

A new species of *Lenkothrips* DE SANTIS & SUREDA, 1970, from French Guyana (Thysanoptera: Heterothripidae)

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Abstract. Within the Thysanoptera the entirely New World family Heterothripidae contains four recent genera (MOUND & MARULLO 1996), namely *Aulacothrips* HOOD, 1952, *Heterothrips* HOOD, 1908, *Lenkothrips* DE SANTIS & SUREDA, 1970, and *Scutothrips* STANNARD, 1972. Whereas in *Heterothrips* and *Scutothrips* the antennal sensory areas are forming apical bands on segments III and IV, these sensory areas are drawing lateral loops in *Lenkothrips* and are even convoluted and extended almost to the base of the segments in *Aulacothrips* (MOUND *et al.* 1980). *Lenkothrips* is known by only one species: *Lenkothrips sensitivus* DE SANTIS & SUREDA, 1970, which was found in Brazil (São Paulo) and later on also in Ecuador (MOUND & MARULLO 1996). This study presents the description of a second species of this remarkable genus, which appears to be flower-living as most of the Heterothripidae (DEL CLARO *et al.* 1997). The specimens were caught together with different species of the genus *Heterothrips* on inflorescences of the liana *Heteropterys multiflora* (Malpighiaceae) in the canopy of a primary rain forest in French Guyana.

Key words. Thysanoptera, Heterothripidae, *Lenkothrips*.

Zusammenfassung. Die ausschließlich in der Neuen Welt verbreitete Fransenflüglerfamilie Heterothripidae beinhaltet vier rezente Genera: *Heterothrips* HOOD, 1908, *Scutothrips* STANNARD, 1972, *Aulacothrips* HOOD, 1952 und *Lenkothrips* DE SANTIS & SUREDA, 1970. Die Arten der beiden erst genannten Gattungen weisen bandförmige Sensorienfelder an den apicalen Enden der Antennenglieder 3 und 4 auf. Bei den Vertretern von *Lenkothrips* und *Aulacothrips* hingegen formen diese Sinnesfelder laterale Schlingen (MOUND *et al.* 1980). *Lenkothrips* ist bisher nur durch eine Spezies, die zunächst aus Brasilien (São Paulo) beschrieben und später auch in Ecuador nachgewiesen wurde, bekannt: *Lenkothrips sensitivus* DE SANTIS & SUREDA, 1970. In dieser Arbeit wird eine zweite Art dieser bemerkenswerten Gattung beschrieben. Wie die meisten Heterothripiden kommt auch diese in Blüten vor (DEL CLARO *et al.* 1997). Die Tiere wurden zusammen mit weiteren Heterothripiden in Blütenständen einer Liane der Art *Heteropterys multiflora* (Malpighiaceae) im Kronenraum eines Primärwaldes in Französisch Guayana erfaßt.

Description. ♀ (macropterous). Total L. 1530 (1395–1575).

Coloration. Body uniformly brown; head, prothorax, metanotum, sides of pterothorax, and posterior abdominal segments are most intensively colored. The coloration of the mesonotum is slightly paler and appears with the internal yellow pigmentation in the whole body yellowish brown. Ocellar pigment red. Antennal segment I greyish brown. Segment II greyish brown, apically slightly paler. Segment III yellow in basal $\frac{3}{5}$ and pale greyish brown in apical $\frac{2}{5}$. Segment IV greyish brown with a pale band in basal half. Segments V–IX dark greyish brown, V and VI less intensively colored than distal segments. All coxae dark brown. All femora yellow with light brown shadings in basal half. All tibiae and tarsi yellow. Fore wings grey shaded, sub-basal with a small hyaline mark. Hind wings hyaline in basal two thirds, pale grey shaded in apical third, and with a dark line along the vein. All major body bristles dark brown.

Head (fig. 1). Broader than long, L. 110 (105–113), greatest W. 153 (145–154). Cheeks rounded, W. at base of head 140 (138–). Eyes large, L. 81 (76–), largest W. 54. Diameter of fore ocellus smaller (8) than diameter of hind ocelli (16). Antecellar setae L. 5, interocellar setae L. 8 not close together, located close to the hind ocelli on the lines of the ocellar triangle, postocellar setae L. 6. Cheeks with two bristles close to the eyes. Vertex flattened without any bristles. Except of the ocellar triangle head sculptured with transverse lines. Mouth cone blunt, broadly rounded; L. behind dorsal margin of the head 64 (–67). Antennae L. 313 (299–316); measurements of single segments:

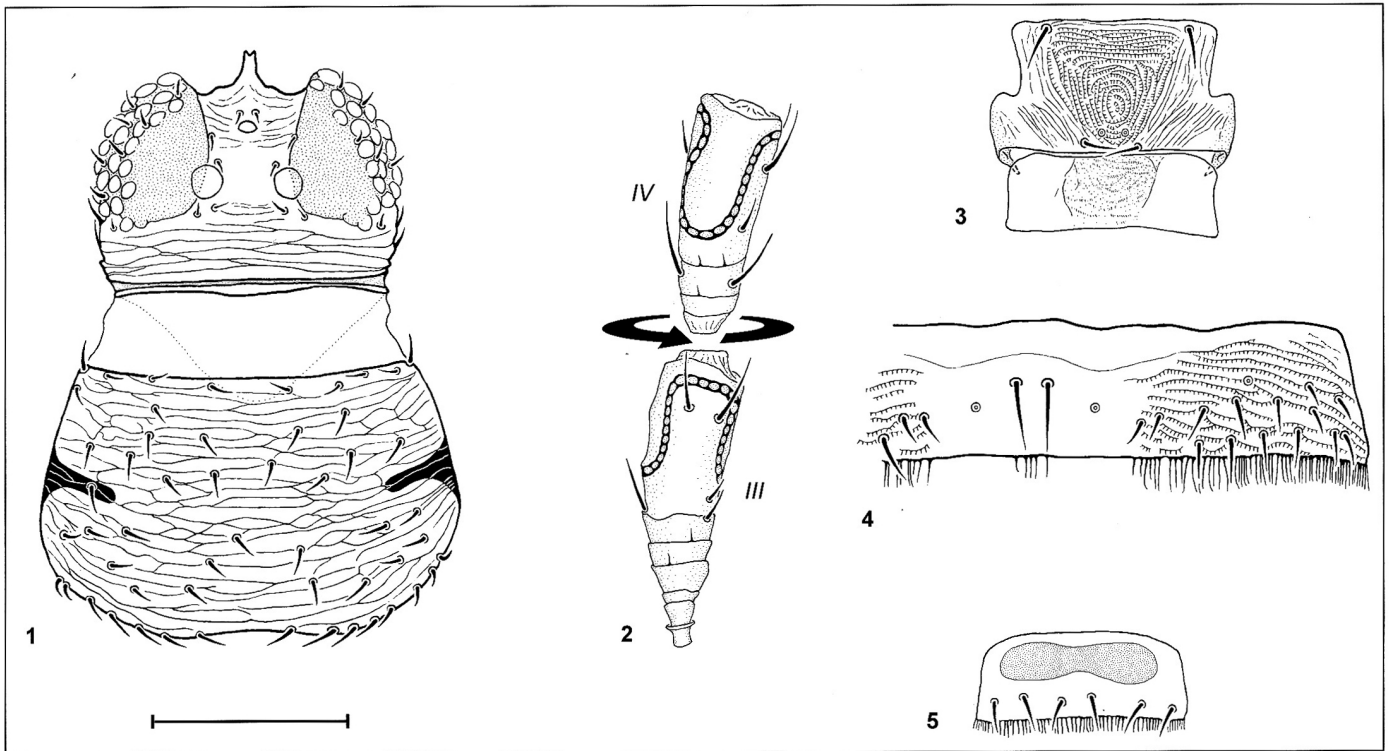
Lenkothrips daedali sp. nov. (Figs. 1–5)

Holotype. ♀; French Guyana, primary forest at Les Nouragues, close to the biological field station 'Inselberg', caught on inflorescences of *Heteropterys multiflora* (DC.) (Malpighiaceae) in the canopy, 14.II.1998, leg. M.R. ULITZKA; coll. ULITZKA (GFN 20 / MU 1304).

Paratypes. 5♂ 4♀; French Guyana, primary forest at Les Nouragues, close to the biological field station 'Inselberg', caught on inflorescences of *Heteropterys multiflora* (DC.) (Malpighiaceae) in the canopy, 14.II.1998, leg. M.R. ULITZKA; coll. ULITZKA (GFN 20 / MU 1302, 1303, 1306, 1316, 1317, 1319, and 1321); coll. USDA Beltsville, Maryland, USA (GFN 20 / MU 1305 and 1320). Further specimens: Senckenberg-Museum, Frankfurt/Main, Germany.

Derivatio nominis. This remarkable species is gratefully dedicated to the German National Academic Foundation (Studienstiftung des deutschen Volkes) which enabled my studies on the thrips fauna of French Guyana by financing the project. The species name '*daedali*' was chosen referring to the Attic-Cretan ancestor of the arts Δαίδαλος (Daidalos, Daedalus) whose myth describes the former unity of science, art, craft, and ingenuity. Today his head honors the sign of the German National Academic Foundation to represent the spirit of its fellows.

Measurements are indicated in parentheses when the range of female paratypes differs from that of the holotype; and respectively for males from that of the middle-sized paratype GFN 20 / MU 1319. L. = length, W. = width; all measurements are in microns.



Figs 1–5: *Lenkothrips daedali* sp. nov. ♀. 1: head and pronotum; 2: antennal segments III (dorsal view) and IV (lateral view); 3: metanotum and scutellum; 4: abdominal tergite IV. **Fig. 5:** *L. daedali* sp. nov. ♂: glandular area on abdominal sternite IV. Scales: 100µm for figs. 1 and 3–5, 50µm for fig. 2.

Segment	L.	W.
I	27	30
II	35 (30–)	27 (25–)
III	73 (67–76)	22
IV	54	22
V	27 (24–)	14 (–16)
VI	30	14
VII	22	10 (–1)
VIII	22 (–24)	8
IX	22 (19–)	5

Antennal segment III tripartite (fig. 2). Pedicel above disc like an inverted cone, L. 6, basal W. 6, apical W. 8. Apical sensory areas on segment III and IV forming a loop extending to the mid-point on either side of each of these segments. Distance from the deepest point of the loop to the apex of segment III: 27 (–32), and of segment IV: 27 (25 –).

Prothorax (fig. 1). L. 140 (130–142). Fore margin slightly concave, W. 173 (168–180). Sides nearly straight, posterior part broadly rounded to the hind margin. Hind margin broadly convex rounded in lateral parts, medially with a concave indentation. Largest W. 221 (218–245). Pronotum completely sculptured with transversely reticulate lines. Marginal and discal setae similar in L. 14 (–16) and diameter. Number of discal setae: 28 (26–30).

Pterothorax. Mesonotum L. 81 (76–83), largest W. 162 (148–), sculptured with transverse lines; structure less dense in the anterior half. Metanotum (metascutum) (fig. 3) L. 70 (68–), largest W. 135 (120–), sculptured with concentric lines bearing microtrichia. These lines are arranged angular in the anterior third, whereas they form an ellipse with longitudinal orientation in the center. Scutellum sculptured in the median third. Fore wings L. 735 (686–750), hind wings L. 665 (632–).

Abdomen (fig. 4). L. 875 (810–). Posterior margin of tergites bearing fringes of independent microtrichia. Tergite I with discal microtrichia medially but without a median comb on the posterior margin. Tergite III–V with a comb of long microtrichia medially, but with a gap between these and the lateral combs. Marginal comb of microtrichia complete on tergite VI–VIII. Tergite VIII–IX bearing many discal microtrichia; on tergite IX these are much longer on the posterior median part L. 14, than on the anterior median part L. 3. Tergite X without discal microtrichia. Lateral thirds of the median tergites with about eight parallel lines of sculpture bearing many microtrichia. Sternites I–VI without discal setae, sternite VII bearing

four discal setae. Complete marginal fringes of microtrichia are present on sternites II–VI; sternite VII without a marginal comb (paratypes MU 1305 and MU 1306 with a comb of some few microtrichia laterally).

Male (macropterous). Total L. 1115 (966–1120).

Coloration. Body yellow; head, lateral parts of the thorax and median parts of abdominal tergites I–VIII with pale brown shadings. Ocellar pigment red. Testes intensively orange. Antennae colored like in female. Legs including the coxae uniformly yellow. Wings colored like in female. All major body bristles brown.

Head. Broader than long, L. 102 (97–105), greatest W. 140 (–145). Cheeks slightly rounded, W. at base of head 137 (135–143). Eyes large, L. 73 (68–75), largest W. 51 (–53). Diameter of fore ocellus smaller (10) than diameter of hind ocelli (15). Antecellar setae L. 5, interocellar setae L. 8 not close together, located close to the hind ocelli on the lines of the ocellar triangle, postocellar setae L. 6. Head sculptured like in female. Mouth cone blunt, broadly rounded; L. behind dorsal margin of the head 64 (61–67). Antennae L. 289

(284–297); measurements of single segments:

Segment	L.	W.
I	24 (22–)	28 (27–30)
II	30 (28–32)	22 (–24)
III	68 (64–70)	19
IV	49 (–52)	17 (–19)
V	24	14
VI	27	14
VII	22 (19–)	8
VIII	22	7
IX	22	6 (4–)

Antennal segment III and IV like in female. Distance from the deepest point of the loop of the sensory areas to the apex of the segments 24 (–27).

Prothorax. L. 135 (121–141), W. at fore margin 137 (135–158), largest W. 202 (200–223) shaped like in female, but without an indentation at the hind margin. Discal sculpture weaker than in female. Marginal and discal setae similar in L. 14 (–16) and diameter. Number of discal setae: 26 (–30).

Pterothorax. Mesonotum L. 68 (–70), largest W. 135 (–143), sculptured like in

female. Metanotum (metascutum) L. 62 (59–), largest W. 95 (89–108). Sculpture of metascutum and scutellum like in female. Fore wings L. 630 (616–), hind wings L. 560 (539–).

Abdomen. L. 574 (568–630), Largest W. 143. Lateral and marginal fringes of microtrichia on tergites I–VII like in female. Tergite IX with discal microtrichia in the anterior median third. Tergit X with long discal microtrichia in the anterior half. Sternites without discal setae. Sternites IV–VIII with transverse glandular areas, which are constricted medially (fig. 5).

Differential diagnosis

L. daedali sp. nov. differs from *L. sensitivus* mainly by its coloration. The body of the new species is more or less uniformly brown, whereas *L. sensitivus* shows a yellow coloration in the thorax (only nota, laterally brown) and in the abdominal segments III and IV. Further, all tibiae of *L. daedali* are uniformly yellow, whereas in *L. sensitivus* only the fore tibiae show a yellow coloration; mid and hind tibiae are bicolored (brown, apical parts yellow) in this species.

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