

NEW SPECIES AND RECORDS OF *MEONEURA* RONDANI, 1856
FROM THE OLD WORLD TROPICS (DIPTERA, CARNIDAE)

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Meoneura indica sp. n. (India), *M. nepalensis* sp. n. (Nepal), *M. orientalis* sp. n. (Laos, Vietnam), *M. simplex* sp. n. (India), *M. subinversa* sp. n. (Vietnam) and *M. nigrohalterata* sp. n. (Namibia) are described, *M. biseta* Deeming is re-described from the Afrotropical region. With 33 figures.

Key words: Diptera, Carnidae, *Meoneura*, new species, Afrotropical, Oriental.

INTRODUCTION

Carnidae is a small family of mostly completely black small or minute acalyptrate flies. Formerly thought to be close to Milichiidae, but all recent investigations in their morphology and phylogenetic relationships show that they are unique in several respects (BUCK & MARSHALL 2007, BRAKE 2009). A majority of the carnid species belongs to the huge genus *Meoneura* Rondani, 1856 and the species are mostly Holarctic (BRAKE 2009). In the tropics the number of species described hitherto is rather low, and there are large areas from which they have been unknown. So it was relieving that just a superficial overview of the Diptera Collection of the Hungarian Natural History Museum resulted in a discovery of numerous new species.

In the Oriental region there was almost nothing known on carnids, except for a species of *Carnus* (*C. orientalis* Maa, 1968, Malaysia). GREGOR (1971) described three *Meoneura* species from the Hindukush (partly from the Pakistan side). The first true Oriental species, *Meoneura vikhrevi* Ozerov, 2011, was described most recently.

The Afrotropical region seems to have several endemic species of carnids (*Hemeromyia*, *Meoneura*) (BARRACLOUGH 1994, BRAKE 2009). Three species (*M. biseta* Deeming, 1976, *M. nigriensis* Deeming, 1976, *M. scutellata* Deeming, 1976) were formerly described from Northern Nigeria, and also *Hemeromyia australis* Barraclough, 1994 from Namibia; two of them are found also in the present materials. Later DEEMING (1997) described *Meoneura australis* from South Africa.

MATERIAL AND METHODS

The extensive collections in the Old World tropics of the co-workers of the Department of Zoology of the Hungarian Natural History Museum in the last decades resulted in an accumulation of interesting material there. It is valid also for the family Carnidae. More than 140 specimens of the Old World tropical *Meoneura* were found in the HNHM. That material was excellently supplemented by the carnid material received from the Namibian National Insect Collection through the courtesy of Dr. Ashley H. Kirk-Spriggs.

In the terminology only the name of the sclerites anterior to the true surstyli in the male genitalia is problematic. BUCK and MARSHALL'S (2007) otherwise excellent work does not give basis for its naming since their genus does not possess such a structure. SABROSKY (1987) named as "lamellae", which is a neutral term, since they must not be "process of hypoproct" and they do not belong to the inner genital organs adjacent to phallus (cf. HENNIG 1937, SABROSKY 1959, 1987, PAPP 1976, 1977, 1981). In cases also male postgonites are studied in detail in order to supplement the features of the shape and armature of surstylus and lamella for characterisation of species. The phallus of the species discussed below shows no special characters, so it is not mentioned in the descriptions.

At least six new species of *Meoneura* were found. The type-specimens are deposited in the collections of: Department of Entomology, National Museum, Bloemfontein, South Africa (BMSA) and the Diptera collection, Department of Zoology, Hungarian Natural History Museum, Budapest (HNHM). Every specimen from Namibia bears a blue label: Namibian National Insect Collection, National Museum, P.O. Box 1203, Windhoek, Namibia.

The specimens are double mounted on minuten-pins if not otherwise stated. The male genitalia (usually with the whole abdomen) of some specimens are prepared and preserved in polyethylene microvials with glycerol under the rest of the specimen on the same insect pin.

ORIENTAL SPECIES

Meoneura indica sp. n.

(Figs 1–4)

Holotype male (HNHM): India, Uttar Pradesh, 24 km S of Agra, 28. XI. 1989, leg. L. Papp – swept on watering [irrigation] canal shores.

Paratypes (HNHM): 3 males: same data as for the holotype; 2 males 1 female: *ibid.*, Keetham Lake, 20 km N of Agra – swept on lake-shore plants and mud, leg. L. Papp; 1 female: *ibid.*, Agra, Shah Jehan Gardens, 25. XI. 1989, leg. L. Papp – swept on shores of small ponds and on a watered grassy area.

Measurements in mm: body length 1.93 (holotype), 1.54–2.00 (paratypes), wing length 1.48, 1.26–1.79 (paratypes), wing width 0.64, 0.58–0.69.

Body subshiny black, with dark fine microtomentum.

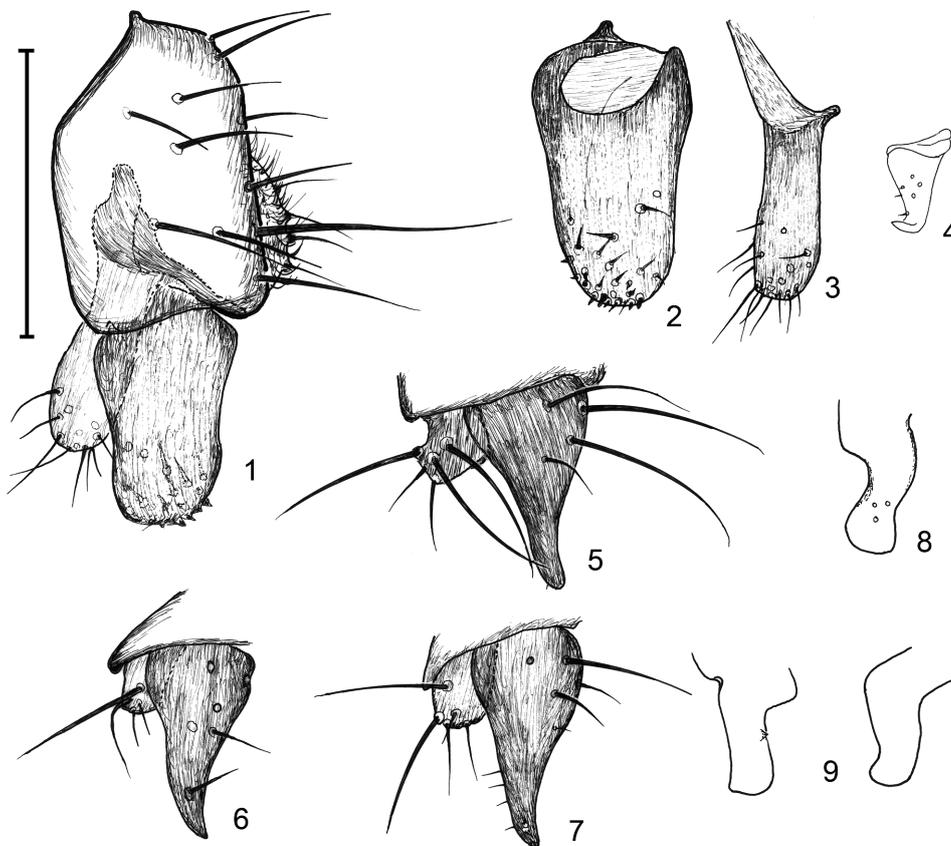
Frons reddish in its anterior 2/5. Face dark. Interfrontal (supralunular) seta 0.13 (!) mm long. Frontal triangle broad, reaching anterior 3/7 distance of anterior ocellus to frontal margin, i.e. apex of frontal triangle reddish. Both inner and outer occipitals long. Eye very short elliptical: length 0.285 mm, height 0.27 mm. Gena at lowest point of eye 0.10 mm. Most dorsal "genal" seta (actually on cheek) 0.14 mm, longest genal setae similarly 0.14 mm with a half as long seta between them. Gena below eye with 2 other similarly long

setae, one of them is strongly upcurved, short genal setae near to ventral edge. Arista 0.22 mm long, not bare but cilia very short.

Mesonotum with fine microtrichia (tomentum), so rather shiny. 1+2 large dorsocentral pairs, prescutellar acrostichal microchaeta 0.11 mm long. Longest anepisternal seta 0.15 mm, longest (posterior) katapisternal seta 2.165 mm.

Legs all dark with dark grey microtomentum. Fore femur with 2 long posteroventral setae.

Wing membrane greyish, veins (incl. costal vein) light yellow. Alula small, narrow. Inter-crossvein section of M_{1+2} 0.095–0.10 mm, MM crossvein 0.055 mm. Knob of halteres white, stalk brownish.



Figs 1–9. *Meoneura* species, male genitalia. 1–4 = *M. indica* sp. n., paratype male: 1 = epanthrium, left surstylus and lamella, lateral view, 2 = surstylus in broadest extension (sublateral view), 3 = lamella in broadest extension (lateral view), 4 = postgonite, lateral view. 5–9 = *M. orientalis* sp. n., male genitalia: 5 = left lamella and surstylus of a paratype from Laos in broadest extension (subventral view), 6 = same, another paratype from Laos, 7 = postgonite of a Laos paratype laterally; 8 = left lamella and surstylus of a paratype from Vietnam in broadest extension (subventral view), 9 = postgonite of the Vietnam paratype in two slightly different lateral views. Scale: 0.1 mm for all.

Abdomen longish, more than twice longer than broad and longer than in *M. simplex* sp. n., sternites long and narrow, e.g. sternite 3 and 4 twice longer than broad, male sternite 5 quadratic, 0.14 mm long and 0.10 mm broad, marginal setae 0.06 mm long. Pregenital sclerite 0.19 mm broad and 0.12 mm long, bare, shield-shaped. Epandrium (Fig. 1) with rather short setae, only 1 longer caudal (but not completely ventral) seta present, surstylus long, very characteristic in shape (Fig. 1), with medium-long setae apically. Surstylus (Figs 1–2) much longer (higher) than broad, with broadly rounded apex; outer (lateral) surface almost bare, some minute pegs apically and short setae only in medial surface (Fig. 2). Lamella closely contacted but not fused to subepandrial sclerite (Fig. 1), simple (Fig. 3) with rounded apex, nearly 3 times longer than broad. Postgonite (Fig. 4) subtriangular in profile, apex latero-clinate. Phallus rather short, apical 2/3 swollen and right side curved with many hairs on ventral surface.

Female without peculiarities, so not safely identifiable in lack of synchronously captured males.

Etymology. The specific epithet of the new species refers to its type locality in India.

Remarks. In the HNHM there are other 5 females (Agra 2, Nainital 1, Dehra Dun 2) which represent other two species. That is, even more new species are to be expected to occur in India.

Meoneura vikhrevi OZEROV, 2011, *M. indica* sp. n. and *M. simplex* sp. n. are the first known *Meoneura* species from the Indian subcontinent. I am sure, there are many more species to be described from that huge area. *M. indica* sp. n. is unique with its large broad and broadly rounded surstylus and long comparatively broad and rounded lamella, which are without long seta. There are no similar genitalia in the Mongolian species (cf. PAPP 1976: figs 3–20), or in any other Palaearctic species (see HENNIG 1937, PAPP 1978, 1981, 1997).

***Meoneura orientalis* sp. n.**

(Figs 5–9)

Holotype male (HNHM): LAOS, Xiang Khouang Prov., Phou Samsoun, 10 km E of Ban Muang, montane rain forest, 2016 m, 19°8.717'N, 103°46.811'E, Febr. 15, 2012, singled, sweep netting and light trap, No. LAO2012PL_20, leg. Peregovits & Szappanos.

Paratypes (HNHM, 1 m & 1 f in BMSA, 8 m & 2 f in the private collection of A. Szappanos): 55 males 14 females: same data as for the holotype. 1 male (HNHM): Vietnam, Lao Cai Prov., Hoang Lien NP, Tram Ton, along and over a small stream, sweeping – Apr 9–11, 2010, 22.346499° N 103.7690706° E, 1904 m, VN2010PL_5, leg. Papp, L. & Soltész, Z.

Measurements in mm: body length 1.04 (holotype), 0.96–1.40 (paratypes), wing length 1.21, 1.15–1.40 (paratypes), wing width 0.52, 0.50–0.55 (paratypes).

Body and legs black, mostly dull.

Head black, frontal triangle broad, shiny, extended to anterior 2/5 distance from anterior ocellus to frontal margin. Height of eye 0.23–0.24 mm, longest axis 0.27 mm, genal width below eye 0.07–0.075 mm. Arista 0.16–0.19 mm with microscopically short cilia. Anterior genal (not vibrissal) setae subequal, lower one 0.08 mm, upper one shorter but

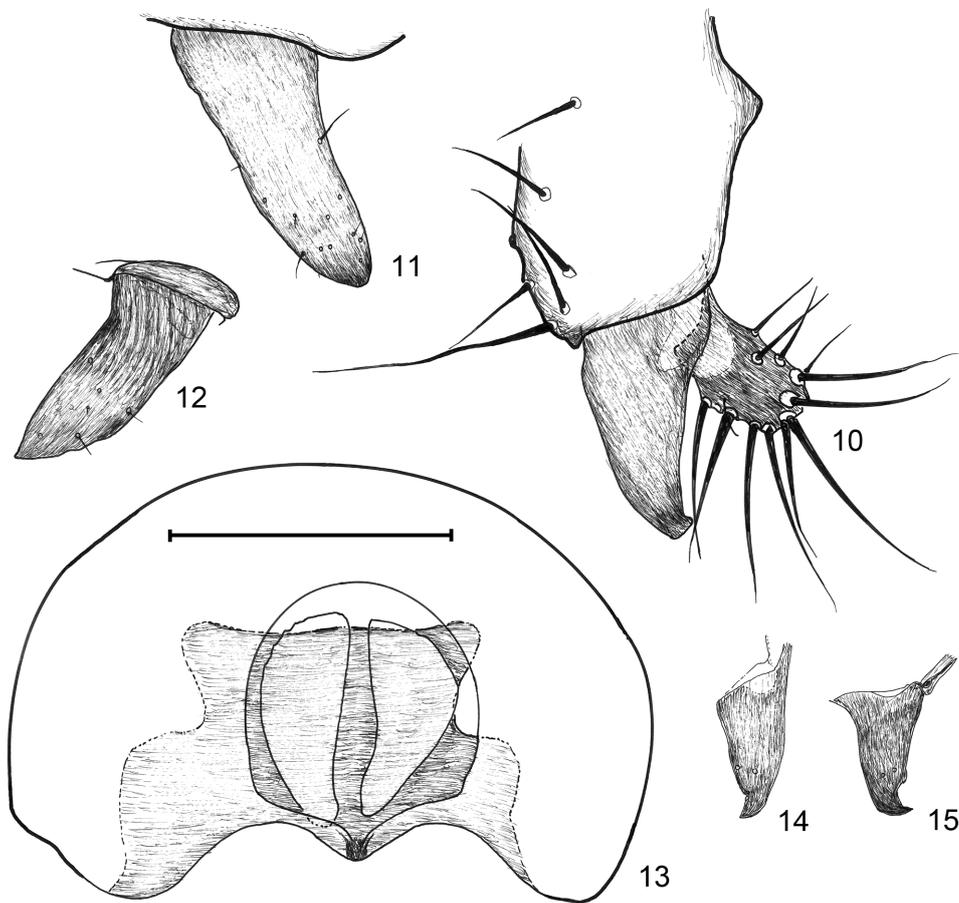
slightly thicker, medial one (in contrast to most of the *Meoneura* species) 0.06–0.065 mm, i.e. at least $\frac{3}{4}$ of the ventral one. Posterior genal setae incl. upcurved one longer, 0.12 mm.

Mesonotum subshiny: microtomentum dark and sparse. Only 1 posterior dorsocentral seta. Prescutellar acrostichal macrochaeta indistinct. Apical scutellar 0.25 mm to 0.27 mm. (i.e. very long compared to the body length). Longest anapisternal seta 0.13 mm, longest katepisternal 0.11–0.12 mm.

Fore femora with two long postero-ventral setae.

Wing membrane greyish, veins light yellow. Inter-crossvein section of M_{1+2} 0.05 mm, M-M crossvein 0.03 mm.

Lateral tergal seta on abdomen not long.



Figs 10–15. *Meoneura nepalensis* sp. n., male genitalia: 10 = ventral part of epandrium, right surstylus and lamella laterally, 11 = surstylus in broadest extension, 12 = surstylus in a view perpendicular to its apical part, 13 = contours of epandrium, cerci and subepandrial sclerite, caudal view (subepandrial sclerite dashed), 14 = postgonite, anterior view, 15 = postgonite, lateral view. Scale: 0.1 mm for all.

Epandrium and other genital parts extremely small; epandrium simple with some longer bristles only. Surstylus (Figs 5–7) twice longer than broad, strongly narrowing apically. Actually surstylus slightly caudally curved in lateral view. Surstylus with 2 or 3 long sub-basal and caudal-subcaudal setae; there are specimens also with a longer subapical seta (Fig. 6, cf. Figs 5, 7). This must not be a population character, since the paratype from Vietnam does not possess this seta, together with a majority of the Laos paratypes. Lamella (Figs 5–7) rounded, only almost a third as long as surstylus, with 2 or 3 long thick setae as well as other 2 or 3 shorter setae. Postgonite (Figs 8, 9) minute with blunt apex; in a special lateral view one may detect a small rounded anterior apex (Fig. 9). Female cercus with comparatively long setae, the longest (a ventral one) is 0.06 mm.

Female without peculiarities, so not safely identifiable in lack of synchronously captured males. I mean, the locality gives a direct information, since there is no related species hitherto discovered in the Oriental region.

Etymology. The specific epithet of the new species 'orientalis' refers to its occurrence in the Oriental region. Its abundance in the Laos material may show that its occurrence is wider than those two countries in SE Asia.

It was not possible to find any closer relative of the new species than *Meoneura carpathica* L. Papp, 1977 (an European species). In *M. carpathica* anterior part of the frons is yellow, alike *M. flavifacies*. The male genitalia of the new species in profile are similar to that of *M. carpathica* (PAPP 1977: fig. 6), indeed, although lamellar setae of *M. carpathica* are thicker. The broadest extension view of the surstylus is very informative: while the surstylus of the new species is very narrowly rounded apically or even with a definite, almost sharp apex, the surstylus of *M. carpathica* is more broadly rounded (PAPP 1977: fig. 7).

Meoneura nepalensis sp. n.

(Figs 10–15)

Holotype male (HNHM): Nepal, Terhatum District, N Basanthpur, 2700 m – No. 6., 23. III. 1996., leg. G. Csorba.

Paratypes (HNHM, 1 m BMSA): 17 males 2 females: data same as for the holotype.

Measurements in mm: body length 1.80 (holotype), 1.43–2.00 (paratypes), wing length 1.65 (holotype), 1.45–1.73 (paratypes), wing width not measurable, 0.49–0.60.

Body black, subshining, legs all black. Frons black but anterior ½ of frons reddish; frontal triangle shiny black, reaching to the reddish middle of frons. Face dull yellowish. Inner and outer occipitals medium-long, postocellars 0.06 mm. Supralunular (interfrontal) seta 0.09 mm. Other cephalic setae as in its related species, but slightly shorter. Arista 0.18–0.20 mm long. Gena comparatively narrow, only 0.065 mm broad anteriorly, eye 0.26–0.27 mm × 0.24–0.25 mm.

Mesonotum with thick dark grey microtomentum, moderately shiny. Only 1 long (posterior) dorsocentral pair, anterior 2 pairs only c. 2 times longer than dorsocentral microchaetae (0.09–0.10 mm). Prescutellar acrostichal seta 0.10 mm long. Longest anepisternal seta 0.14 mm, longest kapepisternal seta also 0.14 mm long.

Fore femur with 2 long posteroventral setae. All legs with dark grey microtomentum.

Wing membrane yellowish grey, veins light brown (ochre). Inter-crossvein section of M_{1+2} 0.10 mm, MM crossvein 0.055–0.06 mm long. Stalk of haltere ochre, knob yellowish white.

Male epandrium (Figs 10, 13) broad and not particularly short with medium-long setae; there is only a long and thick seta on ventral caudal edge of epandrium. Anal aperture of epandrium rather small, consequently also cercus small. Subepandrial sclerite large (cf. Fig. 13 and consider that plane of the subepandrial sclerite is oblique to the plane of the figure). Surstylus (Figs 10–12) much longer (slightly more than 0.10 mm) than broad basally with medially curved apex. Actually apex is with a definite tip (Fig. 12) if seen perpendicularly to the apical part of surstylus. Surstylus without any longer setae, only short and thin setae present on both lateral and inner sides. Lamella (Fig. 10) broad and rounded with numerous thick medium-long setae. Postgonite (Figs 14–15) very characteristic: basally broad and its base curved in a cranio-caudal direction, i.e. broad both in anterior and lateral views. In profile postgonite (Fig. 15) narrowing apically with a subapical emargination and a strongly proclinate apex; apex slightly laterocline (Fig. 14).

Etymology. The specific epithet of the new species is formed from its type locality (Nepal).

M. nepalensis sp. n. belongs to a comparatively species rich group of *Meoneura*, where surstylus is comparatively simple and lamella is not fused with surstylus at all, and has more or less strong, at least medium-long setae (i.e. *M. glaberrima* Becker, 1910, *M. neglecta* Collin, 1930, etc. on one side, *M. atoma* L. Papp, 1981 and allies, on the other, are excluded). *M. orientalis* sp. n. is with very differently shaped surstylus and its lamellae are with a few setae only. *M. asiatica* L. Papp (Mongolia) has numerous shorter setae on ventral caudal part of epandrium, instead of a long seta, its surstylus is with long setae and its lamella is with longer setae than in *M. nepalensis* sp. n. (cf. PAPP 1976: figs 3–4). I think the shape of the postgonite of *M. nepalensis* sp. n. as species-specific.

Meoneura simplex sp. n.

(Figs 16–20)

Holotype male (HNHM): India, Uttar Pradesh, Nainital, Governor's House Park, ca. 2050 m – swept and singled, 7. XII. 1989, leg. Papp L.

Paratypes (HNHM): 2 males 1 female (1 m with genitalia preparation): same data; 1 male: *ibid.*, near Tiffin Top, 2100 m – swept and singled, 5. XII. 1989.

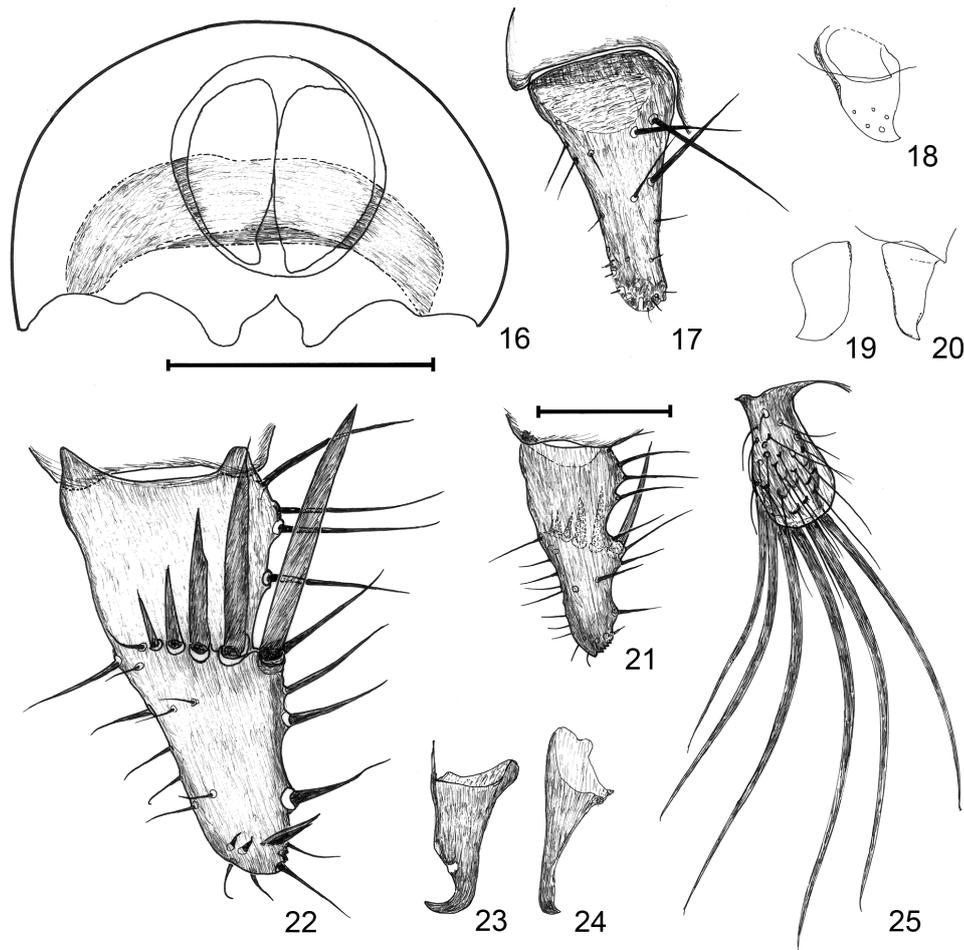
Measurements in mm: body length 1.47 (holotype), 1.43–1.70 (paratypes), wing length 1.45 (holotype), 1.29–1.80 (paratypes), wing width 0.60, 0.55–0.69.

Body subshiny black, legs dull black.

Frons almost all black, only most anterior margin reddish on c. 0.05 mm length. Frontal triangle broad, shiny, reaching 3/7–4/9 distance of anterior ocellus to frontal margin. Face dark grey. Supralunular (interfrontal seta) 0.12–0.13 mm long. Outer and inner occipital setae short. Dorsal anterior (actually cheek) genal seta 0.13 mm, ventral anterior genal seta 0.13 mm, seta between them half as long; 2 similarly long posterior genal seta on middle of gena, one of them strongly upcurved. Ventral genal setae short. Gena anteriorly (at narrowest) 0.10 mm. Eye 0.275 × 0.25 mm. Arista 0.21 mm long.

Mesonotum black, thinly grey microtomentose. Anterior 2 dorsocentral pairs shorter, the posterior *dc* long, anterior *dc* just on suture. Longest anepisternal seta 0.14–0.15 mm, longest katepisternal seta 0.14 mm long.

Legs all microtomentose black. Fore femur with 3 long posteroventral setae.



Figs 16–25. *Meoneura* species, male genitalia: 16–20 = *M. simplex* sp. n., paratype male: 16 = contours of epandrium, cerci and subepandrial sclerite, caudal view (subepandrial sclerite dashed), 17 = surstylus in broadest extension, sublateral view, 18 = postgonite, lateral view, 19 = same, subanterior view, 20 = same, anterior view. 21–25 = *M. subinversa* sp. n., paratype male: 21 = left surstylus in broadest extension, sublateral view, 22 = right surstylus in broadest inner (medial) view, 23 = postgonite, lateral view, 24 = postgonite, caudal view, 25 = lamella, broadest inner (a sublateral-subcaudal) view. Scales: 0.1 mm for Fig. 21, and 16–20, 22–25, respectively.

Wing membrane pale grey, veins (incl. costal vein) yellow. Interfrontal section of M_{1+2} 0.08 mm, M-M crossvein 0.04 mm long. Alula narrowly triangular. Knob of haltere white, stalk light brownish.

Abdominal sternite 1 well-formed, transverse, sternite 2 longer than broad, sternite 3 and 4 more than twice longer than broad, male sternite 5 0.10 mm long and 0.10 mm broad, marginal setae short, only 0.03 mm. Pregenital sclerite 0.24 mm broad but only 0.09–0.10 mm long. Subepandrial sclerite not long, arched (Fig. 16), epandrium forms a pair of subtriangular processes below cerci in contrast to *M. hungarica* L. Papp (PAPP 1977: fig 8, 1978: fig. 28A). Epandrium with several strong setae in distal (caudal) half, longest seta 0.09 mm. Surstylus (Fig. 17) broad based, strongly narrowing distally but less so than in *M. hungarica*, apex more broadly rounded (cf. PAPP 1977: fig. 8). No lamella developed at all. Postgonite (Figs 18–20) very characteristic: short and broad-based in lateral view (Fig. 18) with short proclinate apex; comparison of its lateral and anterior views though a sub-anterior view (Fig. 19) shows that apex is also outward directed (Fig. 20). Phallus similar to that of *M. indica* sp. n., apical 2/3 strongly swollen and turns to the right.

Female without peculiarities, so not safely identifiable in lack of synchronously captured males.

Etymology. The specific epithet of the new species 'simplex' refers to its very simple genitalia.

I did not find any closer relative than *M. triangularis* Collin, 1930 (a Holarctic species). However, the surstylus of *M. triangularis* is really triangular with acute though not sharp apex. Setae on caudal sub-basal part of surstylus seem somewhat longer and thicker than in *M. triangularis*. Females cannot be safely separated.

Meoneura subinversa sp. n. (Figs 21–25)

Holotype male (HNHM): VIETNAM: Lao Cai Prov., Hoang Lien NP, Tram Ton, along and over a small stream, sweeping – Apr 9–11, 2010, 22.3446499° N, 103.7690706° E, 1904 m, VN2010PL_5, Papp, L. & Soltész, Z.

Paratypes: 3 males (HNHM): same label data (abdomen of a male is detached and prepared and kept in a plastic microvial with glycerol).

Measurements in mm: body length 2.07 (holotype), 2.14–2.31, wing length 1.67, 1.92–2.01, wing width 0.66, 0.71–0.75.

Body and legs all black.

Frons black, anterior 1/3–3/7 dirty yellowish, frontal triangle broad, shiny black, reaching to half distance from anterior ocellus to frontal margin, i.e. also its apex is black. Facial carina narrow, first flagellomere globular. Interfrontal (supralunular) seta 0.10 mm long. Gena anteriorly 0.11–0.12 mm, medially 0.15–0.16 mm broad. Eye round, 0.33 x 0.33 mm. Both dorsal and ventral anterior genal setae 0.16–0.17 mm long, seta between them surprisingly long, 0.10 mm, posterior setae below eye 0.14–0.16 mm. Outer and inner occipitals medium long. Postocellars conspicuously long, 0.10–0.11 mm. Palpi slender, ca. twice longer than flagellomere.

Mesonotum grey (basic colour black but its grey microtomentum is thick). 2 short plus 1 long dorsocentral pairs, anterior dorsocentral seta well posterior to suture. Prescutellar acrostichal seta rather long, 0.12–0.13 mm. Longest anepisternal seta 0.22 mm, longest katepisternal seta 0.20–0.21 mm long.

Wing membrane light brownish grey, veins (incl. costal vein) light brown. MM crossvein 0.065 mm, inter-crossvein section 0.07–0.075 mm. Knob of haltere white, stalk darker brown. Alula broad, subtriangular.

Legs all black, rather shiny (i.e. microtrichia or tomentum less dense). Fore femur postero-ventrally with 3 long setae.

Abdominal sternites comparatively long and thin, sternite 4 0.20 mm × 0.09 mm; male sternite 5 0.20 mm long and 0.12 mm broad. Male sternite 4 and 5 with 3 pairs of long lateral setae each, longest 0.11 mm. Abdominal membrane with a few long setae, which emerge from small dark sclerites. Subepandrial sclerite extremely large. Anal aperture of epandrium small, i.e. cercus also small. Epandrium with several long setae, but only ventrally. Surstylus (Figs 21–22) large, more than twice longer than broad basally, apex rounded (otherwise with small apical pegs). Surstylus anteriorly with numerous thinner setae, on the caudal edge of basal third there are 4 strong setae. Inner surface of surstylus with 5 extremely large thorns in a row: longest on caudal edge, reduced in size anteriorad. Surstylar thorns flattened. Surstylus subapically with a double sharp process (setal base not seen). Lamella (Fig. 25) broadly rounded, about twice longer than broad with 6 extremely long flattened marginal setae and numerous thin setae on medial surface; the latter setae emerge from round protuberances. Lamellae connected through a strongly sclerotised bridge. Postgonites (Figs 23–24) comparatively long, apical third much narrowing with a hook-like anteriorly curved sharp apex (Fig. 23), apex slightly latero-clinate (Fig. 24).

Etymology. The specific epithet of the new species refers to its kinship of *M. inversa*; its most characteristic feature of the male genitalia is the presence of strong thorns on the medial side of surstylus.

Meoneura subinversa sp. n. is a member of the *M. inversa*–*M. hennigi* species-group. Its characteristically armed surstylus makes it easily recognisable in this respect. Contrary to *M. inversa* L. Papp, 1976 (Mongolia), its epandrium bears long setae only on its ventral surface. The other species of the group, *M. hennigi* Gregor differs by the overall shape of surstylus (cf. GREGOR 1971: fig. 2). Based on the armature of surstylus the two species are easily identifiable.

AFROTROPICAL SPECIES

Hemeromyia australis Barraclough, 1994

Material examined: 1 female (BMSA): Namibia, BRANDBERG, Hungorob ravine at: 21°11'30''S 14°31'40''E, 17.iii.2001, A. H. Kirk-Spriggs, light trap sample. This species was described from Namibia (Aar Farm, 26°40'S: 16°16'E) based on a single female. So this is the second locality and the first specimen in an African insect collection.

Meoneura cf. biseta Deeming, 1976
(Figs 26–29)

Material examined (BMSA): 2 males 1 female (1 m in HNHM): Namibia, Khorixas district, Leeukop 664, 19°53'15''S 14°21'44''E, 26–30.x.2001, A. H. Kirk-Spriggs & E. Marais, Malaise trap sample riverbed. 3 females (1 f in HNHM): *ibid.*, Karibib district, Tsaobismund at: 22°22'40''S 15°44'58''E, 13–15.iv.2001, A. H. Kirk-Spriggs & E. Marais, Malaise trap sample.

It was described on the basis of a male from N Nigeria, Zaria, Samaru. I had no chance to study that unique specimen in the Natural History Museum, London. I think I risk not too much describing and depicting the male genitalia of the specimens from Namibia under that name. Male preabdominal sternites (Fig. 26) comparatively large, sternite 4 about twice longer than broad, sternite 5 about as long as broad with several setae (not only marginal ones), one pair of ca. 0.035 seta emerges from latero-caudal part. Subepandrial sclerite large (contours on Fig. 28) and looks bipartite: central 1/3 transparent and weakly sclerotised. Epandrium (Fig. 28) rather long with 2 pairs of long and thick, not marginal setae on its dorsal part; a similar third pair of setae present on ventral edge sub-caudally. Surstylus (Figs 27–28) long, medially curved and anteriorly curved even in the view of its broadest extension. Base of its setulae on apical part continued in demelanised narrow stripes towards base of surstylus (Fig. 27). Postgonite (Fig. 29) very broad, almost as broad basally as long, also apical part broad with a small anterior apex.

DEEMING'S (1976) figure on the surstylus is markedly different from my figures. However, surstylus in views other than the broadest extension view is misleading in numerous cases. I think the large pair of epandrial setae as more informative, so I think our specimens are conspecific with the holotype of *M. biseta* Deeming. It is a matter of course that this presentiment must be corroborated by a study of the holotype.

***Meoneura nigrohalterata* sp. n.**
(Figs 30–33)

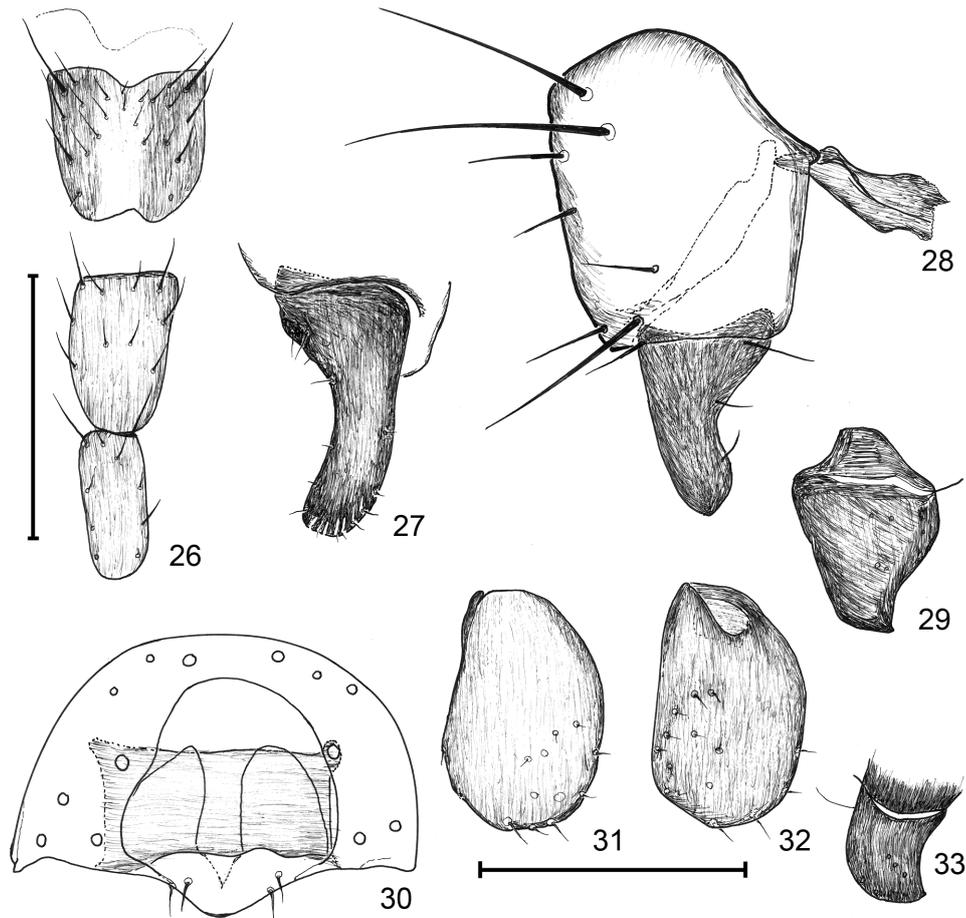
Holotype male (BMSA): Namibia, Brandberg, Wassarfallfläche, 21°10'48''S 14°33'11''E, 20.iii.2001, A. H. Kirk-Spriggs. Klipspringer dung.

Paratypes: 5 males (BMSA, 1 m HNHM): same data as for the holotype; 1 male (BMSA): *ibid.*, Mason Shelter, 21°04'39''S 14°05'43''E, 09.iii.2002, 1750 m. 1 female (BMSA): *ibid.*, Mason Shelter, 21°04'39''S 14°05'43''E, 05–14.iii.2002, 1750 m, A. H. Kirk-Spriggs & E. Marais, Malaise trap riverbed; 1 female (BMSA): *ibid.*, Lüderitz district, Klinghardt Mnts, at: 27°20'04''S 15°46'00''E, 27.viii.–3.ix.1998, A. H. Kirk-Spriggs & E. Marais, Malaise trap sample. 1 female (HNHM): RSA, Eastern Cape Prov., Shamwari Game Reserve, on elephant dung, Jan 11, GPS10, 33°24'47.0''S 26°05'45.0''E, 301 m, No. 14; L. Papp & M. Földvári.

Measurements in mm: body length 1.24 (holotype) 1.06–1.35 (paratypes), wing length 1.04 (holotype), 1.07–1.27 (paratypes), wing width 0.44 (holotype), 0.43–0.52.

All body shiny black, microtrichia (tomentum) dark and sparse.

Frontal triangle black shiny, extended to $\frac{2}{5}$ of the distance of anterior ocellus to frontal margin, anterior $\frac{1}{3}$ of frons dirty yellow, this colour continued laterally to frontal triangle. Palpus slightly longer than flagellomere. Anterior genal setae short and thick,



Figs 26–33. *Meoneura* species, male genitalia. 26–29 = *M. biseta* Deeming, male terminalia: 26 = abdominal sternites 3 to 5, ventral view, 27 = left surstylus in broadest extension, a sublateral, slightly subventral view, 28 = epandrium, basal part of hypandrium, right surstylus and contours of subepandrial sclerite laterally, 29 = postgonite in broadest extension (a sublateral view). 30–33 = *M. nigrohalterata* sp. n., paratype male: 30 = contours of epandrium, cerci and subepandrial sclerite, caudal view (subepandrial sclerite dashed, epandrial setae omitted), 31 = surstylus in broadest extension, sublateral view, 32 = same, inner (medial) view, 33 = postgonite, lateral view. Scales: 0.2 mm for Fig. 26, 0.1 mm for Figs 27–33.

0.055–0.06 mm, medial one slightly more than half as long, lower genal seta comparatively strong upcurved, 0.07 mm. Mostly only 1 more posterior longer genal seta present. Eye 0.21×0.155 mm. Gena at lowest point of eye 0.08 mm. Arista 0.14–0.15 mm long with very fine pilosity.

Prescutellar acrostichal pair only 0.05–0.055 mm long, longest anepisternal seta 0.10 mm, longest katepisternal 0.09 mm.

Legs all black. Fore femur with 2 long posteroventral setae.

Wing membrane light yellowish (whitish), veins yellow. Knob of haltere black (actually graphite grey), stalk in the same colour.

Epandrium with a pair of long dorsal setae, 0.11–0.12 mm. Subepandrial sclerite (Fig. 30) broad but not reaching most ventral part of epandrium in caudal view. Epandrium 0.075 mm long, longest caudal seta 0.07–0.08 mm long but epandrial setae comparatively thick. Anal aperture of epandrium rather large, subcercal part with 2 pairs of short setae. Cercus rather thinly sclerotised. Surstylus (Figs 31–32) large and simple, i.e. broad without an apex; surstylar setae are short both on lateral and medial surfaces. No lamella developed at all. Postgonite (Fig. 33) longer than its basal width, apical part broadly rounded with a small anteriorly curved and not sharp apex.

Etymology. The specific epithet of the new species refers to its black haltere.

Meoneura nigrohalterata sp. n. is an easily recognisable species. There are but a few species of *Meoneura* with dark haltere (see HENNIG 1937, SABROSKY 1959). Those two Nearctic species, *M. nigrifrons* Malloch, 1915 and *M. wirthi* Sabrosky, 1959, as well as two Palaearctic species, *M. elongella* (Zetterstedt, 1838) and *M. perlamellata* Hennig, 1937 are not related at all (see SABROSKY 1959: figs 9–10, HENNIG 1937: textfig. 70). There is a third species, *M. alpina* Hennig, 1948 (= *M. ungulata* Carles-Tolrá et Ventura, 2002, synonymy by Stuke, 2009), where “Haltere brown”, but its male genitalia are definitely different (CARLES-TOLRÁ & VENTURA 2002: fig. 3). This is the first species of this kind in the Afrotropical region. The surstylus of the new species resembles to that of *M. scutellata* Deeming, 1976 but contrarily to *M. scutellata*, its antenna is dark and the knob of haltere in *M. scutellata* is white.

Meoneura nitidiuscula Collin, 1949

Material examined: 4 males 12 females (HNHM): Africa or., Katona [= Kálmán Kittenberger] – Assab, 907. V–VI. In 1907 the Hungarian zoologist, Kálmán Kittenberger collected birds' eggs and other zoological items on the sea shore of Erithrea; Assab meant more the area than the city Assab, or Aseb (Fekete 1962). He pinned the minute flies on the spot, which – being acalyptrates – were not destroyed in the HNHM in 1956 and were identified only in the course of this project. The species was described from the Sahara (Siwa Oasis, Egypt) and known from Oman, Saudi Arabia, Yemen and from the Cape Verde Is. (Barraclough 1994, Brake 2009). The above record from Eritrea fits well to the formerly known occurrence data.

Meoneura prima (Becker, 1903)

Material examined: 12 males 4 females (HNHM): Ghana, Kumasi – 30. VI. 1969, leg. Endrődy-Younga. A widespread Holarctic species, it has been found also in Sudan, Namibia and South Africa (Barracough 1994, Brake 2009). New to Ghana.

I am sorry to say, I did not find any difference in the surstylus (shape and setosity of its apical part) of the above specimens, or that of the specimens from Tunisia and Hungary, which I prepared for comparison, to the surstylus of *M. australis* Deeming, 1997 (1997: fig. 2). I abstain from proposing a synonymy here, but I would like to call attention of the future revisers to take special care to the details of the genitalia in the *M. prima* group. Since I regard the above specimens as conspecific with those from Tunisia and Hungary, I named them as *M. prima*.

*

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