NEW SPECIES OF LIMONIIDAE FROM THE MEDITERRANEAN (DIPTERA)

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ABSTRACT

Descriptions of the following species: Pseudolimnophila (P.) ebullata sp.n. from Sicily, Prionolabis astans sp.n. from Italy, Gonomyia (G.) theowaldi sp.n. from Corsica and Sardinia, Idiocera (I.) antilopina sp.n. from Sicily, Idiocera (I.) hasta sp.n. from Bulgaria and Dicranomyia (D.) patricia sp.n. from Tunisia. The type material is deposited in the Instituut voor Taxonomische Zoologie (Zoölogisch Museum), Amsterdam (the Netherlands), the Moravian Museum, Brno, and in coll. J. Starý, Olomouc (both Czechoslovakia).

INTRODUCTION

By courtesy of Dr. Theowald van Leeuwen (Amsterdam) I had the opportunity to examine some material of Limoniidae from the collections of the Instituut voor Taxonomische Zoölogie, Amsterdam, mostly originating from South Europe. In the present paper, four species are described from this material, viz. Pseudolimnophila (P.) ebullata sp.n., Prionolabis astans sp.n., Gonomyia (G.) theowaldi sp.n. and Idiocera (I.) antilopina sp.n. In addition, descriptions are presented of two further species from other sources, Dicranomyia (D.) patricia sp.n. on the basis of specimens from the Moravian Museum, Brno, and Idiocera (I.) hasta sp.n. from my own collection trip in Bulgaria.

For the loan of type material my thanks are extended to Dr. P. Lauterer and Dr. J. Stehlík (Moravian Museum, Brno), Dr. H. Mendl (Kempten/Allgäu) and especially to Dr. Theowald van Leeuwen (Instituut voor Taxonomische Zoölogie, Amsterdam). I am deeply indebted to Dr. E.N. Savchenko (Zoological Institute, Academy of
Material.-

Description.-
Very similar to P. (P.) sepium Verrall, 1886 in many somatic features. Body colouration greyish brown dorsally, pleurae reddish ochreous. Anterior margin of pronotum only shallowly emarginated. Wings tinged with yellow, stigma indistinct. Body length 7-10 mm, wing length 7.5-10 mm.

d: Head grey, yellowed below. Antennae brown, 16-segmented, bent backwards reaching to about hind coxae, base of 1st flagellar segment yellowed. Flagellar segments elongate, rather long distally, gradually decreasing in width towards the apex of the antenna. Verticils at most twice as long as the respective segments.

Thorax greyish brown dorsally, pleurae ochreous with a slight reddish tinge. Lobes on the pronotum rather indistinct, as compared with those of P. sepium, anterior margin only shallowly emarginated. Praescutum greyish brown, pruinose, somewhat paler around humeral pits, without any distinct pattern on the disc. Other dorsal parts of thorax of much the same basic colouration as praescutum. Wings tinged with yellow, slightly iridescent, stigma indistinct. Venation practically identical with that of P. sepium. Stem of halteres pale, knob infuscated distally. Legs yellow to yellowish brown, tips

Figs. 1-2. Pseudolimnophila (P.) ebullata sp.n. (paratype, 30.VII.1961), male genitalia. 1: general view, dorsal. 2: basistyle and dististyles, ventral. Fig. 3. Pseudolimnophila (P.) sepium (Verrall) (Czechoeslovakia), male genitalia, basistyle and dististyles, ventral.

Sciences, Kiev) for his very useful advice and invaluable information concerning some of the newly described species.
Abdomen greyish brown, paler ventrally. Male genitalia (Figs. 1-2) generally as in *P. sepium*. Basistyle relatively long and very slender, almost parallel-sided, with moderately long setae. Both dististyles slender, subequal in length, the outer one gently curved distally. Aedeagal complex very similar to that of *P. sepium*. Other details may be appreciated from the attached figures (Figs. 1-2).

9: In general appearance resembling the male. Cerci long and very slender, very gently upturned distally. Valves reaching to about half the length of cerci.

Remarks.-

*P. ebullata* sp.n. is very similar to *P. sepium* in many somatic features differing from it mainly in the shape of the pronotum. Body colouration appears somewhat brighter in the new species, with the pleurae reddish ochreous; general appearance may be likened to *Ptilaria diastocollis* (Meigen, 1818) rather than to *Pseudolimnophila sepium*. Principal distinguishing features are, however, exhibited by the male genitalia. Basistyle is relatively long and very slender in the new species, almost parallel-sided, with moderately long setae (Fig. 2) (stout and strongly enlarged at base in *P. sepium*, with the setae very long and conspicuous; Fig. 3). The dististyles are somewhat shorter, the outer one only gently curved distally (longer in *P. sepium*, outer dististyle slightly sinuous). Penis and the median apodeme of vesica is shorter in *P. ebullata* sp.n. than in *P. sepium*. The shape of the basistyle appears sufficient from a taxonomic point of view to separate the two species (cf. Figs. 2 and 3).

**Pronolabis astana** sp.n.

(Fig. 4)

Material.-


Description.-

General body colouration dark greyish brown, abdomen somewhat paler. Antennae of moderate length, with flagellar segments oval to long-oval, set with a dense semierect pubescence and sparse verticils. Wings pale yellow, stigma faint. Body length 7.5 mm, wing length 9 mm.

d: Head dark brown, grey pruinose. Antennae brown, 16-segmented, of moderate length, bent backwards reaching to about hind coxae. Flagellar segments oval to long-oval, gradually decreasing in width towards the apex of the antenna, with a dense semierect pubescence and sparse verticils, the latter subequal in length to the respective segments.

Thorax generally dark greyish brown, mostly pruinose. Praescutum dark greyish brown, somewhat shining, without any pattern on the disc. Scutum somewhat paler near the bases of wings. Scutellum paler posteriorly. Postscutellum and pleurae of much the same basic colouration as praescutum. Wings tinged with pale yellow, stigma faintly indicated. Venation much as in *suboognata* Savchenko, 1971, with the following minor distinctions: origin of Rs beyond the end of A₂; discal cell relatively small, irregularly pentagonal; distal section of M₄ about twice as long as the section within the discal cell (actually M₃₋₄). Halteres pale yellow, distal portion of knob infuscated. Legs generally yellowish brown to brown.

Abdomen greyish brown, shining, somewhat paler than thorax. Male genitalia (Fig. 4) of general type as in other West Palaearctic *Pronolabis* species, differing in details. 9th tergite with the median portion slightly produced distally, its margin indistinctly emarginated. Basistyle relatively long and slender. Outer dististyle mostly dark pigmented, its apex bifid, much as in *P. platyptera* (Mackquart, 1826), with a small emargination and a subapical inner tooth. Base of the outer dististyle moderately enlarged by a fleshy swelling on inner side. Inner dististyle with the apical spine gently curved. Penis relatively short and very stout, strongly bent downwards, its apical portion recurved. Parameres pale, comparatively short, dilated subapically, with the apical portion short and slender, subacute and not distinctly
Figs. 4-6. Male genitalia, general view, dorsal. 4: Prionolabis astans sp.n. (holotype). 5: Prionolabis platypieris (Macquart) (Czechoslovakia). 6: Prionolabis suboognata Savchenko (U.S.R., Georgia (Transcaucasia), Savchenko leg.).
bent downwards.

?: unknown.

Remarks.

Of the four West Palaearctic *Prionolabis* species so far discovered, viz. *P. cognata* (Lack-schewitz, 1940), *P. longeantennata* (Strobl, 1909), *P. platyptera* (Macquart, 1826) and *P. subcognata* Savchenko, 1971, the two former have the antennae very long, much longer than thorax, and cannot be confused with the other species. As far as the structure of the antennae is concerned, *P. astana* sp. n. somewhat resembles *P. platyptera* and *P. subcognata*. The antennae of the new species are intermediate in length, as compared with the two latter species, the flagellar segments being oval to long-oval, with a dense semierect pubescence and sparse verticils, these subequal in length to the respective segments (flagellar segments shorter in *P. subcognata*, short-oval, pubescence very short and sparse, verticils somewhat exceeding the length of the respective segments; in *P. platyptera*, flagellar segments are longer than in the new species, distal ones subcylindrical, pubescence shorter, verticils very sparse and short, rather stiff). The three species differ in further somatic characters, including body colouration, wing stigma and veination. Due to the bifid character of the outer dististyle the male genitalia of *P. astana* sp.n. most resemble those of *P. platyptera*. Distinctions may, however, be found in nearly every detail, perhaps most pronouncedly in the shape of the parameres and penis. Male genitalia of *P. platyptera* and *P. subcognata* are shown here for comparison (Figs. 5 and 6).

*Gonomyia (Gonomyia*) theowaldi sp.n.

(Figs. 7-8)

Material.


Paratypes: France, Corsica, Col de Vizzavo-
Abdomen brown, somewhat shining. Male genitalia (Figs. 7-8) of the same general type as in other related species, with the following distinctions: Outer dististyle pale throughout, somewhat dilated distally in lateral aspect (in dorsal aspect, it appears broad at base, slightly narrowed distally; Fig. 7), with a membranous seam on inner side that forms a pale tooth beyond mid-length of the dististyle. Inner dististyle with two projections, the one spine-like, darkened distally, subacute at tip, the other shorter, pale, membranous, obtuse at apex. Penis as in Fig. 8, with the distal portion dilated and somewhat twisted. Parameres asymmetrical, the right one pale and nearly straight, the left one longer, hook-shaped and darkened distally. Other details are evident from Figs. 7-8.

9: In general appearance resembling the male. Cerci long and slender, gently upturned. Valves straight, ending about opposite half the length of cerci.

Remarks.-

In the shape of the outer dististyle, G. (G.) theowaldi sp.n. is similar to e.g. G. (G.) dentata de Meijere, 1920 (cf. e.g. Edwards, 1938, Text–fig. 20c), resembling the latter also superficially, but the inner tooth is quite pale, less pronounced and situated shortly beyond mid-length of the dististyle (darkened in G. dentata, subapical in position). The new species differs from all related forms in further genital characters, including the shape of the inner dististyle, penis and parameres.

The present species is dedicated to Dr. Theowald van Leeuwen (Amsterdam), distinguished student of West Palaearctic Tipulidae and Limoniidae. My sincerest thanks go to him for his constant assistance in many respects, including extensive loans and generous gifts of highly interesting crane fly material.

Idiocera (Idiocera) antilopina sp.n.
(Figs. 9-11)

Description.-

In general appearance resembling I. (I.) punctata (Edwards, 1938) and other related species. Body colouration brownish grey, pruinose, patterned with pale yellow, especially on pleurae. Wings hyaline, with brown spots near costa and dark seams on cross-veins. Body length 4.5 mm, wing length 5–5.5 mm.

d: Head brownish grey, yellowed on frons. Antennae brown, 16-segmented, bent backwards not reaching to the bases of wings. Flagellar segments oval to long-oval. Verticils about as long as the respective segments.

Thorax with basic colouration brownish grey, pruinose. Praescutum with two brown longitudinal stripes that continue onto the scutal lobes and with a yellowish marking anteriorly on each side. Other dorsal parts of thorax of much the same basic colouration as praescutum. Posterior margin of scutellum yellowed. Pleurae patterned with pale yellow, especially along the praescutal suture and on posterior sclerites. Otherwise, the pattern is obscured by the position of the pin in the single type specimen. Wings hyaline, with brown spots near costa and dark seams on cross-veins distributed as follows: three dark spots near costa, viz. at base of Rs and over the tips of R1 (stigma) and R2; the latter spot extends to the apex of the wing leaving a hyaline area in the cell R3 and forming a somewhat paler cloud above R4; small dots on arculus and the humeral cross-vein; dark seams on all cross-veins, including the basal deflection of M3. In the wing venation, the following features may be of some taxonomic value: Sc1 ending about opposite one third the longitudinal section of Rs; Sc2 at origin of Rs; R2 subvertical, ending some distance beyond the tip of R1; R2+3 much shorter than the longitudinal section of R3, about half as long; r-m subvertical. Stem of halteres whitish yellow, knob dark brown. Legs mostly yellow to yellowish brown, femora with a narrow brown subapical ring.

Abdomen brown, somewhat shining, posterior margins of segments narrowly yellowed. Male genitalia (Figs. 9–11) essentially resembling those of other related species differing, however, in details of structure of the dististyles and penis. Ventral dististyle relatively long, dark pigmented, unequally bifid, with a
stout outer spine and much shorter thumb-like inner projection. Intermediate (outer) disti-
style long, slender, gently curved and pointed at tip, bearing a small spine at about one
third the length. Dorsal (inner) dististyle as
in Fig. 10, relatively short and stout, approxi-
mately cylindrical, not flattened. Penis stout,
lanceolate at apex, with very long, slender and
dark pigmented lateral spines that are sube-
qual in length to the penis. Other details are evi-
dent from Figs. 9-11.

Remarks.-
The group around I. (I.) punctata includes
the following West Palaearctic species: I. (I.)
punctata (Edwards, 1938), I. (I.) lackaschewitsi
(Starý, 1977), I. (I.) ornatula (Lackschewitz,
afghanica (Nielsen, 1963) (for particular
genitalic structures, see figures in the respec-
tive original descriptions and in Edwards,
1939, and Lackschewitz, 1940). I. antilopina
sp.n. may be characterized by the combina-
tion of venational features, as indicated in the
above description. However, due to infraspec-
ific variation, these characters might prove to
be of limited taxonomic value. From all the
above-mentioned species, including the newly
described I. (I.) hasta sp.n., the present spe-
cies may readily be distinguished by the struc-
ture of the male genitalia, namely the disti-
styles and penis (Figs. 10-11). The structure
of the latter is quite remarkable and provides
sufficient criterion for separation.

Idiocera (Idiocera) hasta sp.n.
(Figs. 12-14)

Material.-
Holotype d: Bulgaria, Michurin, 2.VI.1968
(J. Starý leg.); deposited in coll. J. Starý,
Olomouc.

Paratype: 1 d, same data and location as
for holotype.

Description.-
In general appearance very similar to I. (I.)
punctata (Edwards, 1938), I. (I.) antilopi-
na sp.n. and other related species. Body colour-
ation brownish grey, pruinose, patterned with
pale yellow, espescially on pleurae. Wings
hyaline, with dark brown spots near costa and
dark seams on cross-veins. Body length
5.5-6 mm, wing length 6-7 mm.

d: Head mostly brownish grey. Antennae
brown, 16-segmented, bent backwards reaching to
about the bases of wings. Flagellar segments
oval to long-oval. Verticils a little longer
than the respective segments.

Thorax generally brownish grey, pruinose. Particular details of the colouration much as in *I. antilopina* sp.n. Pleurae with two pale yellow longitudinal stripes, the one passing along the praescutal suture, the other originating on fore coxae and passing just above middle and hind coxae. Wings patterned much as described for *I. antilopina* sp.n., the pattern appears, however, somewhat darker and more extensive. The spot at base of Rs with additional, virtually separate dot on each side, the proximal one situated on Sc₂, the distal one over the tip of Sc₁. (In *I. antilopina* sp.n., due to the position of Sc₂, the former dot is quite confluent with the main spot, the latter not apparent at all.) Venation may be characterized by the following features: Sc₁ ending about opposite one fourth the longitudinal section of Rs; Sc₂ some distance before the origin of Rs; R₂ subvertical, its tip confluent with the tip of R₁; R₂+₃ subequal to the longitudinal section of R₃; r-m more or less oblique. Stem of halteres whitish yellow, knob dark brown. Legs mostly yellow to yellowish brown, subapical rings on femora less evident than in *I. antilopina* sp.n.

Abdomen brown, somewhat shining, posterior margins of segments narrowly yellowed. Male genitalia (Figs. 12-14): Ventral dististyle much as in *I. antilopina* sp.n., unequally bifid, however, in contrast to that species, shorter and with broader excision. Intermediate (outer) dististyle fork-shaped, with the prongs unequal and strongly curved. Dorsal (inner) dististyle short, flattened, with a small point at tip. Penis stout, likewise essentially lanceolate at apex as in *I. antilopina* sp.n., lateral angles produced, blackened, pointed and curved downwards. Other details are evident from Figs. 12-14.

Remarks.-

As is the case in *I. antilopina* sp.n., *I. hastia* sp.n. likewise is very similar superficially to other species around *I. punctata* (Edwards, 1938). It may be characterized by some details in the wing venation and wing pattern but these features may not be species-specific. From all the other related species it differs, however, in the structure of the male genitalia, as indicated in the above description and as illustrated (Figs. 12-14).

**Dicranomyia (Dicranomyia) patricia sp.n.**

(Figs. 15-16)

唏 (fics. 15-16)

**Limonia (Dicranomyia) lucida**; Starf, 1909: 143, Abb. 7 (f gen.); (nee *Dicranomyia lucida* de Meijere, 1918).

Material.-

Holotype: Tunisia, Bel Mehtia, 30.VIII. 1913 (without collector's name); deposited in coll. Moravian Museum, Brno.

Paratype: Tunisia, Ain Draham, 24.VI.1913, 1♀ (without collector's name); deposited in...
coll. Moravian Museum, Brno.

Other material examined (excluded from the type-series): Bulgaria, Michurin, 1.VI.1968, 29 (J. Stářy leg.); deposited in coll. J. Stáry, Olomouc.

Description.—

Belongs to D. (D.) ornata - group and resembles D. (D.) lucida de Meijere, 1918, in general appearance. Body colouration polished reddish brown. Wings relatively broad, with four large brown patches near costa. Body length 4-5 mm, wing length 5-5.5 mm.

d: Head brown, sparsely silvery grey pruinose on vertex. Antennae brown, 14-segmented, short, bent backwards hardly reaching to the bases of wings. Flagellar segments short-oval, proximal ones nearly spherical. Verticils short, subequal in length to the respective segments.

Thorax polished reddish brown. Praescutum with a paler diffused marking anteriorly on each side, otherwise without any pattern on the disc. Other dorsal parts of thorax slightly paler, with still paler areas near the bases of wings. Pleurae polished reddish brown throughout, posterior sclerites silvery grey pruinose. Wings relatively broad, slightly tinged with pale yellow, conspicuously patterned with brown much as in D. lucida: four large patches near costa, viz. over the arculus, at base of Rs, over the tip of Sc1 (extending over the fork of Rs) and at wing apex (somewhat paler, extending over M1); broad seams on all cross-veins, including the basal deflection of M1, and on some longitudinal veins, especially Cu; further darkenings are evident on Sc2 and over the tip of A.. Venation as in D. lucida, differing in that the discal cell appears shorter, its lower margin (basal section of M4) being only slightly longer than the distal section of M4. Stem of halteres pale yellow, knob strongly infuscated. Coxae mostly brown, yellowed distally, trochanters yellow. Otherwise, legs are broken in both type specimens.

Abdomen of much the same basic colouration as thorax, sparsely grey pruinose, posterior margins of segments pale yellow. Male genitalia (Figs. 15-16): 9th tergite bilobed on its distal margin, with a broad median emargination. Basistyle relatively short, dark pigmented, ventromesal lobe larger than in D. lucida. Ventral dististyle much shorter than in the latter species, with an indistinct lobe dorsally below the dorsal dististyle and with the rostral prolongation relatively long and strongly darkened. Rostral spines straight and very short, situated at about mid-length of the rostrum, subequal in length, distal one dark and somewhat stouter than the paler proximal one. Dorso-dististyle stouter than in D. lucida, not so strongly bent distally. Parameres dark pigmented, shaped as in Fig. 16. Penis relatively short and stout. Other details are evident from Figs. 15-16.

V: In general appearance resembling the male. Female ovipositor much as in D. lucida. Cerci very short, appearing still a little shorter than in the latter species, slightly upturned in lateral aspect, lyriform in dorsal view. Valves stout and long, likewise slightly upturned.

Remarks.—

Superficially, D. patricia sp.n. resembles D. lucida; it differs from it, however, in smaller size, darker body colouration (pleurae mostly yellow in D. lucida, only restrictedly patterned with brown), broader wings and details of venation (discal cell longer in D. lucida). Male genitalia of the two species provide further significant features for separation, especially in the shape of the ventral dististyle (male genitalia of D. lucida illustrated e.g. by de Meijere, 1919, Tab. 3, Figs. 6b-c). The new species was erroneously recorded as lucida by Stáry (1969, Fig. 7).

According to the somatic characters the two females from Bulgaria, listed above, definitely are not D. lucida. They might, however, prove to pertain to another, possibly so far undescribed species and therefore they are only tentatively referred to D. patricia sp.n.

LITERATURE

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