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## Two new species of *Paralimna* Loew, 1862 from Sierra Leone (Insecta, Diptera, Ephydriidae)

**Riassunto:** Due nuove specie di *Paralimna* Loew, 1862 della Sierra Leone (Insecta, Diptera, Ephydriidae).

Vengono descritte due nuove specie di *Paralimna* Loew, 1862 della Sierra Leone: *Paralimna (Phaiosterna) grisea* n. sp., che differisce dall'affine *Paralimna (Phaiosterna) bicolor* (Macquart, 1851) per la faccia grigia con una striscia longitudinale bruna, una striscia grigia longitudinale in area acrosticale notevolmente più chiara, la tibia posteriore con tre setole anterodorsali, nonché per la morfologia dei terminali maschili. *Paralimna (Paralimna) subinvisa* n. sp., che differisce dall'affine *Paralimna (Paralimna) invisiva* Soika, 1956 per la parafaccia con due lunghe setole, l'indice genale 0,25-0,26, le strisce dello scuto di uguale larghezza, l'indice costale 0,62-0,64, l'indice della nervatura M 0,44-0,45, nonché per la morfologia dei terminali maschili.

**Abstract:** Two new species of *Paralimna* Loew, 1862 from Sierra Leone are described: *Paralimna (Phaiosterna) grisea* n. sp. is related to *Paralimna (Phaiosterna) bicolor* (Macquart, 1851), from which it differs in having the face grayish, with a brown longitudinal, central stripe, 1 conspicuously clearer gray longitudinal medial stripe on the acrostichal area, the hindtibia with 3 anterodorsal setae and for the morphology of male terminalia. *P. paralimna subinvisa* n. sp. is related to *Paralimna (Paralimna) invisiva* Soika, 1956, from which it differs in having the parafacial with 2 developed setae, the gena-to-eye ratio 0.25-0.26, the stripes of the scutum of equal width, the costal-vein ratio 0.62-0.64, the M-vein ratio 0.44-0.45 and for the morphology of male terminalia.

**Key words:** Sierra Leone, *Paralimna* Loew, 1862, New species.

### INTRODUCTION

While examining material of Diptera Ephydriidae collected by Prof. Walter Rossi (University of L'Aquila, Italy) in Sierra Leone and stored in the Museo di Storia Naturale in Venice, I found some specimens belonging to two new species.

### TAXONOMY

The taxonomy is according to Cogan (1968), Mathis & Zatwarnicki (1995, 2002).

#### *Paralimna (Phaiosterna) grisea* n. sp.

TYPE MATERIAL: holotype ♂, 1 paratype ♂ and 1 paratype ♀ from Sierra Leone, Northern Province, near Bumbuna, 12.III.1993, Walter Rossi leg.. Holotype and paratypes laterally micropinned. Abdomen and terminalia of holotype in glycerine in a microvial pinned under the specimen.

BODY LENGTH: 2.81-2.82 mm.

DESCRIPTION: Male. Head: grayish brown; frons brown with brown microtomentum to base of antenna; parafacial gray, centrally shaded brownish; face grayish with brown, longitudinal, central stripe; occiput

and gena grayish, gray microtomentose; antenna with scape and pedicel black; first flagellomere brown, bearing long fringe of brownish setulae along dorsum; setulae longer than height of first flagellomere; gena-to-eye ratio 0.27-0.28.

Thorax: entirely gray; mesonotum densely gray microtomentose, with conspicuously clearer gray longitudinal medial stripe on acrostichal area; pleura gray microtomentose; acrostichal setulae not very well developed, in about 8 irregular rows; 4 well developed dorsocentral setae; 1 presutural supra-alar, 1 supra-alar, 1 post-alar, 2 notopleurals well developed. Wing uniformly infusate; costal-vein ratio 0.42-0.43; M vein ratio 0.92-0.93; halter yellow; legs gray with brownish tarsi; midfemur with 3 posterodorsal setae at apical third; mid- and hind-tibiae each with 3 anterodorsal setae (2 at basal third and 1 at apical third). Abdomen slightly lighter in color than mesonotum, mostly gray, less microtomentose, but with sparse dark hairs; anterior portion of tergites fasciate, gray to black.

Male terminalia: epandrium in posterior view with apex very narrow; arm of epandrium narrow and truncate at apex; cercus narrow and rounded; presursty-

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lus separated medially, concave at ventral margin, subtriangular basally; arm of hypandrium apically narrow and acute; aedeagus narrow and apically rounded.

COMPARATIVE REMARKS: *Paralimna (Phaiosterna) grisea* n. sp. is similar to *Paralimna (Phaiosterna) bicolor* (Macquart, 1851), in having the face grayish, the flagellomere bearing long fringe of brownish setulae along dorsum, the thorax with a longitudinal medial stripe and the abdomen with anterior portion of tergites fasciate. It differs from the latter species mainly in the following characters: face grayish with a brown, longitudinal, central stripe (uniformly grayish in *P. bicolor*), 1 conspicuous clearer gray longitudinal medial stripe on acrostichal area (dark-gray in *P. bicolor*), the hindtibia with 3 anterodorsal setae (2 at basal third and 1 at apical third) (absents in *P. bicolor*), the epandrium, in posterior view, with apex very narrow (broad in *P. bicolor*), the arm of epandrium narrow and trun-

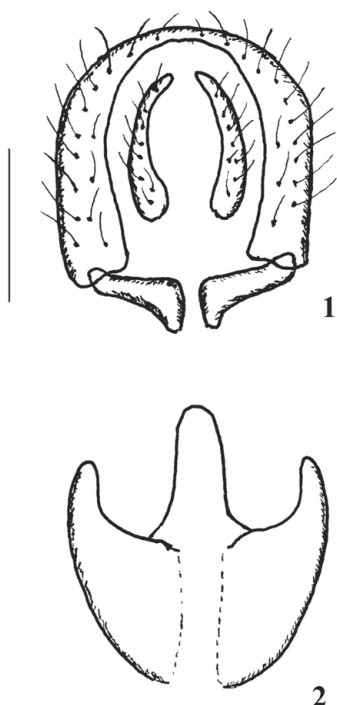
cate at apex (broad and rounded at apex in *P. bicolor*), cirrus narrow and rounded (broadly and pointed dorsally in *P. bicolor*), the presurstylus separated medially and concave at ventral margin (narrowly connected and linear at ventral margin in *P. bicolor*), the arm of hypandrium apically narrow and acute (apically broad and rounded in *P. bicolor*) and the aedeagus narrow and apically rounded (broad and apically angulate in *P. bicolor*) (Figs. 1-4).

Female similar to male.

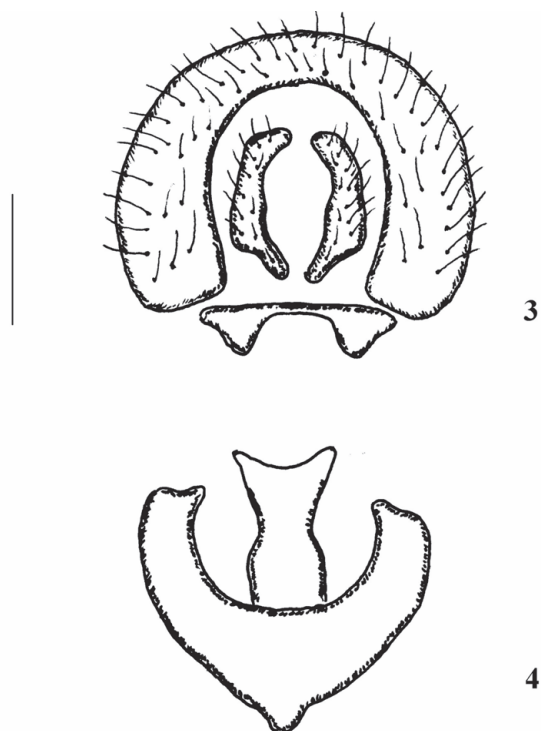
ETYMOLOGY: the species epithet, *grisea*, refers to the general and homogeneous gray coloration.

***Paralimna (Paralimna) subinvisa* n. sp.**

TYPE MATERIAL: holotype ♂ and 2 paratypes ♀♀ from Sierra Leone, Southern Province, Tiwai Islands, 11/15.X.1989, Walter Rossi leg.. Holotype and paratype laterally micropinned. Abdomen and termi-



Figs. 1-2. *Paralimna (Phaiosterna) grisea* n. sp. (Holotype: Sierra Leone, Northern Province, near Bumbuna, 12.III.1993). 1 - External male terminalia: epandrium in ventral view; 2 - internal male terminalia: hypandrium and phallapodeme. Scale bar: 0.1 mm.



Figs. 3-4. *Paralimna (Phaiosterna) bicolor* (Macquart, 1851) (Sierra Leone, Western Area, Regent, 8.III.1993). 3 - External male terminalia: epandrium in ventral view; 4 - internal male terminalia: hypandrium and phallapodeme. Scale bar: 0.1 mm.

nalialia of holotype in glycerine in a microvial pinned under the specimen.

BODY LENGTH: mm 2.8-2.9.

DESCRIPTION: Male. Head: frons, occiput and gena dark brown, with dark brown microtomentum; face and parafacial brownish with brown microtomentum; antenna with scape and pedicel dark; flagellomere brownish, 1.5 times longer than wide; parafacial with 2 developed and 3 shorter setae; gena-to-eye ratio 0.25-0.26.

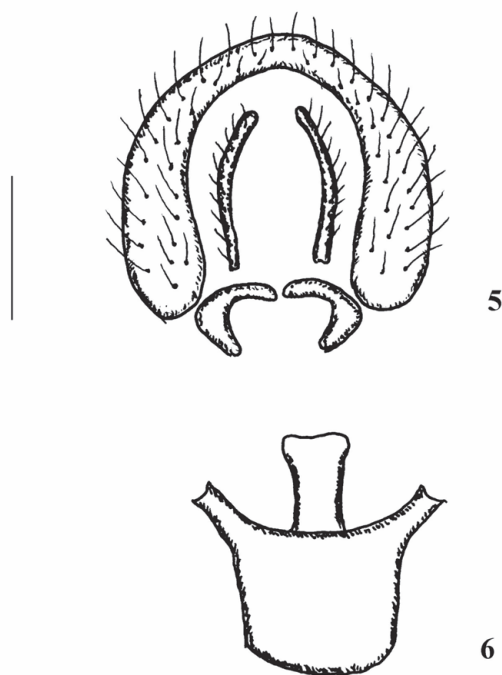
Thorax: scutum and scutellum brownish with grayish microtomentum; pleura dark brown with gray microtomentum; scutum with three dark brown median vittae, of equal width, along the dorsocentral and acrostichal area; 1 row of small acrostichal setulae and 2 developed prescutellar setae; 3 well developed dorsocentral setae; 1 lateral seta; 2 notopleural setae; scutellum with 1 apical and 1 lateral seta; legs brown,

with forefemur dark; mid- and hindtibiae with 3 anterodorsal setae; wing slightly brownish with brownish veins; halter yellow; costal-vein ratio 0.62-0.64; M-vein ratio 0.44-0.45.

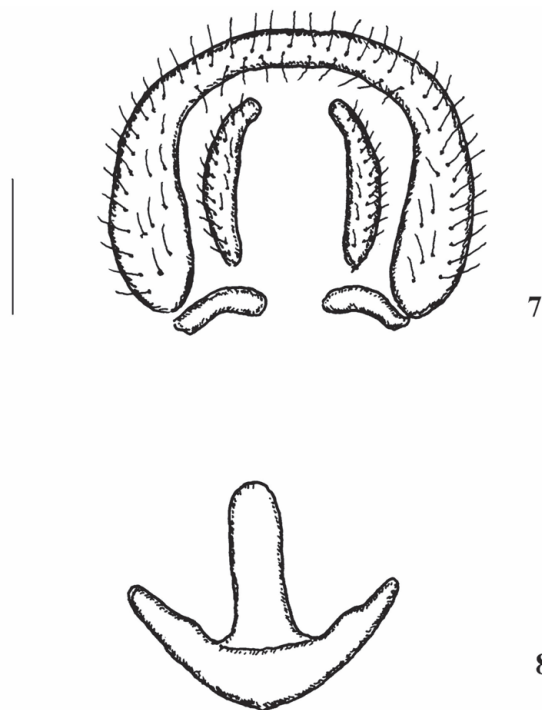
Abdomen: gray, with gray microtomentum; tergites with grayish stripes reduced and restricted to lateral and posterior thirds of segments.

Male genitalia: epandrium in posterior view slightly acute apically; cercus linear and very narrow; presurstylus very curvate and concave at ventral margin; hypandrium broad with arm truncate at apex; aedeagus broad and truncate apically.

COMPARATIVE REMARKS: *Paralimna (Paralimna) subinvisa* n. sp. is similar to *Paralimna (Paralimna) invis*a Soika, 1956 in having the face brown, the thorax unicolourous with 3 longitudinal stripes, and the wing only slightly infumated. It differs from the latter species mainly in the following characters: the parafa-



Figs. 5-6. *Paralimna (Paralimna) subinvisa* n. sp. (Holotype: Sierra Leone, Southern Province, Tiwai Islands, 11/15.X.1989). 5 - External male terminalia: epandrium in ventral view; 6 - internal male terminalia: hypandrium and phallapodeme. Scale bar: 0.1 mm.



Figs. 7-8. *Paralimna (Paralimna) invis*a Soika, 1956 (Sierra Leone, Southern Province, Tiwai Islands, 1.II.1987). 7 - External male terminalia: epandrium in ventral view; 8 - internal male terminalia: hypandrium and phallapodeme. Scale bar: 0.1 mm.

cial with 2 developed setae (1 in *P. invis*a); the gena-to-eye ratio 0.25-0.26 (0.36-0.37 in *P. invis*a); the stripes of the scutum of equal width (the central vitta two thirds larger than the lateral in *P. invis*a); the costal-vein ratio 0.62-0.64 (0.58-0.60 in *P. invis*a); the M-vein ratio 0.44-0.45 (0.55-0.56 in *P. invis*a); the epandrium slightly acute apically (arcuate in *P. invis*a); the cercus linear and narrow (broad and curved basally in *P. invis*a), the pregostylus curvate and concave at ventral margin (ovoid and linear in *P. invis*a); the hypandrium broad with arm truncate apically (narrow and rounded apically in *P. invis*a) and the aede-

gus broad and truncate apically (narrower and rounded apically in *P. invis*a) (Figs. 5-8).

Female similar to male.

ETYMOLOGY: the species epithet, *subinvis*a, refers to the general similarity to the similar species *invis*a.

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