

NOTES ON AFRICAN CHALCIDOIDEA—V.

By JAMES WATERSTON, B.D., B.Sc.,

*Imperial Bureau of Entomology, London.***Eupelminus tarsatus**, Waterst. (1916).

Eupelminus tarsatus, Waterston, Bull. Ent. Res., vi, Feb. 1916, p. 389, figs. 7 and 8; Lamborn, *ibid.*, vii, May 1916, p. 34.

A series of both sexes of this parasite of *Glossina morsitans* enables me to describe the male for the first time and the female more fully. One of the striking features about this species, apart from its remarkable sexual dimorphism, is the great range in size which it exhibits. The females run from $3\frac{1}{2}$ mm. to 5 mm. and the males from $1\frac{1}{2}$ mm. to $2\frac{1}{4}$ mm., with a range in the alar expanse of $2\frac{1}{4}$ mm. to $3\frac{3}{4}$ mm. The larger female examples are invariably darker and more metallic in coloration. Dr. Lamborn is certainly right in correlating the smaller size of some of the parasites with a reduced food supply (*l.c.* p. 35). I cannot yet agree, however, that the parasitic status of *E. tarsatus* is definitely fixed by our present knowledge of its habits. Plainly the proportion of *Mutilla*-parasitised puparia supplied to the *Eupelminus* females was larger than could have occurred under natural conditions. Again, the factors, whatever they are, inducing *Mutilla* to oviposit in a particular puparium may be equally decisive for the female *Eupelminus*. If, for example, in two cases three *Eupelminus* punctures all close together could be seen with a high-power lens one might suggest that some structural peculiarity invited the attack. Nor, incidentally, is it legitimate to infer that because a puparium observed to be stung produced no *Eupelminus* the attack had failed. The presumption is that the attack had not been delivered, stinging and ovipositing being, in many cases, two separate processes. Many Chalcids plunge the ovipositor into ova, puparia, etc., and then, applying the mouth to the wound, suck up the contents which have been expelled. In other cases the first stinging observed is merely the narcotising and rendering antiseptic of the host, which precedes the real introduction of the ova. The parasitic status of *Eupelminus* can, in fact, be settled only by examination of puparia, collected under natural conditions, from which the Chalcids have been noted to emerge.

Additional Notes on the Female.

The most interesting fact revealed by Dr. Lamborn's new material is that the female is sub-apterous. Examination of a number of specimens shows that in some the fore wing (fig. 1) is present, in others the wing has broken off at the apex of the axillary sclerite, while in others again the rupture has taken place below the tegula itself. I am convinced now that the sclerite referred to in my original description (*l.c.*, fig. 8, T) is not the tegula but the exceedingly elongated axillary scutum which fits into a groove running along the upper edge of the mesopleura. The hind wings, which are minute, fit into a similar depression of the metanotum. The axillary

scutum referred to is always, as far as I have seen, fixed, and the fore wing appears to originate posteriorly from the side of the scutellum at the level of the apex of the axilla (fig. 2). Dr. Masi has (*in litt.*) pointed out how closely *E. tarsatus* approaches in important characters to *Eupelmus degeeri*, Dalm., and suggests that a new genus should be erected for the reception of these species.

In *degeeri* there is a line of weakness at the point where in *tarsatus* the wing is truncated and it may be that in freshly emerged examples *tarsatus* possesses the additional alar flap present in *degeeri*.

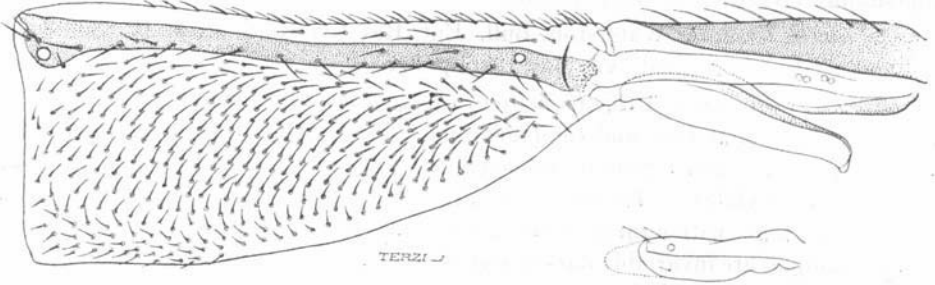


Fig. 1. Wings of *Eupelminus tarsatus*, Wtrst., ♀.

Description of the Male.

♂. A black or dark brown species, only the first three tarsal joints of the mid and the first two of the hind legs distinctly white. Antennae blackish, with the base and the inside of the scape brownish, and in some lights traces of metallic lustre on the apex of the scape. On face, vertex and genae some dark greenish or cupreous reflections. Thorax like head, propodeon and base of abdomen dark shining blue, remainder of abdomen duller cupreous. Femora and tibiae, except indistinctly and shortly at the base, blackish with dull dark blue reflections on hind femora; fore tarsi fuscous, fourth and fifth tarsal joints of mid legs and third to fifth of hind legs black.

Head from in front rounded, as broad as long. Eyes with a short scattered pubescence extending over about two-thirds of the depth in profile, the depth of the eye being about twice the shortened genal space; at their nearest point across the frons the eyes are separated by $1\frac{1}{2}$ diameters. Toruli reniform, narrower superiorly, more than half below the base line of the eyes, with about 40 minute bristles on the raised triangular area between the scapal grooves; the latter bare, all the rest of the frons and the vertex covered with short bristles; orbital bristles not differentiable. Clypeus smooth, regularly convex, with one shorter and one longer bristle above at each side somewhat remote from the edge. The whole reticulation is fine, regular and evenly raised on vertex, but becoming more scaly towards the mouth-edge. As compared with the female head, that of the male is shorter, the eyes approximated nearer the mid frons and not superiorly, the depressed area between the scapal grooves not so sharply limited laterally, and the toruli higher in position. Mouth-parts essentially as in female. The mandible is more suddenly contracted apically. The first two joints of the maxillary palpi are in the same ratio, the third is slightly shorter and the fourth distinctly so, while two and three of the inner sub-apical bristles are much stouter in the male.

Antenna: length 1.25 mm. in an example whose fore wings are 1.35 mm., 11-jointed, the club being solid, one ring joint and seven normal in funicle. Scape narrowed on basal third and at its widest (1 : 3) near the apex, barely as long as the first three normal funicular joints, nearly twice as long as the club (12 : 7) and of the same breadth. Pedicel (8 : 3) slender basally, three-eighths of the scape. All funicle joints slender, cylindrical, sub-equal (9, 8, 9, 9, 8, 8, 8) and the club in the same scale 13. Average breadth 5, of the club 6. Joints 6 and 7 are distally more distinctly articulated. The sensoria are numerous, long and narrow, with very short free points.

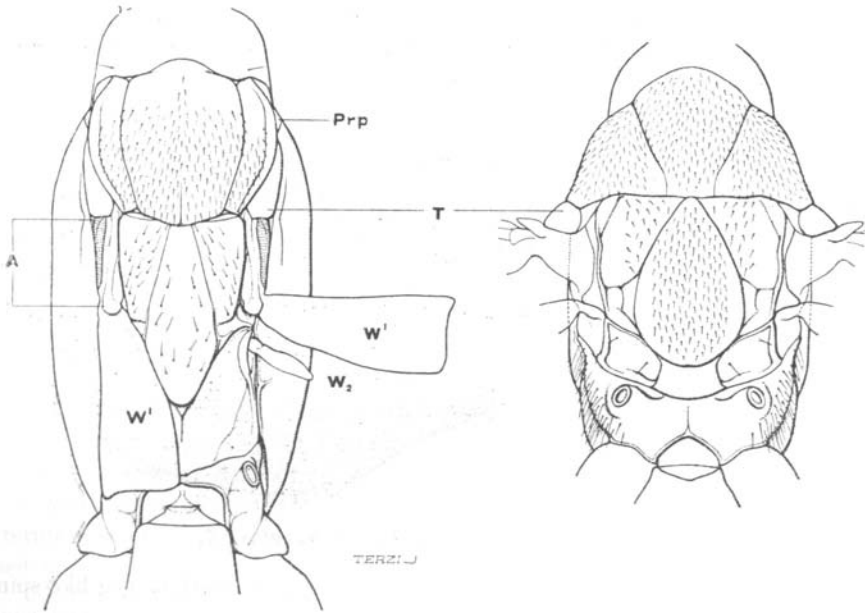


Fig. 2. Thorax of *Eupelminius tarsatus*, ♀ (left) and ♂ (right); A, axillary scutum; T, tegula; W₁, fore wing; W₂, hind wing; Prp., prepectus.

Thorax: When flattened out the pronotum is a little concave posteriorly, but deeply and broadly so in front. The spiracle lies *in front* of the lateral angle, and the posterior row of bristles contains about 12. The pattern is fine and much raised, with numerous regularly disposed short bristles. The prosternum is posteriorly so broadly truncate as to be nearly triangular in outline. Two longer central (1 : 1) bristles lie nearly on the posterior edge with 24 (12 : 12) other stouter bristles over the surface. Mesonotum a little flattened, the parapsidal furrows fading posteriorly, but in a mounted example traceable to the suture and meeting the anterior edge of the axilla before one-half. Axillae very narrowly separate (see fig. 2). Whole surface densely set with bristles, raised reticulate, the pattern finest in the mid lobe and coarsest on the axillae. Prepectus large, with a bold but little raised pattern, found also on the episternite and large oblong epimeron. Below the episternite there is a thin clear track in the chitin, reaching back below the epimeron, and meeting with it posteriorly is a similar broad line from the inner angle of the prepectus. The triangular area thus delimited bears about 30 bristles, and there are about as many

more on each side of the mid line of the sternum. The latter is posteriorly deeply and rather narrowly emarginate in the middle. Metanotum strongly raised reticulate, especially on the post-scutellum. Propodeon smooth between and behind the oval outwardly directed spiracles. Below and behind the spiracle the pleurae are densely covered with bristles. The sulci running round the spiracles outside broaden as they pass inwardly, being at their nearest point one-third of the distance of the spiracles from one another.

Wings: Fore wings more than twice as long as broad. Sub-marginal : radius : post-marginal, as 10 : 6 : 3 : 4. Fringe short, discal ciliation everywhere evenly set, except along the hind margin near the base up to the middle of the frenulum. There is a bare spot in the middle of the basal triangle just before the uprise of the marginal. About 20 bristles on the marginal. Hind wings, 4 : 1.

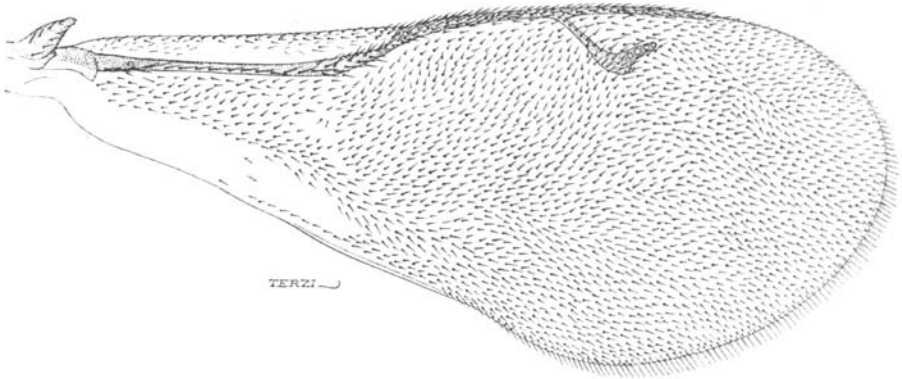


Fig. 3. Fore wing of *Eupelminus tarsatus*, ♂.

Legs: Fore legs: the upper apical angle bears two short teeth or peg-like spines, the apical comb 5–6 spines. The comb on the first tarsal joint (16 spines) is continued along the antero-ventral edge of the joint to the apex by a row of 5–6 spinose bristles. At the apex of the mid femur there are anteriorly, 4, posteriorly, 1, spinose bristles. Hind coxae elongate (2 : 1), apical comb of tibia containing 9 strong bristles. In all the tarsi the proportions are much alike and hardly different from those of the female. The first is about twice the second, which exceeds the third, which is equal to the fifth, and the fourth is shortest.

***Sycophaga cyclostigma*, sp. nov.**

Head (10 : 9) flattened oblong, with prominent and entirely glabrous eyes which are separated by rather over twice the diameter of either, and extend respectively over one-half of the lateral margin. Vertex with a wide, V-shaped depression, forming at the side two distinct posterior angles behind the eyes. Posterior ocelli (oval) on vertex, anterior (circular) on frons, well within the post-scapal groove. Toruli oval, ventrally truncate, convergent superiorly towards the mid line of the frons and narrowly separated, set above mid way between the base line of the eyes and the clypeal edge, but clear of the former. The latter with a median tooth set in a shallow hollow which hardly exceeds the flat low lobes by which it is flanked. On each side

of the median tooth are one long and one short bristle ; above the clypeal edge the face is broadly bare ; there are one or two bristles below the toruli, and none between ; while on each side of the face are 40–50 similar minute irregularly-disposed bristles.

Antenna : length, .75 mm. ; scape (7 : 2), with subparallel sides, constricted near the base ; rather bare, and with minute bristles of which two, very short and appressed, are ventral at one-third and two-thirds respectively ; pedicel (5 : 3) barely one-half of the scape ; first ring joint about half as long as the second. The joints of the funicle are subequal, but the first is one-fifth less, and the fourth one-eighth longer than the others ; the first segment of the club equals the last funicular in length, and the three segments are in the ratio 5 : 4 : 5 ; the third segment shows a minute apical subdivision—probably a sense organ—which bears only bristles. The breadth of funicle and club is uniform, the joints being approximately as long as broad, except the first funicular, which is a little narrower. The first funicular bears four sensoria, and the second six, as does also the last segment of the club ; the other joints bear eight to twelve.

Mouth-parts : mandibles broad, triangular, with inwardly curved apex ; about ten bristles on the apical outer half. Inner edge with two teeth, the distal angular, the more proximal rounded. Maxillary palpus very short, single-jointed, with only two terminal clear minute spines. Labial palpi relatively large, two-jointed, in the proportion 11 : 7 ; second joint about twice as long as the maxillary palpus. The first has one external, and the second two apical spinose bristles. There are apparently no cell-like structures on the lingua, whose distal edge is merely frayed.

Thorax : prothorax smooth, except on the overlaps (below the spiracle) which are reticulate. Spiracles projecting, with some minute bristles, just behind on the inside, and many more in front in a broad antero-medianly interrupted band ; no posterior row of longer bristles. The narrow sternite smooth, and the episternite raised reticulate. Mid lobe of mesonotum smooth and bare, save for two or three short bristles inside the furrows near the suture. Lateral lobes and axillae with two or three short bristles, smooth, except towards the lower edge of the axillae, which is faintly reticulate. Scutellum oblong, nearly quadrate, with concave sides and about eighteen minute bristles (9 : 9) ; mesophragma deeply bifid apically, exactly the length of the propodeon. The large tegulae, the distinctly separated prepectus, and the sternum anteriorly, are coarsely reticulate and slightly raised. The remainder of the sternum and the episternal sclerite smooth. Metathorax : both the post-scutellum and the side areas are raised reticulate.

Propodeon smooth, with traces of raised pattern outside and below the spiracle, where are also two to three short bristles. The propodeon bears also postero-laterals patches of about a dozen bristles each.

Wings : Fore wings twice as long as broad ; length, 1.55 mm. ; breadth, .72 mm. Submarginal : marginal : radius : post-marginal, as 4 : 1 : 1 : 2. The apex of the post-marginal is hyaline, so that the vein appears (unless carefully examined) to be shorter than it is ; the apparent ratio with the marginal being about 5 : 3. The basal half of submarginal cell and the wing base to below the uprise of the vein are bare. Wing ciliation regular, no hairless lines. In all the specimens examined the submarginal vein bears five bristles on the basal two-thirds, and two more (after a distinct gap) before the pair of pustules at the uprise. There are about 24 bristles

projecting beyond the costa along the marginal and post-marginal combined, and the radius has four-five bristles and three cells. Hind wings rather over three times as long as broad; length, 1 mm.; breadth, .3 mm.; the submarginal cell narrow and long (the venation extending to nearly seven-tenths of the costa), with a single row of minute bristles on the apical two-fifths.

Legs: Fore legs: coxae elongate (two-thirds of the femur and one-third longer than the tibia), oblong (2:1), a little broader basally, where there are a few stiff bristles on the postero-ventral half, otherwise bare; femur (5:3), much swollen dorsally, practically bare; tibia (2:1) swollen, triangular, broad apically, with three stout external teeth placed longitudinally at the apex; the sub-apical spur strong, much curved, distinctly bifid; a few scattered short bristles on both aspects, and rows (of about six each) both dorsal and ventral, two or three bristles behind the spur being stronger. Mid legs normal; first tibial spur distinctly subapical. Hind legs (fig. 4) similar to the fore legs, the coxae being of the same length but stouter (4:3);

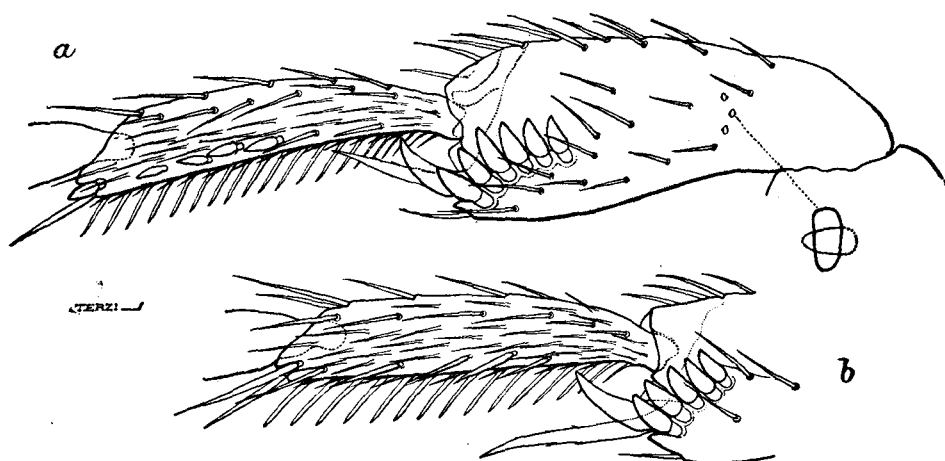


Fig. 4. Hind femur and tibia of (a) *Sycophaga sycomori*, L., ♀; (b) *S. cyclostigma*, sp. n., ♀.

the femur shorter (5:4) than the fore femur, but stouter; the tibia and tarsus much more developed. The antero-apical comb contains four or five teeth, and the anterior spur is also tooth-like, the posterior being a stout, sharp spine. At about one-third from the base are the three (sensory?) structures figured; the upper surface of the chitin appears to be ovally excavated, and there is a similar, more truncate hollow on the internal surface, set at right angles to the first.

Abdomen with the caudal stigmata small and circular, separated by about seven times their own diameter.

Length (excluding ovipositor), about 2 mm.; alar expanse, over $3\frac{1}{2}$ mm.

SOUTHERN RHODESIA: Salisbury, 24.xii.13, in wild figs. (R. W. Jack).

Holotype ♀ in the British Museum.

In the genotype *S. sycomori*, L., the caudal stigmata are very large, oval, a little narrowed anteriorly and separated by about $1\frac{1}{2}$ diameters. I have examined *S. sycomori* from various localities from Greece to Egypt. *S. cyclostigma* is possibly

a southern form of it, but certainly deserves a separate name. Some interesting differences in the hind legs are illustrated in fig. 4. The short heavy spine at the apex of the tibia is constant for *sycomori*, but the similar spines along the ventral edge are less constant. In *cyclostigma* there are no peg-like spines anywhere on the tibia.

Colpixys, gen. nov. (ENTEDONINAE).

♀. Head with distinct occipital edge; eyes hairy. Antenna cylindrical, narrow; scape, pedicel, triple ring joint; funicle three joints, the first very long; club two-jointed. Pronotum with lateral thickening at the spiracle, which is half surrounded by a smooth rim, prosternum much produced anteriorly; mesonotum flat, with four bristles on the mid lobe; propodeon with three sulci, one median and one round each spiracle. Fore wings: submarginal with two bristles, an isolated row of isoclinal bristles parallel to the hind margin. Abdomen depressed, elongated.

Colpixys necator, sp. nov.

Scape, except narrowly at apex, and ring joints clear and pale; pedicel, funicle, and club blackish brown. Head, thorax, coxae, and abdomen rich dark blue-black, dulled, except on propodeon and abdomen, by the deep sculpturing of the integument. Near the base of the abdomen and on the propodeon the coloration is metallic, and dark green overlies the blue in some lights. The blue of the coxae is also partially metallic. Veins pale, a little infuscated, tegulae darker. Hind legs from trochanter onwards entirely pale. Mid legs pale with a dark apical ventral streak on the femur reaching back over one-third; tibia with trace of a superior brown streak basally; tarsus a little darker than that of hind leg. Fore femur brownish above, paler beneath, tibia (superiorly) and tarsus smooth, the former pale beneath; claws dark brown.

Head very broad, wider than deep (9:7); eyes far apart, the interval varying from 3 (at the level of the anterior ocellus) to $3\frac{1}{2}$ (at the base line of the eyes) times an eye diameter; the eyes two-thirds of the depth of the head; distance between posterior ocelli to that of either from the orbit in the ratio 5:3. Anterior ocellus large, rounded, quadrate; toruli just above the base line of the eyes, oval, nearly circular; mouth-edge somewhat above the projecting genal angles, practically straight. Sculpture on frons, vertex and occiput coarse, regular, raised reticulate, finer towards the clypeus and for a short distance outside the genal keel; the latter distinct. Clypeal edge narrowly smooth; many fine bristles on genae and occiput, some of the latter appearing over the well-defined occipital ridge, in front of which there is one strong bristle at each side between the posterior ocelli and the eyes. Three bristles within the ocellar triangle; another pair towards the sides (1:1) above the level of the anterior ocellus, below which there is one bristle, inwardly directed, on each side half-way between the mid line and the orbit. About twelve bristles on each orbit, and two well above the clypeal edge in the middle; two smaller project from below. There are, besides, numerous bristles bordering the orbits (each of them rising at the corner of a raised cell), but not very regularly disposed; about sixty in all (30, 30). The eyes are clothed with a moderately long, fine pubescence; they hardly appear, in side view, above the level of the vertex. Face with practically neither post-scapal hollow, nor trace of suture.

Antennae : length, 1.25 mm. Scape narrow (4 : 1), with subparallel sides on basal half, and widest at about three-quarters, with a row of six to eight moderately long bristles on the mid line externally, and a few above and on the dorsal edge ; subapical median bristle rather longer than greatest width of the joint ; on the inner aspect, three or four short bristles in subdorsal row, and six or seven longish bristles all fringing the ventral edge and ventral or subventral in position ; subapical bristles, as on outer aspect, if anything stouter. Pedicel (3 : 1) narrow at the base, distal edge sloped up, not transverse. First ring joint cup-shaped, large, its lower edge hardly longer than the upper ; second narrow, wedge-shaped, but as broad as the first ; third narrower, wedge-shaped, with a broad basal edge, fitting into the first funicular, which is much cut away posteroventrally. Funicle : first joint very long, six-sevenths of the scape ; the three joints in the proportion 19 : 15 : 12, and club 9 : 9 (of which the spur is 2) ; in the same ratio the width varies from 4 (first funicular) to about 5 (first segment of club). Pedicel and funicle thickly set with stout bristles ; the short stout capitate or mushroom-shaped spines at the apex of the funicular joints strongly developed. Sensoria (short, with free flanges, as long as or exceeding their base) : on the first joint of funicle, 11 ; on second, 9-10 ; on third and first of club, 13. The second club segment bears four sensoria externally, while on the inside there are about five rows of strong sensory bristles (twenty-four in all) rising from clear pustules.

Mouth-parts : The mandibles though of the usual bidentate pattern, are peculiar ; on the outer aspect are two basal swellings (the smaller more ventral), from which the surface slopes abruptly to the lower edge and the teeth ; the lower tooth large, acute, with straight edges ; the upper (inner) has the sides swollen basally, and the upper swelling might almost be described as a third rounded tooth, whose edge is minutely denticulate or undulate ; three stout external bristles in a transverse median row, while a fourth stands subventrally at one-half, on the inner aspect. Stipes, outer lobe of first maxilla and labium all elongate ; the labium, in particular, narrow, wedge-shaped (5 : 2) ; maxillary palpus twice as long as labial, with two stout hyaline spines, one apical and the other beyond two-thirds from the base ; labial palpus likewise with two spines, apical and subapical in position. The lateral bristle of the stipes, at one half, is longer than the palpus itself ; the median bristle on the labium is almost on the base line of the palpi, and of the same length ; there are two short apical hyaline spines on the outer lobe of the maxilla, and numerous bristles on the inner. Lingua short and broad, with four cells.

Thorax flat ; mid lobe and scutellum on same plane. Sculpture uniformly coarsely raised-reticulate, except along the posterior half of the parapsidal furrows (narrowly), the mid line of the pronotum (rather broadly), and in front of the prothoracic spiracle, where the pattern is finer. The mid lobe extends slightly beyond the downwardly inturned side-lobes, so that there is a distinct lateral gap between pro- and meso-nota. Pronotum collar-like, porrect ; spiracle in a postero-lateral thickened prominence, behind and below which is a smooth rim sweeping downwards and anteriorly, so that the prominence is more than half encircled. Flaps of the pronotum long, with very oblique posterior edges ; medianly the posterior edge is bare ; four long bristles (2 : 2) nearer the sides and one at each spiracle. Prosternum pentagonal, truncate posteriorly, elongate in front, bare, with coarse pattern like the episternites. Mid lobe with four bristles (2 : 2) ; the anterior pair more approximated at about three-quarters from the suture ; the second pair near the suture,

and practically standing on the parapsidal furrows, here indistinct through the development of small cells. Side lobes with two or three bristles; axillae, one bristle; scutellum with the usual two strong posterior bristles, and two small pustules (on the side sutures) which are probably setigerous and not sensory. Femoral furrows well defined. Pleurae and sternum with coarse pattern. Prepectora very large and laterally broad, but not meeting medianly, the interspace filled by a quadrate smooth sclerite. Like the mesonotum, the metanotum and propodeon are flat; the median surface of the latter and the post-scutellum parallel, nearly in the same plane; side-pieces of metanotum comparatively smooth; post-scutellum rough, with two anterior and one posterior dimple, medianly raised, but not carinate. Propodeon (fig. 5) with a deep, median sulcus whose sides diverge posteriorly; the bottom of the sulcus coarsely raised reticulate (1–2 rows of cells); outside the sulcus

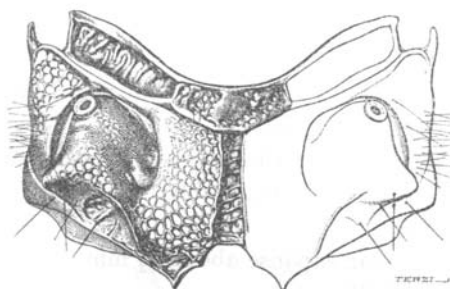


Fig. 5. Metanotum and propodeon of *Colpixys necator*, sp. n.

the notum is reticulate, the rough areas medianly contracted before a smooth depression (deep and steep-walled anteriorly), which contracts towards the oval-rimmed spiracle into a sulcus encircling the spiracle, flattening out again above the pleura and below a strong raised prominence on the posterior edge, a little beyond the level of the spiracle. Pleurae reticulate, postero-laterally nearly rectangular; posterior edge sloping towards the petiole. There are numerous bristles on the pleurae and 4–5 behind the posterior prominence.

Wings: Fore wings two and a third times as long as broad; length, 2.1 mm.; breadth, .9 mm. Marginal; submarginal, as 5:4 (reckoning from the first long fringing bristle) or 3:2 (from the first non-setigerous pustule of the former vein). The radius and postmarginal subequal, and in the same scale, less than 1. Submarginal with two bristles; marginal and post-marginal combined with a fringe of twenty-four bristles; radius with five bristles, and three more at the edge; no clear space round the radius. The submarginal cell bears below about six bristles on the basal half, and of the row fringing the inside of the marginal on the lower surface, the first (proximal) twelve are long and conspicuous. Discal ciliation regular, sparser proximally, coming close to the marginal to within one-third from the origin of the latter. Below this point, half-way to the posterior edge, begins a row of isoclinal bristles with a clear border in front, which extends nearly to the posterior angle; there are also a few bristles between this angle and the base. Hind wings about four times as long as broad; length, 1.6 mm.; breadth, .42 mm.; subcostal cell extremely narrow on the middle third, and filled by the vein both proximally and

distally. Basal portion of vein bare save for two minute bristles; open area bare. About twenty-five short bristles on the distal third, where the vein bears two non-setigerous pustules. Frenulum consisting of a stout spine and two hooks, with nine or ten minute bristles behind.

Legs rather long; all the coxae (particularly the hind pair) extremely coarsely raised-reticulate, surfaces of femora and tibiae reticulate with long cells; apical spurs of all the tibiae short. Fore legs: coxae elongate (2:1) about seven-tenths of the femur in length; pattern of femora posteriorly coarse. Tibial comb reduced to four separate spines, no specialised comb on first tarsal joint. In the hind femur there are subdorsal and ventral rows of 9–10 bristles, but the surface is otherwise bare, while posteriorly there is in addition a submedian row of eight bristles; 15–16 strong spinose bristles in the comb.

Proportions of tarsal joints (excluding claws):—

| | | | i. | ii. | iii. | iv. |
|-------|----|----|----|-----|------|-----|
| Front | .. | .. | 35 | 40 | 37 | 60 |
| Mid. | .. | .. | 65 | 55 | 40 | 60 |
| Hind | .. | .. | 55 | 60 | 45 | 65 |

Abdomen elongate, flat, hardly carinate below; posterior edges of tergites 1–4 medianly convex; of 5 concave. Tergite 6 much the longest; 2–4 subequal; 1 longer; 7 very minute.

Length, nearly $3\frac{3}{4}$ mm.; alar expanse about $5\frac{1}{2}$ mm.

Holotype—♀ in the British Museum.

RHODESIA: Salisbury (*R. W. Jack*).

One of a pair bred from an Erotylid beetle (*Barbaropus paradoxus*, Olliff); emerged 22.xi.15.