

Three new Telenominæ. By G. E. J. NIXON, B.A.,
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IN the following short paper I am bringing forward an interesting new genus and also a new species of *Telenomus* (*Aholcus*), for which an early determination has been requested.

The types of the new species are in the British Museum.

Subfamily *TELENOMINÆ*.

NARDO, gen. nov.

♂♀.—Antennæ of ♂ 12-segmented, of ♀ 11-segmented; funicle segments 5–9 in ♂ not transverse; antennal club in ♀ 3-segmented, funicle 6 being very distinctly nearer in size to 5 than to 7. Frons somewhat flattened, but, between the lower margin of the eye and the antennal insertions, bulging downwards, and producing a conformation of the head which results in the actual points of insertion of the antennæ together with the clypeus lying in a plane more or less at right angles to the greater surface of the frons; an approach to this condition is seen in *Platytelenomus*, as interpreted by me in *P. hylas* Nixon (1935), but the shape of the head is entirely different from what occurs in *Microphanurus*, *Telenomus*, and its subgenus *Aholcus*; in these three segregates the points of insertion of the antennæ, the clypeus, and the frons itself lie on the same even curve. Mandibles short, forming a more or less beak-like projection which is directed backwards and downwards.

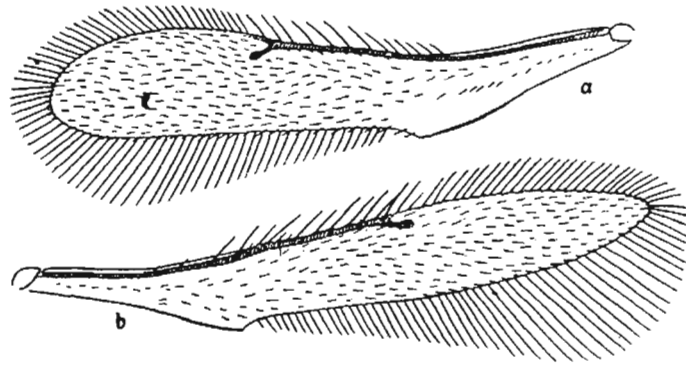
Thorax markedly flattened, in one species strongly so. Posterior dorso-lateral margins of the pronotum extending on to the dorsal surface of the thorax, where they are readily visible from above; in this respect *Nardo* differs from *Platytelenomus*, which it otherwise strongly resembles in the structure of the thorax. Mesonotum, scutellum, postscutellum, and the dorsal surface of the propodeum lying in the same plane. Scutellum strongly transverse. Postscutellum showing as a shining unsculptured band. Propodeum having a dorsal surface about as long as the scutellum and with a fine central groove. Fore wings very narrow, the fringe very long;

stigmalis very short; marginalis very long, about $4\frac{1}{2}$ times as long as the stigmalis; hind wings exceedingly narrow, parallel-sided beyond the nervature, their fringe about $2\frac{1}{2}$ times as long as their greatest width.

Abdomen very much flattened, at least twice as long as wide.

In referring this genus to Kieffer's monograph of the Telenominæ, it is necessary to compare it only with *Aradophagus* and *Platytelenomus*, on account of the flattened form which all three genera possess. On account of the venation *Nardo* is unlike *Platytelenomus* but like *Aradophagus*; the resemblance to the latter genus, however, ends here, for *Aradophagus* seems to be a very

Fig. 1.



Fore wing of: (a) *Nardo cumæus*, sp. n.; (b) *Nardo phæax*, sp. n.

different looking insect and has 12-segmented antennæ in both sexes. The resemblances between *Nardo* and *Platytelenomus* have been touched on in the generic description of *Nardo*; a very determinate difference is to be found in the venation, which alone makes *Nardo* a distinct and very characteristic genus.

Type of the genus, *Nardo cumæus*, sp. n.

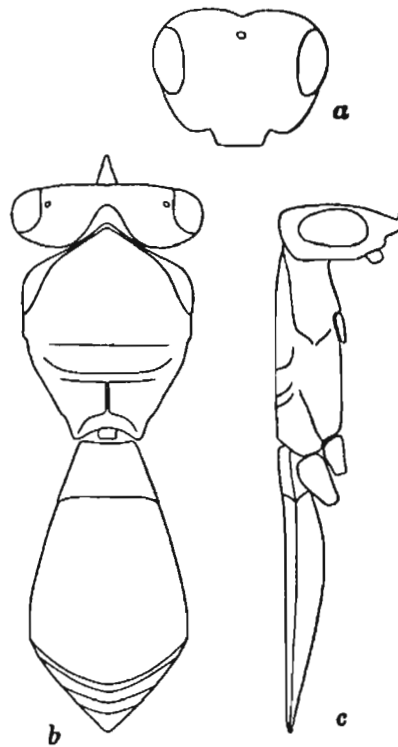
Nardo cumæus, sp. n. (Fig. 2, b & c.)

♀.—Legs entirely, antennæ except apical three segments (which are dark brown) pale honey-yellow. Abdomen yellowish over roughly its basal half, but brown

elsewhere, the brown part being paler than the head and thorax.

Head, seen from the side, strongly flattened; seen from above, in such a way as it appears shortest, about $3\frac{1}{2}$ times as wide as its greatest length; seen from in front,

Fig. 2.



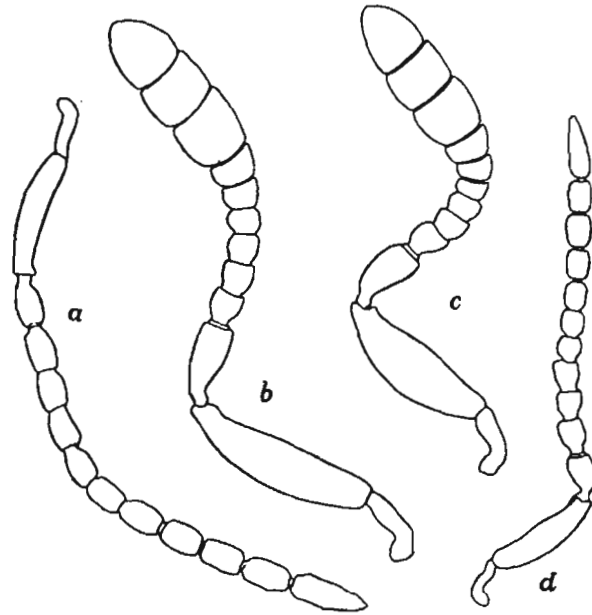
Nardo cumæus, sp. n.

(a) head of ♀, from in front; (b) body of ♀, dorsal;
(c) body of ♀, lateral.

it is distinctly transverse (fig. 2, a). Frons almost everywhere smooth and shining. Face between the antennal insertions produced to form a sharply pointed triangular projection, which is strongly flattened. Antennæ (fig. 3, c). Vertex with some very fine sculpture. Clypeus feebly convex.

Thorax strongly flattened dorso-ventrally, all its dorsal sclerites lying in the same plane and being separated by fine sutures. Mesonotum smooth and shining more or less everywhere, angularly narrowed in front to fit into the notched vertex. Scutellum very short, smooth all over. Dorsal surface of the propodeum a little longer than the scutellum, virtually smooth everywhere. Fore wings (fig. 1, *a*).

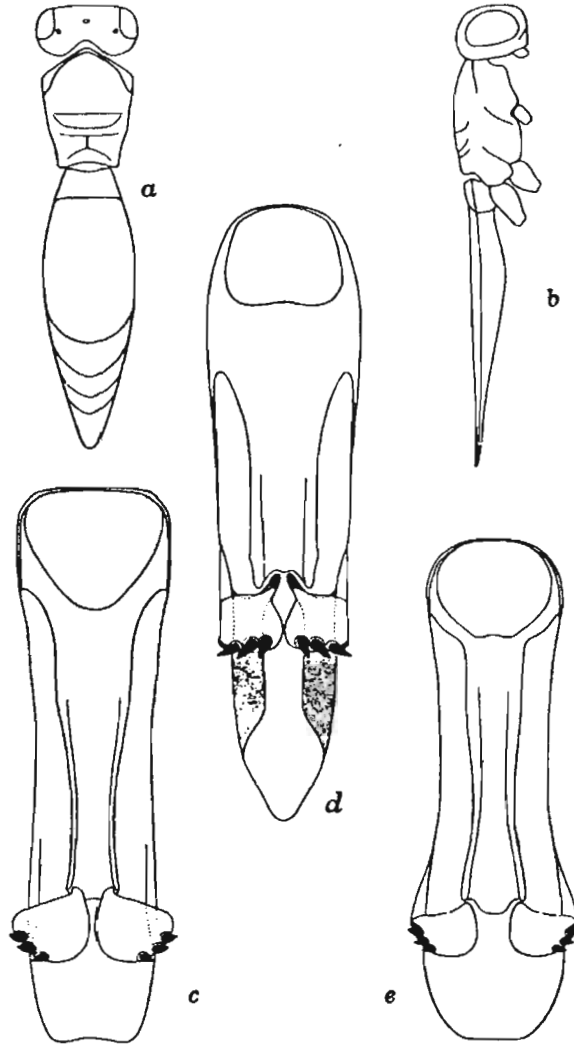
Fig. 3.



Nardo phæax, sp. n. (a) antenna of ♂; (b) antenna of ♀.
Nardo cumæus, sp. n. (c) antenna of ♀; (d) antenna of ♂.

Abdomen clearly widest beyond the middle, a little less than twice as long as its greatest width, about 7 : 4. The abdomen is very constant in shape and the relative positions of the tergites in the material examined. Tergite 1 twice as wide apically as its medial length, evenly striated all over; 2 longer than wide, about 5 : 4, its apical margin rounded, evenly striated over about its basal half.

Fig. 4.



Nardo phæax, sp. n. (a) body of ♀, dorsal; (b) body of ♀, lateral;
 (c) genitalia of ♂.
Telenomus (Aholcus) phegeus, sp. n. (d) genitalia of ♂.
Nardo cumæus, sp. n. (e) genitalia of ♂.

♂.—No trace of a process between the antennal insertions as in the ♀. Antennæ shorter than in the following species; funicle segments 5–9 only a little longer than wide (fig. 3, *d*); in this respect the funicle approaches more closely than does that of the following species, the typical form of the antenna of male *Telenomus*. Genitalia (fig. 4, *e*).

Length, ♂♀, .9 mm.

PUNJAB: Lyallpur (*R. Nath*); series containing both sexes, bred Sept. 1936 from eggs of the Hemipteron *Macropes excavatus* Distant.

Nardo phæax, sp. n. (Fig. 4, *a* & *b*.)

♀.—Black. Antennæ (except club, of which the segments are brown), legs and abdomen (except the extreme lateral margin of each tergite) pale honey-yellow. The abdomen tends to be a little richer in colour than the legs. The dark lateral margin of the tergites is brown.

Head seen from in front markedly transverse, with its upper and lower sides roughly parallel. Frons in greater part smooth and shining; on the downwards bulging surface between the lower inner surface of the eye and the antennal insertions there is some fine sculpture. Vertex deeply notched behind and with a fine medial cleft which reaches nearly to the anterior ocellus; surface of vertex finely and somewhat vaguely scaly-reticulate. Clypeus conically raised. Antennæ (fig. 3, *b*) arising from the lower side of the head owing to the peculiar formation of the frons; funicle 1–5 subequal.

Thorax somewhat flattened above, all its dorsal sclerites lying more or less in the same plane. Mesonotum narrowly angled in front, in far greater part, smooth and shining, but with some microscopic sculpture towards the sides. Scutellum unsculptured. Dorsal surface of the propodeum slightly shorter than the scutellum, smooth, except for some puncture-like depressions along its posterior margin; the central groove is very fine. Fore wings (fig. 1, *b*).

Abdomen variable in length according to the degree in which the tergites are exerted; in the (probable) normal condition it is about $2\frac{1}{2}$ times as long as its greatest width, about 11 : 4; in individuals in which the tergites are much exerted it can be fully four times as long as its

greatest width. Tergite 2 with some fine striations at its extreme base. Ovipositor clearly visible through the pale integument of the abdomen.

♂.—Antennæ (fig. 3, *a*): funicle 5–9 subequal in length, very distinctly longer than wide. Genitalia (fig. 4, *c*).

Length, ♂, .9 mm.; ♀, 1–1.1 mm.

PUNJAB: Lyallpur (*R. Nath*); series containing both sexes, bred Sept. 1936 from eggs of the Hemipteron *Macropes excavatus* Distant.

This and the preceding species are widely different from each other in the female sex, but less so in the male. The shape of the head will readily distinguish the latter.

TELENOMUS (AHOLCUS).

Telenomus (Aholcus) phegeus, sp. n.

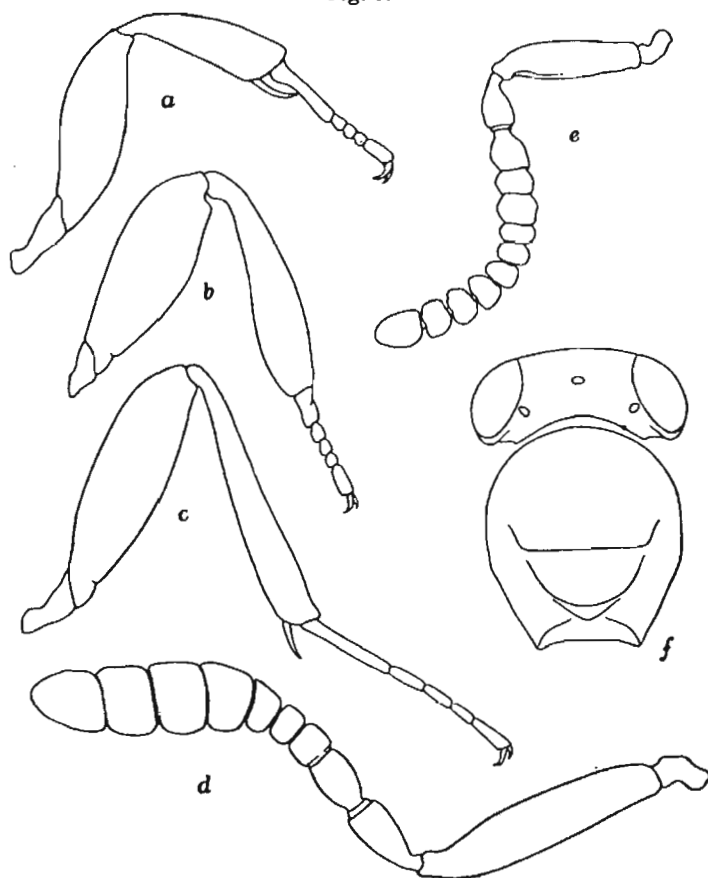
♀.—Black. Antennæ virtually black throughout. Legs: femora black; tibiæ and tarsi brownish, the former sometimes suffused with darker colouring.

Head a little wider than the thorax, about 5 : 4 (fig. 5, *f*). Frons, as is usual within the genus, smooth and shining over most of its surface; along the inner eye-margin the smooth surface is interspersed with small, sharp, widely separated, setiferous punctures. Between the lower inner side of the eye and the antennal insertions the surface has a fine vague sculpture which shows a more or less transverse tendency. Eyes occupying virtually the entire lateral surface of the head, the head behind them being cut away almost at right angles to the long axis of the body. Shortest distance between the eyes slightly greater than their width as measured from above, 6 : 5. Antennæ (fig. 5, *d*): funicle 1 nearly twice as long as 2; 2 not longer than wide; club distinctly 4-segmented. Vertex rather sharply angled between the ocelli, its surface between them with the usual vague, more or less scaly-reticulate sculpture. Occipital margin lying well below level of vertex, so that the latter has a well-developed declivous surface.

Thorax: mesonotum evenly and rather strongly convex, feebly shining, its sculpture weak and indefinite and with no clear indication of fine punctures ($\times 40$); on its posterior third it is considerably more shining and almost smooth. Scutellum, as is usual within the genus, entirely

smooth. Postscutellum with a central rugose swelling. Fore wings: venation blackish, sharply defined throughout; fringe at widest part of hind wing almost exactly

Fig. 5.



Telenomus (Aholcus) phegeus, sp. n

(a, b, c) front, middle, hind leg respectively of ♂; (d) antenna of ♀; (e) antenna of ♂; (f) head and thorax, dorsal, of ♀.

half as long as the width of the wing there. Legs: basal segment of middle tarsus only about $2\frac{1}{2}$ times as long as wide; in all the other African species I have described

except *anates* (1937) this segment is about four times as long as wide.

Abdomen distinctly longer than wide. Tergite 2 as long as wide and with a costate furrow at base.

♂.—Unlike the ♀ in that the femora, especially the middle ones, are very much swollen (fig. 5, *a, b, c*); the middle tarsi, too, are very short. Antennæ (fig. 5, *e*). Genitalia (fig. 4, *d*) distinctive and unlike that of any other species I have described either from Africa or Asia.

Length, ♂♀, .9 mm. approx.

S. AFRICA: E. Transvaal (Vossman's Beacon) (*F. G. C. Tooke*); series containing many females and one male, bred, 28. iv. 1937, from cluster of Hemipterous eggs on leaf. These eggs are bright metallic blue in colour, more or less spherical, except where their surface is widely flattened against the leaf, shallowly reticulate all over, and very shining.

On account of the form of the antennæ and the position of the occipital carina the female of this species could be confused possibly with *brimo* Nixon (1935). However, besides being a larger species the basal segment of the middle tarsus is shorter—it is, in fact, characteristically short—and the hind wing is broader in comparison with its fringe. Further, the vertex of *brimo* ♀ is less sharply angled between the ocelli, and hence the head is less sharply cut away behind the eyes than in *phegeus*.

T. (Aholcus) phegeus bears also a strong superficial resemblance to *T. (A.) incommodus* Nixon (1937), a Malayan species, having, among other points in common, a head of similar shape though less wide in proportion to the width of the thorax than in the latter insect.

The genitalia of the male of *phegeus* is widely different from that of *incommodus*—the two species belong to different species-groups—but much less so from that of the male of *brimo*. But the male of *brimo* has the femora of ordinary form, with the middle tarsus longer, and altogether lacks the somewhat exaggerated sexual dimorphism of *phegeus*.

Somewhat characteristic of *phegeus* is the smoothness and shininess of the posterior part of the mesonotum.