

Notes on African Formicidae (Hymenoptera) - 1

by

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SUBFAMILY PONERINAE

Leptogenys stuhlmanni var. *schwabi* Forel, **comb. nov.**

Leptogenys schwabi Forel, 1913, *Dtsch. ent. Z. Beih.* **1913**: 208, ♀; Arnold, 1915, *Ann. S. Afr. Mus.* **14**: 93-4.

When examining closely workers of *L. schwabi* Forel and *L. stuhlmanni* Mayr, collected by Dr G. Arnold in Bulawayo and Chirinda Forest (S. Rhod.), and determined by him and comparing them with specimens of *stuhlmanni*, collected by Dr J. H. Grobler in Barberton (Tvl.), (also determined by Dr Arnold), I noticed that the ratio of the width of the head across the anterior margin to the width across the eyes is the same in both species. Specimens of *stuhlmanni* from Chirinda Forest have the epinotum just as strongly strigose as those of *schwabi*, and among some individuals of the latter species the sculpture of the thorax agrees with that of *stuhlmanni*. In both species the second segment of the flagellum is about one and seven-tenths to one and four-fifths longer than the first and although some specimens of *schwabi* from Bulawayo are more brownish in colour, I think Forel was wrong in describing this form as a new species; it is barely distinguishable from *stuhlmanni* and is no more than a variety, and should be regarded as such.

The relegation of *schwabi* to the status of a variety is based on a study of determined specimens only, as no types and paratypes of both *schwabi* and *stuhlmanni* are available.

Leptogenys stuhlmanni stuhlmanni Mayr, figs. 3 - 5

1893, *Jb. hamburg. wiss. Anst.* **10**: 108, ♀; Arnold, 1915, *Ann. S. Afr. Mus.* **14**: 91-3.

As the male of only the subspecies *erythraea* Emery is known, the description of the male of *L. S. stuhlmanni* is herewith appended.

MALE: 8.8 mm. Colour similar to that of the worker, brownish-black, shining, with a slight bluish gloss, especially on the thorax; clypeus, antennae and legs more brownish in colour. A fine yellowish pubescence on the body almost absent from the node and abdomen. Sculpture and pilosity as in the worker, although the epinotum seems to be more hairy as in the subspecies *erythraea*. Mandibles triangular in shape, very short, broad at the base with a broad and slightly concave dorsal surface the exterior lateral margin of which is carinate

and rounded from front to back, making the ventral surface keel-like in appearance. Each mandible has about seven fairly long setae on the exterior lateral surface, and one long and one or more shorter setae on the apex. Clypeus not so sharply carinate as in the worker, the posterior third much more rounded from side to side; smooth, shining, and without striae on each side; the pubescence fairly long, decumbent and sparse.

Head wider in front than behind, widest over the eyes and about one and one-eighth longer than wide across the eyes. Eyes large, each one about as long as half the width of the head. Three ocelli on the vertex fairly large and distinct. Antennae long and filiform; the scape about four and one-third times as long as the first segment of the flagellum; the second segment of the flagellum about three and one-third times longer again than the first. All segments longer than wide. Pronotum large, the sides more hairy than in the worker; mesonotum with well-developed Mayrian furrows, fairly convex in front and about three-quarters longer than wide. The dorsum flat, the sides convex and the metanotum distinct. Dorsum of epinotum transversely striate, the striae extending to the sides; the sides of the mesothorax faintly and obliquely striate, finely reticulate-punctate and shining. Seen in profile the node of the petiole is triangular, the dorsal side slightly convex, not arcuate at its extreme anterior end as in the worker (figs. 1, 2 and 4). The posterior dorsal angle is rounded and the posterior face vertical, almost straight; seen from above it is similar to that of the worker, except that the posterior face is slightly narrower.

Wings with a brownish tinge; the forewings with the first and second cubital as well as the first discoidal cells present. The second discoidal cell is closed. Abdomen smooth and shining and more pubescent than in the worker.

MATERIAL: two ♂♂, Barberton (Tvl.), 29.XI.1956, A. J. Prins (AcAx10). ♂-Metallotype in National Collection of Insects, Plant Protection Research Institute, Pretoria.

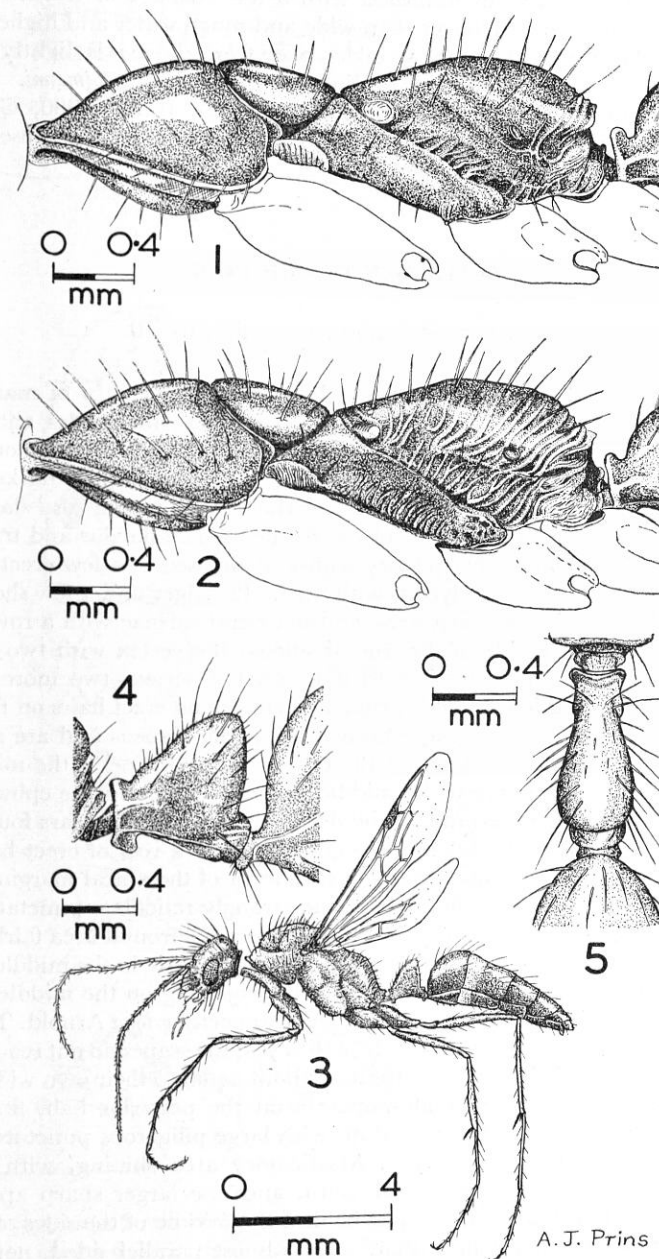
Leptogenys stuhlmanni leiothorax subsp. nov., fig. 1

WORKER: 8.8—9.3 mm. Very similar to *s. stuhlmanni* but more brownish in colour; the insect as a whole very smooth and shining, with a slight bluish gloss, and less hairy. Head one and one-tenth to one and one-fifth longer than wide at the anterior margin; clypeus also with striae on each side of the carina and the second segment of the flagellum about one and four-fifths longer than the first.

Pro- and mesonotum as in *stuhlmanni* but much more shining; epinotum smooth and shining and without rugae on the dorsum and sides, except a few rugae just above the mesopleura; the latter smooth and without any striae. De-

EXPLANATIONS OF FIGURES

Fig. 1. - ♀, *Leptogenys stuhlmanni leiothorax* subsp. nov., thorax in profile. Figs. 2 - 5, *Leptogenys stuhlmanni* Mayr, fig. 2, ♀, thorax in profile; fig. 3 - ♂, adult in profile; fig. 4 - ♂, node of petiole in profile; fig. 5 - ♂, node of petiole seen from above.



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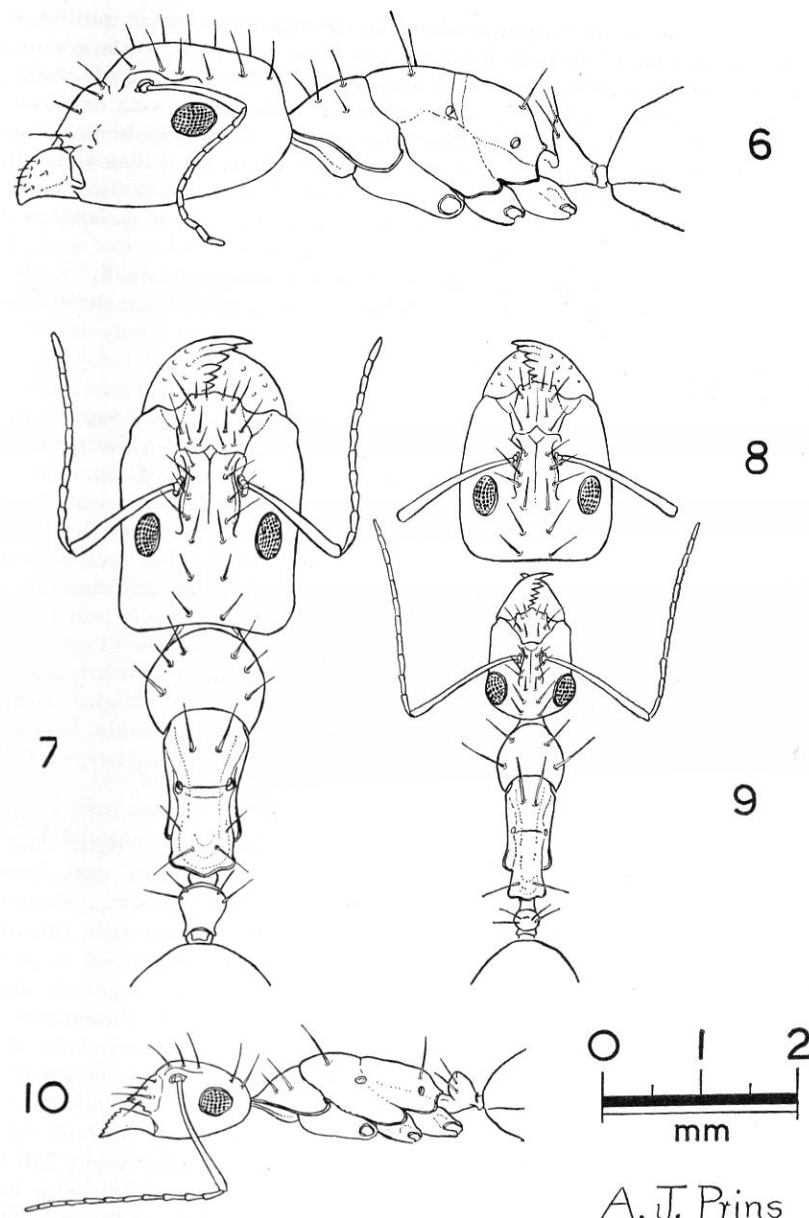
clivity of the epinotum as in *stuhlmanni* with a few coarse and transverse striae. The node of the petiole also longer than wide and much wider and higher behind, but more polished and without any wrinkles. Seen from above it is slightly narrower behind, having more or less the same outline as in the male of *stuhlmanni*.

MATERIAL: four ♂♂, Dondo (Mozambique), 10.XII.1960, G. Arnold, (AcAx 1997). Type and three paratypes in National Collection of Insects, Plant Protection Research Institute, Pretoria.

SUBFAMILY FORMICINAE

Camponotus transvaalensis arnoldi subsp. nov., figs. 6—10

SOLDIER (figs. 6 and 7): 9 mm long; length from tip of mandibles to base of abdomen 6 mm. Head 2.45 mm long, black; mandibles and anterior fifth of the clypeus castaneous-red. Scapes dark brown to castaneous-brown; coxae and femora yellowish-brown, the tibiae and tarsae slightly darker. Petiole castaneous, slightly lighter in colour than the thorax. Abdomen also dark brown, almost piceous, the apical margins of the segments pale flavous and translucent. Pubescence as in the holotype; pilosity scanty, composed of a few erect yellowish hairs on the body as follows: clypeus with about 12 longer and a few shorter hairs on the anterior margin; the area between the frontal carinae with a row of about five long hairs on each side of the frontal sulcus; the vertex with two hairs and also two on the occiput fairly close to those on the vertex; two more yellowish hairs occur just behind the frontal carinae. There are no erect hairs on the cheeks. In the holotype the hairs are more numerous on the clypeus and are also borne on the cheeks. Pronotum with about three hairs on each side of the middle line; mesonotum with only two near the middle of the dorsum and the epinotum with two fairly long hairs on the brow of the declivity. The petiole bears four hairs on the edge of the scale each abdominal segment carries a row of erect hairs across the middle and another transverse row just in front of the apical margin, as in the holotype. Head dull or very slightly shining, strongly reticulate-punctate all over, but the reticulation not so sharp as in the holotype; the frontal area fairly distinct; median area of the clypeus strongly convex, almost carinate in the middle. Anterior margin of the clypeus almost straight, slightly projecting on the middle line, and not emarginate as in the holotype and in the subspecies *griqua* Arnold. The frontal carinae extend back as far as the middle of the eyes; the scapes do not reach the hind margin of head, but fall short by a distance about equal to their own width at their apices. Mandibles finely reticulate-punctate on the posterior half, finely striate from about the middle to the apex, dull, with large piligerous punctures, but not striato-punctate as in the holotype. Masticatory area shining, with about six fairly large, slightly blunt triangular teeth, and one larger sharp apical tooth. Eyes large, nearly round, situated just behind the middle of the sides of the head. Head about one-quarter longer than wide, almost parallel sided, not narrower in front than behind, the sides slightly concave near the eyes; the posterior angles



Figs. 6 - 10: *Camponotus transvaalensis arnoldi* subsp. nov. fig. 6 - 24, head and thorax seen from the side; fig. 7 - 24, head and thorax seen from above; fig. 8 - ♀, media, head seen from above; fig. 9 - ♀, minor, head and thorax seen from above; fig. 10 - ♀, minor, head and thorax seen from the side.

rounded and the occipital margin moderately emarginate. Seen in profile, the head is about one-third higher in front than behind, the dorsal surface sloping down to the occiput. Thorax and petiole reticulate-rugulose and slightly shining. Pro-mesonotal and meso-epinotal sutures distinct. Pronotum about one and a half times wider than long, the sides convex; mesonotum as long as the pronotum, narrowed behind making the thorax somewhat constricted; fairly flat above like the pronotum; metanotum as in the holotype. Dorsum of the epinotum narrow, rounded from side to side, slightly convex transversely and about as long as the declivity. Seen in profile, the dorsal surface of the thorax forms a low arch, the epinotum sloping down to the declivity into which it merges gradually. Scale of petiole about as wide as high; seen from behind much wider above than below, with a trenchant dorsal edge. Legs as in the holotype. Abdomen finely and transversely rugulose and shining.

WORKER MEDIA (fig. 8): 8 mm long, length from tip of mandibles to base of abdomen 4.8 mm. Head 1.9 mm long, dark brown, almost black, the posterior third slightly lighter in colour. Mandibles and thorax castaneous-brown; antennae brown; petiole and abdomen as in the soldier. Head dull, or very slightly shining, reticulate-punctate as in the soldier; the anterior margin of the clypeus almost straight, not emarginate; median area also convex but more sharply carinate than in the soldier, the carina almost reaching the anterior margin. Mandibles microscopically rugulose, shining, with large piligerous punctures as in the soldier, and 7-dentate. Eyes large, placed behind the middle of the sides of the head. The scapes extend beyond the hind margin of the head by nearly one-fifth of their length. Head about one-sixth longer than wide, the sides slightly convex, narrower in front than behind and the occipital margin almost straight. Seen from behind the scale of the petiole is slightly narrower than in the soldier, otherwise like the soldier.

WORKER MINOR (figs. 9 and 10): 5.3–6.4 mm long, length from tip of mandibles to base of abdomen 3.7 mm. Head and scapes dark brown; flagella pale reddish-brown, and the mandibles castaneous-red. Pronotum pale reddish-brown, rest of the thorax darker. Coxae and legs pale brownish-ochreous to pale raw umber. Petiole brownish; abdomen dark brown to piceous in the soldier, slightly lighter towards the base; the first segment almost spotted in front in smaller workers as in *Camponotus maculatus* F. Pubescence and pilosity as in the soldier. Head finely reticulate-rugulose; median area of the clypeus very convex and feebly carinate, the anterior margin not emarginate, but slightly convex and projecting in the middle. Mandibles microscopically rugulose, shining, with a few large piligerous punctures, 6-dentate, the apical tooth the largest. The scapes extend beyond the hind margin of the head by about half their length; eyes large and round. Head about one-quarter longer than wide across the eyes, the sides in front of the eyes straight and parallel, behind the eyes convex and convergent, the posterior margin slightly convex and much narrower than the anterior. Seen in profile the head is much higher in front than behind, as in the soldier. Thorax and petiole reticulate-rugulose, shining; the pronotum slightly

wider than long, almost as long as the mesonotum; the latter as in the soldier, but seen from the side, the dorsal surface is more rounded near the pro-mesonotal suture than in the soldier. Metanotum indistinct or almost obsolete; dorsum of epinotum about three times longer than the declivity. Scale of petiole thick, seen from above slightly wider than long, and from behind almost as wide above as below; dorsal edge not so pronounced as in the soldier or worker media, in profile it is as high as the brow of the declivity. Abdomen finely and transversely rugulose and shining.

Forms intergrading between the workers media and workers minima are often present among the workers of these ants and in this case there is an intermediate form in which the head is very similar to that of the worker media, 1.5 mm long, excluding the mandibles (1.3 mm in the worker minor), and about one-seventh longer than wide. Sides of the head slightly convex as in the worker media, but the head is not narrower in front than behind. Posterior angles rounded but the sides behind the eyes not convergent as in the worker minor; occipital margin straight or slightly convex. Scapes extend beyond the hind margin of the head by about one-third their length. Otherwise like the worker minor.

MATERIAL: two ♂♂, one ♀ media, three ♀♀ minores and one intermediate ♀, Bulawayo (S. Rhod.), 12.XI.1961, G. Arnold (AcAx 2647). Types and paratypes in National Collection of Insects, Plant Protection Research Institute, Pretoria.

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