. 2, *g*); funicles 1 and 2 hardly differentiated from rest; funicles 5-9 bead-like, rather closely articulated. Genitalia (fig. 1, *e*) unusually short and quite unlike that of any other *Telenomus*, whether Asiatic or African, that I have described; the usual darkened struts on the "ventral plate" to which the apical appendages are articulated are not differentiated, the ventral plate itself showing an even sclerotisation.

Length, ♂♀, about .5 mm.

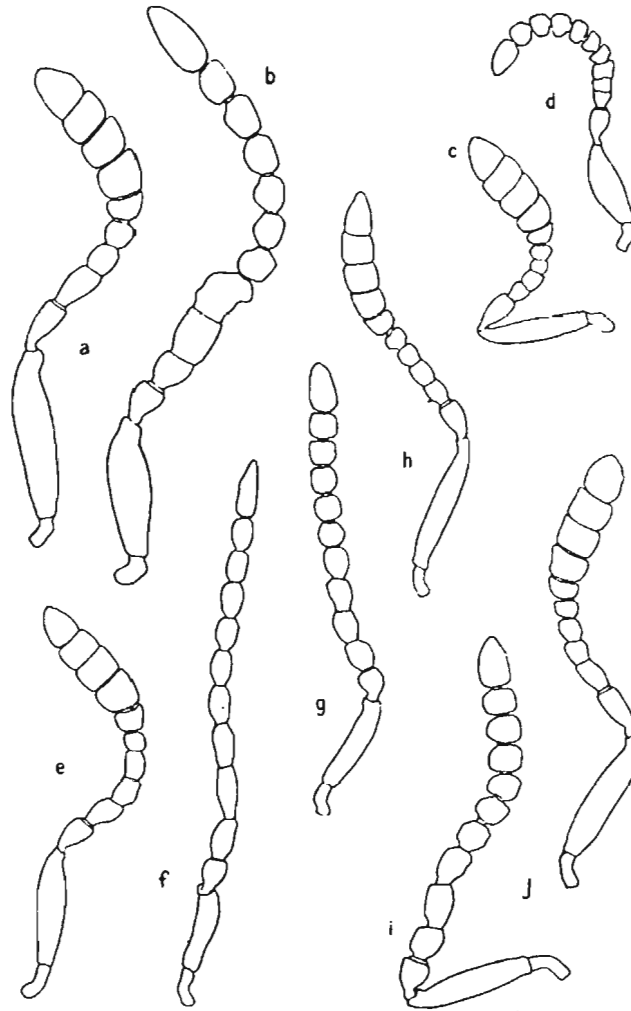
BURMA: Pyinmana, *Type loc.*, and Toungoo, Myohla (*M. H. Desai*); both sexes bred, January, February, May, and September, 1933-1934, from eggs of *Hapalia machæralis* Walker. This material bears the reference number I.R.1666.

This a distinct little species, characterised by its large, wide head and pale, predominantly yellowish antennæ in both sexes.

*Telenomus olynthus*, sp. n. (Fig. 1, *b*.)

♂♀. Black. Legs, except front coxæ and apical segment of all tarsi, yellow. Scape in both sexes more or less same colour as the legs; basal half of ♀ funicle only

Fig. 2.



Antenna of (a) *Telenomus (Aholcus) urios*, sp. n., ♀; (b) *Telenomus (Aholcus) urios*, sp. n., ♂; (c) *Telenomus periparetus*, sp. n., ♀; (d) *Telenomus periparetus*, sp. n., ♂; (e) *Telenomus ochus*, sp. n., ♀; (f) *Telenomus ochus*, sp. n., ♂; (g) *Telenomus usipetes*, sp. n., ♂; (h) *Telenomus usipetes*, sp. n., ♀; (i) *Telenomus olynthus*, sp. n., ♂; (j) *Telenomus olynthus*, sp. n., ♀. All drawn to the same scale.

hairs, hardly visible at ( $\times 60$ ); shortest distance between them, when the head is seen from above, slightly less than their width, about 5:6. Vertex not at all angled between the ocelli, being merely feebly rounded; between the temples it appears somewhat scooped out. The ocelli form nearly an equilateral triangle; the surface between them is very shining but has a few ill-defined punctures and some feeble scaly-reticulate sculpture. Antennæ (fig. 2, *j*): club more or less 4-segmented. Postorbital margin rather strongly raised (fig. 1, *a*).

*Thorax* somewhat flattened. Mesonotum less shining than the sculptured parts of the head, having a close scaly-reticulate sculpture, but becoming more shining posteriorly where it shows indication of ill-defined punctures. Scutellum flattened, smooth. Postscutellum smooth. Legs rather short and thick. Hind wings slightly widened beyond the nervature; fringe at widest part about  $\frac{2}{3}$  the width of the wing there.

*Abdomen* nearly twice as long as wide. Tergite 1 strongly transverse, its costæ not reaching much beyond the middle and forming a row of deep pits; 2 with a costate furrow at extreme base.

♂. Antennæ (fig. 2, *i*). Genitalia very distinctive (fig. 3, *c*); apical appendages with only two widely separated teeth, and in this respect different from what occurs in any other Asiatic species I have described.

Length, ♂♀, about .75 mm.

E. SUMATRA: Asahan, 50-60 m. (*F. Schneider*); 4 ♀♀, 1 ♂, bred 1934-36 from eggs of a moth, probably *Pyralidæ*, on *Uncaria Gambir* Roxb. Material has reference number A/1113.

This species appears to be characterised in the ♀ by shape of head, size and closeness of eyes, combined with elongate facies.

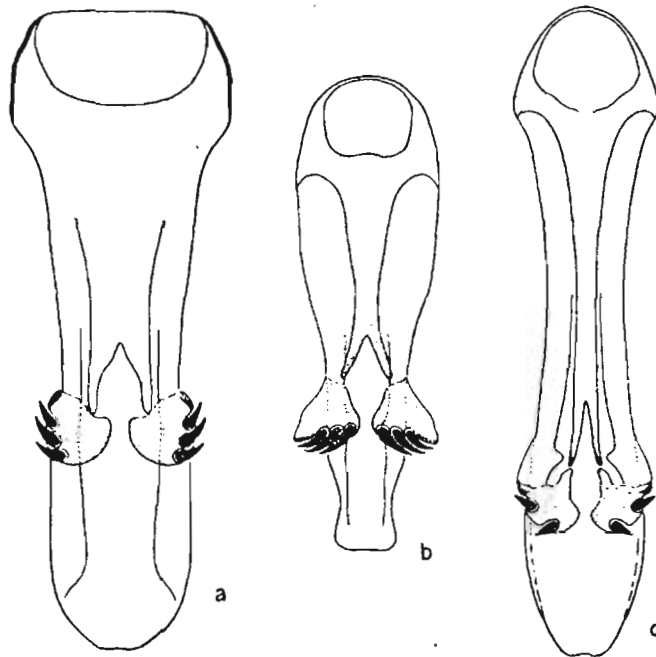
*Telenomus periparetus*, sp. n. (Fig. 1, *f*.)

♂♀. Black. Legs dingy yellow; coxæ darker; apical tarsal segment of all legs not blackened. Scape of ♀ more or less same colour as the legs; first 5 segments of funicle not markedly paler than the rest; ♂ antennæ yellowish throughout.

♀. *Head* only very slightly wider than the thorax, somewhat crescentic, seen from above, being cut away almost

at right-angles behind the eyes. Frons with some scattered punctures, especially towards the orbits and the anterior ocellus; otherwise smooth, unsculptured. Vertex between the posterior ocelli fairly evenly rounded, its surface with some very weak sculpture and ill-defined punctures. Antennæ: funicle 5 in colour and size nearer to 4 than to 6, so that the club is more or less 4-segmented (fig. 2, c); funicle 1 not at all longer than wide. Eyes apparently bare ( $\times 60$ ).

Fig. 3.



Male genitalia of (a) *Telenomus (Aholcus) urios*, sp. n.; (b) *Telenomus ochus*, sp. n.; (c) *Telenomus olynthus*, sp. n. All drawn to same scale.

*Thorax* somewhat flattened. Mesonotum not at all markedly convex, with indication of ill-defined punctures on a very feebly sculptured ground. Scutellum strongly transverse, smooth. Postscutellum defined as a narrow, shining band. Legs rather short and thick (figs. 4, a, b). Wings as in the preceding species, but stigmalis paler.

*Abdomen* about twice as long as wide. Tergite 1 strongly transverse, its surface characteristically smooth and unsculptured, the striations being reduced to a row of small pits at basal margin; 2 finely striate at extreme base, the sculpture not at all readily discernible.

♂. Head not at all wider than the thorax. Eyes a little smaller than in ♀. Antennæ short, the segments closely articulated (fig. 2, *d*); funicle 2 irregularly transverse. Legs thicker than in ♀. Genitalia (fig. 4, *e*); the drawing was made from four preparations.

Length, ♂♀, .65 mm.

E. SUMATRA: Asahan, 50–60 m. (*F. Schneider*); series containing both sexes, bred 1934–36 from eggs of a Geometrid moth on *Uncaria Gambir* Roxb. Series has reference number B/1035.

This is an elongate species and in general facies resembles *olyntus*. Among the more obvious differences are the more transverse head of *periparetus*, the unraised postorbital margin, and the weaker mesonotal sculpture. Also, the basal segment of the middle tarsus is shorter in *periparetus* than in ♀ *olyntus*. Apart from widely different-looking genitalia, the ♂ of *olyntus* has the funicle dark with the segments less closely articulated than in *periparetus*.

In my key (*Ann. & Mag. Nat. Hist.* v. 20, p. 444, 1937) these two species run to the group of *dignus* Gahan, but the forms I include in that group are more slender insects with longer legs.

*Telenomus ochus*, sp. n. (Fig. 1, *c*.)

♂♀. Brownish black. Legs entirely (except the anterior coxæ and apical tarsal segment of all legs, which are darkened), bright yellow. Scape in both sexes slightly darkened towards apex; basal 5 funicular segments of ♀ not much paler than the rest; entire funicle in ♂ uniformly brown.

♀. *Head* large for the size of the insect, much wider than the thorax. Frons everywhere smooth, shining, without punctures. Vertex between the ocelli with some vague scaly-reticulation and with indication of feeble punctures; behind the ocelli it is rather sharply declivous. Shortest distance between the eyes slightly greater than their width as seen from above, about 13:11; eyes

themselves apparently bare ( $\times 60$ ). Antennæ long and powerful for the size of the insect; club tapering rather gradually to apex, more or less 4-segmented; funicle 1 and 2 distinctly elongate (fig. 2, e).

*Thorax* not at all flattened. Mesonotum with weak, quite indefinite sculpture, feebly shining. Scutellum not strongly transverse. Postscutellum rugose. Wings: venation very pale and indistinct; hind wings virtually parallel-sided beyond the nervature, their fringe about equal to their greatest width. Legs fairly slender (figs. 4, c, d).

*Abdomen*, when segments are not retracted, about  $1\frac{1}{2}$  times as long as wide, widest beyond the middle and rather sharply narrowed to base. Tergite 1 less transverse than in *olythus* and *periparetus* and with strong, even striations over virtually its entire length.

♂. Antennæ characteristically distinct, on account of their slenderness, from any other Asiatic *Telenomus* I have described (fig. 2, f); funicle 2, in some aspects, about 3 times as long as wide; 3 not much shorter; 5-9 distinctly elongate and not closely articulated. Genitalia very distinctive on account of the three long, very close teeth on apical appendages (fig. 3, b); in the figure I have shown these teeth as slightly separated, but in the two preparations from which the drawing was made they are so closely packed together that a separation between them is not easy to make out.

Length, ♂♀, about .6 mm.

E. SUMATRA: Asahan, 50-60 m. (*F. Schneider*); both sexes bred 1934-36 from eggs of *Oreta carnea* Butl. (Drepanidæ) on *Uncaria Gambir* Roxb. Material has reference number O/1008.

This little species is probably characterised in both sexes by its wide head and structure of antennæ.

*Telenomus (Aholcus) urios*, sp. n. (Fig. 2, a.)

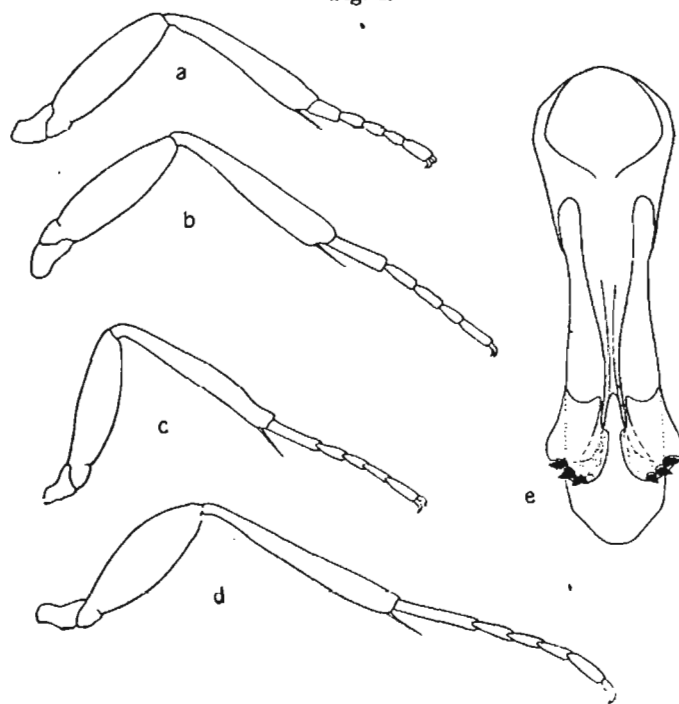
♂♀. Black. Legs obscure yellow with the coxæ darkened. Scape yellow in both sexes; basal segments of ♀ funicle only slightly paler than the rest; 3 basal segments of ♂ funicle yellow, the rest considerably darker.

♀. *Head* not at all sharply cut away behind the eyes, so that these do not appear to occupy the entire lateral surface of the head. Frons shining but nowhere com-



pletely smooth, having an extremely weak surface-sculpture which is stronger and describable as scaly-reticulate between the eyes and the antennal insertions and along the inner orbits; there are a few feeble, ill-defined punctures, more especially towards the inner orbits and the anterior ocellus. Vertex between the ocelli with more or less the same sculpture as that along

Fig. 4.



(a) *Telenomus periparetus*, sp. n., middle leg of ♀; (b) *Telenomus periparetus*, sp. n., hind leg of ♀; (c) *Telenomus ochus*, sp. n., middle leg of ♀; (d) *Telenomus ochus*, sp. n., hind leg of ♀; (e) *Telenomus periparetus*, sp. n., genitalia of ♂.

the inner orbits. Shortest distance between the eyes to their width as seen from above, as 9 : 7. Vertex more or less evenly rounded between the posterior ocelli and the occipital margin. Postorbital margin somewhat raised so that the head appears widened behind the eyes. Antennæ (fig. 2, a): funicle 1 distinctly longer than

wide; club not clearly differentiated, sub-5-segmented. Eyes with short hairs readily visible at ( $\times 60$ ).

*Thorax*: mesonotum with clear indication of ill-defined punctures ( $\times 60$ ), the surface between them scratched. Scutellum smooth. Postscutellum with a medial transverse rugose swelling. Hind wings distinctly widened beyond the nervature; fringe at widest part hardly  $\frac{2}{3}$  width of wing there.

*Abdomen* a little more than  $1\frac{1}{2}$  times as long as wide, about 5:3. Tergite 1 strongly transverse, closely evenly striated all over; 2 with fine striations radiating beyond the basal costate furrow over about quarter the length of the segment.

♂. Antennæ distinctive (fig. 2, *b*); funicle 1 and 2 much dilated; 2 concave on one side; 4-9 spherical. Genitalia (fig. 3, *a*).

Length, ♂♀, about 1 mm.

MALAYA: Prov. Wellesley (*G. H. Corbett*); (Ref. no. 0943), 2 ♂♂, 2 ♀♀, bred 19. v. 1936 from eggs of a Hesperid, *Hidari irava* Mr.

From the seven Asiatic species of *Aholcus* that I have already described, *urios*, in ♀, differs in a combination of the shape of the head and sub-5-segmented antennal club. In the ♂, the antennæ and genitalia are characteristic.