A new species and distributional notes on the genus *Lotophila* Lioy (Diptera, Sphaeroceridae) from the Oriental Region

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**Abstract:** The Oriental species of the genus *Lotophila* are studied. *Lotophila vietnamica* sp. nov. is described from Vietnam. *L. bicolor* Norrbom et Marshall and *L. nepalensis* Hayashi are recorded for the first time from Central Nepal and Thailand, respectively.

Key words: *Lotophila*, Sphaeroceridae, Diptera, the Oriental Region, *Lotophila vietnamica* sp. nov., new records

The genus *Lotophila* Lioy has been studied by several authors (Hayashi, 1985, 1991; Norrbom and Kim, 1984; Norrbom and Marshall, 1988; Papp, 1988). The genus is easily distinguishable from the other genera of the subfamily Copromyzinae by the lack of spine-like ventral setae on the hind femur and ventroapical spur on the hind tibia.

Up to the present, *Lotophila* comprises 6 species: *L. atra* (Meigen, 1830) (Holarctic, Pakistan); *L. bicolor* Norrbom et Marshall, 1988 (Nepal); *L. confusa* Norrbom et Marshall, 1988 (China, U.S.A., Mexico); *L. nepalensis* Hayashi, 1991 (Nepal); *L. norrbomi* (Papp, 1988) (India, Nepal); and *L. pallida* Hayashi, 1985 (Japan). In the course of the study on the Oriental lesser dung flies, I found the 7th species of the genus *Lotophila* and describe it together with the new distributional records of *L. bicolor* and *L. nepalensis*, which are a little known species and only a few specimens are known from East Nepal up to the present.

The specimens examined in this study are all preserved in the Reference Museum, Department of Medical Entomology, National Institute of Infectious Diseases, Tokyo.

**Key to species of the genus *Lotophila***

1. Scutellum with 4--5 marginal setae ..........................................................2
   - Scutellum with 2 pairs of setae ..................................................3
2. Bare shiny area of frons separated into 3 parts ..................*L. confusa* Norrbom et Marshall
   - Bare shiny area of frons not distinctly separated .........................*L. atra* (Meigen)
3. Hind femur mostly dark brown ..................................................*L. norrbomi* (Papp)
   - Hind femur mostly yellowish, only apical 1/4--1/5 dark brown ..........4
4. Anepisternum mostly bare; very strong 3 dc present ..........*L. bicolor* Norrbom et Marshall
   - Anepisternum entirely microtrichose (Fig. 1); 3 dc very weak ..................5
5. Postgena broadly yellowish ..................................................*L. vietnamica* Hayashi sp. nov.
   - Postgena entirely dark brown ..................................................6
6. Inter-frontal setae very weak or vestigial; sustylus longer and slenderer (Hayashi, 1991; Fig. 5); apical part of paramere strongly curved (Hayashi, 1991; Fig. 6) ..........*L. nepalensis* Hayashi
   - Inter-frontal setae distinct; sustylus shorter and broader (Hayashi, 1991; Fig. 8); apical part of paramere almost straight and parallel-sided, and only apex curved (Hayashi, 1991; Fig. 9)
Lotophila bicolor Norrbom et Marshall, 1988


Remarks. This species was formerly known only from East Nepal. New for Central Nepal (Kathmandu district).

All individuals examined here were collected on human feces in the forest.

Lotophila nepalensis Hayashi, 1991

Lotophila pallida nepalensis Hayashi, 1991: 11.

Specimens examined. THAILAND: 1♂, Doi Inthanon, 1,700 m, Oct. 23, 2001, T. Hayashi; 1♀, ditto, 1,900 m, Oct. 28, 2001, T. Hayashi.


Remarks. I originally described this species as a subspecies of L. pallida Hayashi because Nepalese specimens are very similar to Japanese ones externally and their genital structures have only few differences though distinct. Recently, Roháček and Norrbom elevated it to species rank (Roháček et al., 2001). The male specimen newly examined here has almost the same genital structures as those of the Nepalese one, and is distinguishable from Japanese L. pallida by very weak or vestigial inter-frontal setae and the shape of surstylus and paramere. These results support the opinion of Roháček and Norrbom in Roháček et al. (2001). This species was formerly known only from East Nepal. New for Thailand.

All individuals examined here were collected on human feces in the forest.

Lotophila vietnamica Hayashi sp. nov.
(Figs. 1–5)

Description.

Body length 3.4–3.8 mm.

Head: Somewhat higher than long; frons broadly yellowish brown to reddish brown, entirely microtrichose; orbits, ocellar triangle and occiput dark brown; gena yellow to reddish-brown, posterior half shining; postgena broadly yellow to reddish-brown; face reddish-brown, entirely microtrichose; 1 vli, 1 vte, 1 vi, 1 oc, 1 posterior ors present, anterior ors absent, g weak; the longest eye diameter about 3.3 times as long as genal width; antenna reddish-brown, 3rd segment dark brown; arista long, about 4.2 times as long as 3rd segment, moderately long pubescent.

Thorax: Dark brown; mesonotum with 2 faint dark longitudinal stripes; very weak 3 dc, only slightly stronger than other dc and ac hairs; 2 ac rows between dc setae; anepisternum, anepimeron and meron entirely microtrichose (Fig. 1), katepisternum only upper part microtrichose and other part shining (Fig. 1); scutellum with 2 sc, basal sc about 1/2 as long as apical sc.

Wing: Light brown; veins brown, not clouded on cross-vein; halter pale yellow with brown knob.

Legs: Mostly yellowish-brown, apical 1/4 of hind femur and hind metatarsus black; no distinct setae and spines except for small a seta on apical 1/3 of mid tibia; fore and hind femora not
Figs. 1-5. *Lotophila vietnamica* sp. nov. 1. thorax, lateral view; 2. male terminalia, lateral view; 3. ditto, caudal view; 4. inner genitalia (paramere omitted); 5. paramere.
thickened in male.

Abdomen: Black with brown membrane.

Male: Sternite 2–4 weakly sclerotized, sternite 2–3 narrow; sternite 5 strongly sclerotized, trapezoidal, hind corner sharply prolonged; epandrium (Figs. 2 and 3) normal, not expanded posterodorsally; surstylus (Figs. 2 and 3) elongate, spatulate in posterolateral view, distinctly wider apically than basally; aedeagus as in Fig. 4, dorsally projecting sclerite moderately broad, with large apical and subapical teeth; paramere as in Fig. 5.


Type series are all preserved in Reference Museum, Department of Medical Entomology, National Institute of Infectious Diseases, Tokyo.


Remarks. This species is related to L. nepalensis and L. pallida (viz. body color, very weak dc setae, microtrichose pattern of katepisternum and episternum, and the shape of surstylus), but it is easily distinguishable from them by broadly yellowish postgena and halter coloration. In male genitalia, surstylus of this species is distinctly wider apically in contrast with almost parallel-sided surstyli in L. nepalensis and L. pallida, and the shape of paramere is characteristic.

Most individuals were collected on human feces in bamboo forest.

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References


