

Two new species of *Urodolichus* Lamb (Diptera: Dolichopodidae) from Madagascar

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Urodolichus lambi and *Urodolichus ninae* spp. n. from Madagascar are described. A catalogue and key to 6 known species of *Urodolichus* are given.

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Key words. Diptera, Dolichopodidae, *Urodolichus*, Madagascar.

Introduction

The genus *Urodolichus* was described by Lamb (1922) for three new species from Seychelles within the subfamily Dolichopodinae, but the author mentioned some characters common with the genus *Porphyrops* Meigen (considered now as synonym of *Argyra* Macquart, though many species of *Porphyrops* were transferred to *Rhaphium* Meigen). There have been no any additional records for those species. Hollis (1964) described *Ounyana* gen. nov. for *O. keiseri* Hollis from Sri Lanka, belonging the new genus to the subfamily Rhaphiinae. The author was uncertain whether *Ounyana* should be placed in the Diaphorinae or Rhaphiinae and consigned it to the latter subfamily by virtue of its similarity to the South American genus *Ionthadophris* Van Duzee (now synonym of *Somillus* Brethes). Robinson (1970) included *Ionthadophris* into Diaphorinae. Dyte (1975) correctly placed *Ounyana* in synonymy with the genus *Urodolichus*, leaving the genus within Rhaphiinae (Dyte, 1980). In fact, the genus should be referred to Diaphorinae despite the pedunculate hypopygium unusual for the subfamily, forming the

tribe Argyrini together with *Argyra*, *Somillus*, *Dactylonotus* Parent, *Falbouria* Dyte, *Keirosoma* Van Duzee and *Pseudargyra* Van Duzee. The world fauna of the subfamily Diaphorinae numbers about 20 genera and subgenera united in two tribes, Argyrini and Diaphorini. Limits of the subfamily are not yet defined well, and many genera traveled to or from Diaphorinae, whereas others changed their generic status.

Treating unidentified material from the collection of the Royal Institute for Natural Sciences [RINS] (Brussels), I found two new species of the genus *Urodolichus* from Madagascar. In this paper descriptions for these species, catalogue and key to species of the genus are given.

Most part of the material collected from Madagascar is kept in 70% alcohol inside glass tubes and cans. In addition, one specimen of each species is also placed after alkalisation into glycerol and mounted on pin in sealed plastic container.

Holotypes and paratypes of the new species are deposited in the Royal Institute for Natural Sciences [RINS] (Brussels).

List of known species of *Urodolichus* Lamb

Urodolichus Lamb, 1922: 394. Type-species: *Urodolichus porphyropoides* Lamb, 1922, by original designation.

=*Ounyana* Hollis, 1964: 228. Type-species: *Ounyana keiseri* Hollis, 1964, by monotypy.

caudatus Lamb, 1922: 397. Seychelles.

gracilis Lamb, 1922: 398. Seychelles.

keiseri Hollis, 1964: 228 (*Ounyana*). Sri Lanka.

lambi sp. n. Madagascar.

ninae sp. n. Madagascar.

porphyropoides Lamb, 1922: 394. Seychelles.

Urodolichus lambi sp. n.

(Fig. 1)

Holotype. Male, Madagascar, 25 km W. Morarano-chrome, XI.1991, foret, bac jaune, A. Pauly, [in alcohol].

Paratypes. 1 female, the same label. 5 males, 1 female, Madagascar, Tam, Morarano-chrome, X.1991, A. Pauly col. 18 males, 9 females, Madagascar, Tam, Manakambahiny Atn., 17–23.III.1991, A. Pauly, foret. [Mostly in alcohol, one male in glycerol].

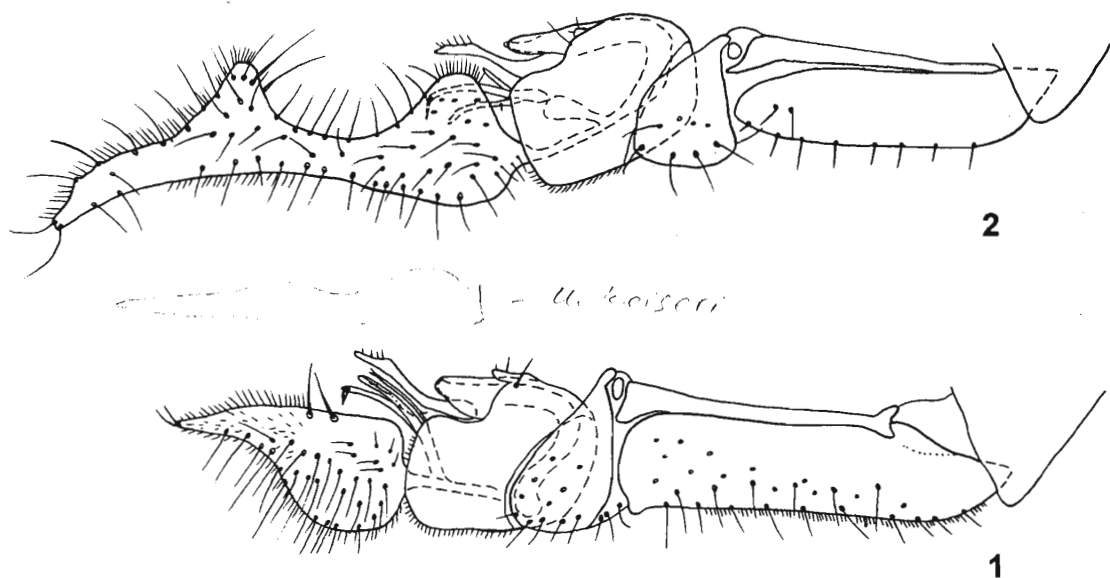
Description. Male. Frons small, as high as wide, metallic blue green. Face of the same colour. Upper margin of frons slightly concave, with somewhat prominent ocellar tubercle. A strong vertical seta bending forward just at the upper angle of head near the eye margin, arising from a small tubercle. A weaker postvertical seta positioned on back slope slightly lower than upper head margin. Occiput concave. Eyes distinctly haired along entire surface. Head practically holoptic. Face as a small triangle below antennae and very thin line slightly widened at clypeus. Upper postocular setae short, black, uniserial. Ventral postcranium covered with long fine brownish setae. Palpus brown, oval, small, with black hairs, as long as palpus. Proboscis brown-black with short hairs; 6 symmetrically positioned pseudo-tracheae. A triangular structure below clypeus present with pointed apex and one pair of lateral spine-like process. Antenna short, black, with simple joints. Scape bare. Pedicel with a fan of mostly dorsal hairs, which longer than 1st flagellomere. Pedicel also with short lateral lobes covering base of 1st flagellomere in the middle of both sides. 1st flagellomere rounded, asymmetric, slightly higher than long, with distinct apicoventral obtuse apex and dorsal arista. Arista simple, with sparse short hairs. Length ratio of scape to pedicel to first flagellomere to arista, 5 : 7 : 8 : 55.

Thorax greenish-black. Prothorax and propleura with numerous black setae and hairs. Mesonotum with two rows of acrostichals and 5 pairs of dorso-central setae (mostly broken). Scutellum with one pair of strong setae, one pair of fine lateral setae, one third or half as long as major setae, and 2–3 pairs of median marginal hairs.

Legs usually black, sometimes partly brown. Fore coxa with numerous black anterior setae and hairs, 2/3 as long as coxa; middle coxa with shorter hairs; hind coxa with single external seta at base. All femora with double ventral row of cilia along entire length, twice longer than femur's diameter; anterior sub-apical setae indistinct. Fore tibia with 2–3 short apical setae only. Fore basitarsus with simple setulae. 2nd to 5th tarsomeres shortened; 5th tarsomere slightly flattened, with several elongate hairs, one pair of claws, simple empodium and small pulvilli. Length ratio of fore femora to tibia to tarsus (segments from first to fifth), 67 : 62 : 30 : 6 : 7 : 6 : 7. Middle tibia with 2 anterodorsal, 2 posterodorsal, 2–3 ventral and 2–3 apical setae. Middle tarsus simple. Length ratio of middle femora to tibia to tarsus (segments from first to fifth), 75 : 83 : 45 : 16 : 11 : 6 : 7. Hind tibia with 2 anterodorsal, 2 posterodorsal, 2–3 apical setae and posteroventral row of elongate setulae, nearly as long as tibia diameter. Hind tarsus simple. Length ratio of hind femora to tibia to tarsus (segments from first to fifth), 95 : 110 : 20 : 30 : 16 : 8 : 10.

Wing oval, smoky, brownish anteriorly in basal half; 1st radial cell entirely brown; veins black. *Sc* reaching to R_1 at the middle of the latter. R_1 nearly half as long as wing. Venation similar to this in *U. porphyropoides* (Lamb, 1922). Ratio of part of costa between R_{2+3} and R_{4+5} to this between R_{4+5} and M_{1+2} , 28 : 15. R_{2+3} nearly straight. R_{4+5} with wide arc in apical half. M_{1+2} with strong bosse at basal 2/5 of apical part, parallel to R_{4+5} in apical 1/4 of wing; *m-cu* straight, positioned behind the middle of wing's longitudinal axis. Ratio of cross-vein *m-cu* to apical part of CuA_1 , 18 : 46. Anal vein weak, not reaching to wing margin; anal lobe developed; alula pronounced; anal angle acute. Lower calypter brown, with black setae. Halter light-brown, with rounded knob having ventral comb of short setulae at base.

Abdomen black-brown, with bluish tinge, short black setae and hairs, several long basoventral hairs. Six full segments of abdomen developed. All sternites simple. Postabdomen brown. 7th segment thin and long, as long as 6th tergite, attached to the latter apicoventrally. 7th tergite with short hairs. 8th segment with short hairs, 1/3 as long as 7th, attached to the tip of the 7th, embracing epandrium left-basolaterally. Epandrium oval, half as long as 7th



Figs 1-2. *Urodolichus* Lamb, postabdomen, lateral view
1, *U. lambi* sp. n.; 2, *U. ninae* sp. n.

segment. Cercus brown, budlike, when measured along dorsal margin, slightly longer than epandrium, densely covered with short cilia, which very short at pointed apex. Three pairs of surstyli long and thin, almost straight; the longest surstylus bearing strong apical spine. Epandrial lobe as long as surstylus, slightly sinuate. Hypandrium midventral, short.

Female. Similar to male except lacking male secondary sexual characters, otherwise as follows: Face narrowed towards palpi. Height ratio of frons, epistome and clypeus, 15 : 25 : 10. Width ratio of epistome under antennae to this at clypeus, 13 : 5. Eyes, pedicel and palpi with shorter hairs than in male. Femora with ventral cilia, half as long as femur's diameter. Hind tibia with short setulae. Abdomen with 5 visible segments. 9th hemitergite with a transverse row of 5 short acanthophorites. Cercus short, lamellate, as long as sclerotized part of 9th hemitergite, with microscopic hairs. Anal plate with several pairs of long light cilia.

Length: body 3.8-4.3 mm, male postabdomen 1.1 mm; antenna 0.9 mm; wing-length 3.95 mm; wing-width 1.4 mm.

Distribution. Madagascar.

Diagnosis. Having short cercus, the new species is close to *U. gracilis*, differing in black antenna, mostly black legs; all femora with double row of stout ventral setae; epandrium half as long as 7th segment.

Urodolichus ninae sp. n.

(Fig. 2)

Holotype. Male. Madagascar, 25 km W. Morarano-chrome, XI.1991, foret, bac jaune, A. Pauly, [in alcohol].

Paratypes. 3 males, the same label. 3 males, Madagascar, Tam, Morarano-chrome, X.1991, A. Pauly col. [Mostly in alcohol, one male in glycerol]

Description. Male. Similar to *U. lambi* except as noted. Palpus with short hairs, only several cilia nearly as long as palpus. Length ratio of scape to pedicel to first flagellomere to arista, 4 : 5 : 6 : 50.

Fore coxa with numerous black anterior setae and hairs, half as long as coxa. All femora with double ventral row of cilia along entire length, not longer or slightly longer than femur's diameter. Length ratio of fore femora to tibia to tarsus (segments from first to fifth), 65 : 61 : 25 : 5 : 5 : 5 : 6. Middle tibia with 2 anterodorsal, 2 posterodorsal, 1-2 ventral and 2-3 apical setae. Length ratio of middle femora to tibia to tarsus (segments from first to fifth), 75 : 77 : 42 : 15 : 10 : 6 : 8. Hind tibia with 2 anterodorsal, 2 posterodorsal, 2-3 apical setae and several elongate posteroventral setulae, nearly as long as tibia diameter. Length ratio of hind femora to tibia to tarsus (segments from first to fifth), 85 : 105 : 20 : 26 : 15 : 8 : 8.

Wing. Ratio of part of costa between R_{2+3} and R_{4+5} to this between R_{4+5} and M_{1+2} , 28 : 15. Ratio of cross-vein *m-cu* to to apical part of CuA_1 , 17 : 39.

Abdomen. 7th segment thin and long, slightly longer than 6th tergite. Epandrium oval, 1/2 as long as 7th segment. Cercus 2.5 times longer than epandrium, swollen at base, narrow, lamellate, with narrowed apex, large internal tooth at middle of narrow part, covered with short cilia along entire length, slightly longer than epandrium. Three pairs of surstyli long and thin, almost straight; the longest surstylus bearing strong apical spine. Epandrial lobes as long as surstylus, slightly sinuate. Hypandrium midventral, short.

Female unknown.

Length: body 3.7–3.9 mm, male postabdomen 1.3 mm; antenna 0.8 mm; wing-length 2.9–3.2 mm; wing-width 1.3 mm.

Distribution. Madagascar.

Diagnosis. *U. ninae* sp.n. differs from known species in bare fore tibia; apical part of *CuA*₁ 2 times longer than *m-cu*; cercus swollen at base, with large midventral tooth. In addition, the new species differs from *U. porphyropoides* in simple fore basitarsus, from *U. caudatus* in strongly curved wing vein *M*₁₊₂.

Key to species of *Urodolichus* Lamb (males)

1. Cercus twice or thrice longer than epandrium . . . 2
— Cercus not longer or slightly longer than epandrium 5
2. Fore tibia bare; hind tibia with 2 antero- and 6 posterodorsal setae *keiseri* Hollis
— Either fore tibia with 1 dorsal and 1 ventral setae or hind tibia with 4 or 5 setae 3
3. Apical part of *CuA*₁ 2 times longer than *m-cu*; cercus swollen at base, with large midventral tooth *ninae* sp. n.
— Apical part of *CuA*₁ 1.5 times longer than *m-cu*; cercus with basoventral lobe, without midventral tooth 4
4. Fore basitarsus with anterior row of regular, almost hooked setae *porphyropoides* Lamb
— Fore basitarsus with ordinary seta row at base *caudatus* Lamb

5. 1st flagellomere and legs entirely orange; femora with only fine sparse ciliation; epandrium not shorter than 7th segment . . . *gracilis* Lamb
— Antenna black, legs mostly black; all femora with double row of stout ventral setae; epandrium half as long as 7th segment . . . *lambi* sp. n.

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