

UNDESCRIBED SPECIES OF THE GENUS LIM-  
NOPHILA FROM EASTERN NORTH AMERICA  
(TIPULIDAE, DIPTERA).

Part III.

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In the present article additional species of the subgenus *Phylidorea* are discussed. The majority of the species were collected in New York State by Mr. Howard Notman and the writer. Others were included in the very rich collections of Professor Rogers. My sincere thanks are extended to Mr. Notman and Professor Rogers for the privilege of examining this material. Except where stated to the contrary, the types of the novelties are preserved in the writer's collection.

***Limnophila (Phylidorea) neadusta* n. sp.**

*Male*.—Length about 8.5 mm.; wing, 9 mm.

Most closely related to *L. (P.) adusta* O. S., from which it differs conspicuously in the structure of the male hypopygium.

Pronotum and mesonotum much darker colored, deep brown medially, a little paler laterally, the median area sparsely pruinose. Legs with the femora yellow, the tips rather broadly infuscated; tibiae obscure yellow, the tips narrowly darkened; basal tarsal segments obscure yellow, their tips narrowly darkened; terminal tarsal segments uniformly dark brown. Wings with a yellowish tinge, the costal region clearer yellow; stigma brown; wing apex and a broad seam along vein *Cu* infused; a very narrow brown seam along the cord. Venation: Cell  $R_2$  strongly narrowed at proximal end, vein  $R_2$  being strongly sinuous. Abdomen obscure yellow, with a dark brown subterminal ring, including segments eight and nine, together with a caudal triangle on tergite seven. Male hypopygium with the very elongate aedeagus and subtending gonapophyses of *L. adusta*. Ninth tergite having the caudal margin with a broad V-shaped notch, the large lateral lobes having the lateral angles obtuse. Simple gonapophyses much stouter than in *adusta*, each appearing as a powerful,

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<sup>1</sup> Contribution from the Department of Entomology, Massachusetts Agricultural College.

heavily blackened rod, with a short lateral spine at near two-thirds the length. Apical portion of outer dististyle a long narrow point. Apical portion of inner dististyle longer and more slender than in *adusta*.

*Habitat*: New York.

*Holotype*: ♂, Keene Valley, Essex Co., July 14, 1920 (H. Notman).

***Limnophila (Phylidorea) caudifera* n. sp.**

*Male*.—Length about 8.5–9.5 mm.; wing, 9–10 mm.

Generally similar to *L. (P.) adusta* O. S., differing notably in the structure of the male hypopygium.

General coloration of the mesonotum shiny brown. Legs with the femora bright yellow basally, passing through brownish yellow into brown, the tips dark brown; tibiae brown, the tips passing into brownish black; tarsi brownish black. Wings with a faint yellowish tinge, the base and cell *Sc* yellowish; cell *C* infuscated, brighter at both ends; stigma oval, dark brown; wing-apex narrowly seamed with dark brown; a conspicuous brown seam along vein *Cu*<sub>1</sub>; narrower and less conspicuous brown seams along the cord and outer end of cell *1st M*<sub>2</sub>; veins dark brown, the basal half of *M* more yellowish. Venation: *r* beyond midlength of *R*<sub>2</sub>, cell *R*<sub>2</sub> pointed at proximal end; cell *M*<sub>1</sub> about as long as its petiole. Abdomen obscure brownish yellow, with a brown subterminal ring in the male. Male hypopygium with the median area of the caudal margin of the tergite produced caudad into a slender, tail-like lobe. Basistyle with the dorsal lobe provided with long yellow setae. Outer dististyle very broad and flattened, especially basally, the tip suddenly narrowed into a slender finger-like point. Inner dististyle very small and slender, gently curved, the apex a little expanded. Simple gonapophyses slender, nearly straight, heavily blackened. Aedeagus having the subtending apophyses fused basally with it for approximately the basal third.

*Habitat*: New York.

*Holotype*: ♂, Lake Pleasant, Hamilton Co., altitude 1,750 feet, June 17, 1926 (Alexander). *Paratopotype*: ♂, June 21, 1926.

***Limnophila (Phylidorea) subsimilis* n. sp.**

*Male*.—Length about 9 mm.; wing, 9.5 mm.

In general coloration resembling *L. (P.) adusta* O. S., but in genitalic characters more closely related to *L. (P.) similis* Alex., which appears to be the nearest described ally.

Antennae with the flagellum obscure yellow, the outer segments passing into brownish yellow. Head gray. Mesonotum and pleura light fulvous, the postnotum and pteropleurite a trifle pruinose. Halteres with the knobs slightly darkened. Legs with the coxae concolorous with the pleura; femora black, the basal fourth or less abruptly light yellow, the amount of the latter color a very little greater on the middle and hind legs; shortly before the femoral tips a broad brighter brown ring, diffuse and very ill-defined; tibiae and tarsi brownish black. Wings very much as in *similis*; cells C and Sc strongly darkened; stigma oval, still darker brown; wing-tip narrowly but conspicuously darkened; a narrow brown seam along the cord, still more restricted on the outer end of cell *1st M*<sub>2</sub>; veins brown, darker in the clouded areas. Abdomen obscure yellow, segments eight and nine dark brown. Male hypopygium much as in *similis*, differing in the details of structure of the outer dististyle and aedeagus. Outer dististyle expanded apically, the terminal spine very small, the tip of the style before it broadly expanded. Inner dististyle with the base dilated, with a little more than the apical half narrowed. Aedeagus stouter than in *similis*, the subtending apophyses very weak and slender.

*Habitat*: Tennessee.

*Holotype*: ♂, Scott Co., May 29, 1922 (J. S. Rogers); No. 4. Type returned to Professor Rogers.

The combination of bright fulvous thoracic coloration, the extensively blackened legs, and the structure of the male hypopygium, serve to differentiate this species from the allied forms.

***Limnophila (Phylidorea) iowensis* n. sp.**

*Male*.—Length, 9–10 mm.; wing, 9–9.5 mm.

*Female*.—Length, 9–10.5 mm.; wing, 9–10 mm.

Belongs to the *adusta* group; most closely allied to *L. (P.) auripennis* Alex., from which it differs especially in the pattern of the legs and wings, and the details of structure of the male hypopygium.

Pronotum dark medially, shiny yellow laterally. Mesonotum shiny ferruginous, paling to yellow on the sides. Legs with the femora yellow, the tips narrowly infuscated; tibiae brownish yellow, the tips very narrowly infuscated; tarsi gradually passing into brown. Wings with a yellowish tinge, the base and costal region clearer yellow, cell C tending to become slightly infumed except basally; stigma dark brown; wing-apex narrowly but distinctly infumed; very narrow

brown seams along the cord and outer end of cell *1st M*<sub>2</sub>; space between the branches of *Cu* infumed; other longitudinal veins very narrowly and vaguely seamed with brown; veins brown, more yellowish at the wing-base and in the costal region. Venation: *Rs* relatively long, angulated at origin; cell *R*<sub>2</sub> relatively wide at base, gently widened at apex. Abdomen obscure yellow, without a dark subterminal ring in the male. Male hypopygium with the ninth tergite having the caudal margin gently emarginate. Basistyle only moderately setiferous, without the dense dorsal brushes of some of the allied species. Outer dististyle relatively slender, blackened at tip, the apical spine small, the apex cephalad of the spine microscopically serrulate. Inner dististyle with the basal half straight, the outer half more slender, strongly arcuated. Branched gonapophyses with the two major arms unequal, heavily blackened apically, the tips acute, each apophysis at near midlength of the outer margin further produced into a pale spinous flange. Aedeagus small, straight, about equal in length and diameter to its subtending apophyses, shorter than the branched apophyses.

*Habitat*: Iowa.

*Holotype*: ♂, Grinnell, Poweshiek Co., June 2, 1920 (J. S. Rogers); No. 43. *Allotopotype*: ♀, June 7, 1920; No. 45. *Paratopotypes*: 16 ♂ ♀, May 31–June 7, 1920; Nos. 42, 43 and 45.

Type returned to Professor Rogers.

***Limnophila (Phylidorea) luteola* n. sp.**

General coloration dark ferruginous; head light gray; antennal flagellum with the basal segments yellow; femora black, the bases broadly obscure yellow; wings strongly yellow, clearer at base and along the costal margin; stigma and wing-apex darkened; male hypopygium with the arms of the branched apophyses elongate, blackened, acutely pointed.

*Male*.—Length, 9 mm.; wing, 9 mm.

*Female*.—Length about 8.5–10 mm.; wing, 8.5–9.5 mm.

Rostrum black, the palpi dark brown. Antennae with the first segment black, the succeeding four or five segments light yellow, the remaining segments passing into dark brown; flagellar segments passing through oval to linear. Head light gray, clearer anteriorly, the sides of the posterior vertex with a dark spot.

Mesonotum dark ferruginous, sparsely pollinose. Pleura and postnotum reddish ferruginous, with a sparse pruinosity. Halteres pale, the knobs weakly infuscated. Legs with the coxae concolorous with the pleura; trochanters yellowish

testaceous; femora black, the bases broadly obscure yellow; on the fore legs, the pale bases include a little more than the basal third, on the hind legs more extensive, including a little more than the basal half to two-thirds; tibiae dark brown, passing into black; tarsi black. Wings with a strong yellowish tinge, the base and costal margin clear luteous; stigma oval, brown, well-defined; wing-apex narrowly but conspicuously darkened; veins brown, yellowish in the luteous areas. Venation:  $R_1$ s short, angulated to short-spurred at origin;  $r$  near midlength of  $R_2$ , veins  $R_2$  and  $R_3$  rather strongly divergent; cell  $M_1$  shorter than its petiole;  $m-cu$  at or beyond midlength of cell 1st  $M_2$ .

Abdomen obscure brownish yellow, without a black subterminal ring in the male, only the eighth segment a little infuscated; hypopygium obscure yellow. Male hypopygium with the outer dististyle relatively short and broad, the apical spine conspicuous, straight; inner dististyle strongly arcuated. Branched gonapophyses longer than the aedeagus, the longest arm about as long as the stem, both arms blackened, acute at tips, the shorter outer arm more slender and acute. Aedeagus and its subtending apophyses slender, approximately equal in length, not heavily blackened.

*Habitat*: New York.

*Holotype*: ♂, Lake Pleasant, Hamilton Co., altitude 1,800 feet, June 21, 1926 (Alexander). *Allotopotype*: ♀, June 18, 1926. *Paratopotypes*: 2 ♂♂, 20 ♀♀, with the types.

*L. (P.) luteola* is allied to *L. (P.) consimilis* Dietz, differing in the coloration of the wings and details of structure of the male hypopygium.

The type-series was taken by Mrs. Alexander and the writer in an *Iris* swamp in the southern Adirondacks Mountains. A cold stream flows through an upland pasture, spreading out in the nearby hollows, which are partly filled with *Sphagnum*. The dominant floral element in the swamp is *Iris*, from which many of the crane-flies were swept. Others were found resting on the limbs of spruce and balsam along the margins of the swamp. Only three males of this handsome species were found after a detailed search. Associated crane-flies in this swamp were: *Gonomyia rostrata* (Say), *Helius flavipes* (Macq.), *Pseudolimnophila inornata* (O. S.), *Limnophila macrocera* (Say), *Tricyphona inconstans* (O. S.), *Erioptera vespertina* O. S., *E. septentrionis* O. S., *E. needhami* Alex., and *Bittacomorpha clavipes* (Fabr.).

***Limnophila (Phylidorea) fumidicosta* n. sp.**

General coloration orange-ferruginous; basal segments of the antennal flagellum yellow; head light gray; femora dark brown, their bases yellow; wings tinged with yellow, the costal cell and wing-tip infumed; abdomen brown, with a darker subterminal ring; male hypopygium with the branched gonapophyses elongate, the branches long, acute, blackened.

*Male*.—Length about 7 mm.; wing, 7.8 mm.

Rostrum and palpi dark brown. Antennae with the basal segment dark brown, the succeeding four segments yellow, the remaining segments brown. Head clear light gray, the posterior portions darker gray.

Pronotum infuscated, brighter laterally. Mesonotum light orange-ferruginous, the surface sparsely pollinose, more heavily so behind. Pleura concolorous. Halteres pale, the knobs only weakly infuscated. Legs with the coxae and trochanters yellow; fore femora dark brown, the basal fourth light yellow; middle femora dark brown, the basal third or a little more yellow; posterior legs missing; tibiae light brown, the tips narrowly darkened; tarsi passing into dark brown. Wings tinged with yellow; stigma oval, brown; cell *C* beyond the basal fourth distinctly infumed, the color extending along the costal margin and including the wing-apex; cell *Sc* yellow; veins brown. Venation: *Sc*<sub>2</sub> at the tip of *Sc*<sub>1</sub>, both beyond the level of the fork of *Rs*; cell *R*<sub>2</sub> deep, at margin about one-third wider than cell *2nd R*<sub>1</sub>; cell *M*<sub>1</sub> small; cell *1st M*<sub>2</sub> elongate, *m-cu* before midlength.

Abdominal tergites brown, the eighth segment dark brown. Male hypopygium with the outer dististyle flattened, relatively broad, gradually narrowed outwardly, the tip blackened, bifid. Inner dististyle small, strongly curved, the base glabrous. Branched gonapophyses elongate, the tips long, acute, blackened, the lower arm elongate, but shorter than the upper arm; besides these branches there is a small lateral spur on outer margin near fork. Aedeagus and subtending apophyses relatively small and inconspicuous.

*Habitat*: New York.

*Holotype*: ♂, Bool's Backwater, Fall Creek, Ithaca, June 13, 1917 (*Alexander*).

*L. (P.) fumidicosta* is most closely allied to *L. (P.) consimilis* Dietz and *L. (P.) luteola* n. sp., differing from both in the details of coloration and structure of the male hypopygium.