

A New Species of *Thinophilus* (Diptera: Dolichopodidae) from the Hawaiian Islands¹

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Until now the genus *Thinophilus* was not known from the Hawaiian Archipelago. Other hydrophorine genera and species that have been known previously from the islands are: the marine genus *Thambemyia* Oldroyd with *T. acrosticalis* Parent as the only species thus far recognized from Hawaii; the largest Hawaiian dolichopodid, *Paralaincalus* Parent, with *P. metallicus* (Grimshaw) found along streams in mountains; the genus *Sigmatineurum* Parent with 9 species found in the splash zone along mountain streams [see Evenhuis & Polhemus (1994) and Evenhuis (1997) for recent revisions], and *Hydrophorus* Fallén, represented by 2 species: the widespread *H. pacificus* Van Duzee and *H. williamsi* Parent, both species occurring on tidal mud flats and marshes affected by high tide. The new *Thinophilus* species described here is found in a rather similar habitat. We suppose that it is not a recent introduction, but that due to its small size it was overlooked until now. Terminology and setal abbreviations follow Bickel (1991).

Thinophilus hardyi Grootaert & Evenhuis, new species

Figs. 1-4

Diagnosis. Small, metallic green species. Palpus yellow. Antenna yellow, but segments 2 and 3 darkened dorsally. Tip of first flagellomere truncate. Mesonotum with 5 *dc*. Legs, including tips of fore coxae, yellow. Mid femur with a strong anterior preapical; hind femur with a strong anterodorsal preapical bristle. Wing without cloudings. Abdomen ventrally with minute white hairs. Tergum 4 in female with long black bristles apically.

Male. Body length 2.4 mm; wing length 2.3 mm. *Head.* Frons with dark metallic greenish-blue ground color. Frons and face densely covered with brownish dusting. Narrowest point of face at upper apical 1/3, as wide as ocellar callus. Clypeus not delineated, distinct as a slight bulge; about 1/4 the length of the face. Palpus large, yellow, with scattered short brownish hairs. Rostrum brownish black. Occiput brownish dusted. Two long, black ocellars, pointing upward, diverging; 2 shorter verticals, pointing forward, converging; a pair of short black postocellars; 2 short postverticals, not in row with postoculars. Upper postoculars uniseriate, short, black; lateral and lower postoculars pluriseriate, longer, whitish. Antenna (Fig. 2) short, yellow, but pedicel and first flagellomere dark brown dorsally. Pedicel overlapping first flagellomere partly on upper side, bearing tiny marginal bristles. First flagellomere subrounded, although tip truncate, longer than broad. Arista dorsal, practically bare, about 2.5 × length of antenna; apical 1/4 whitish; basal arisal segment very short.

Thorax and scutellum dark metallic green, covered with a brownish-gray dust. No dull black spots on mesoscutum. All bristles black. No *ac*; 5 *dc*, all long, gently increasing in length to the rear; anterior bristle 3/4 length of posteriormost. One each of long humeral, posthumeral, presutural, post-sutural, long notopleural, supraalar, and long postalar setae. Scutellum with 2 large marginals. Upper propleura with bundle of white hairs, lower part with a few (4) longer white hairs. Prothoracic collar with row of short white bristles.

Legs. Fore coxae with basal half black; mid and hind coxae black, with yellow tips. Fore and mid tarsi darkened from base of fourth segment onwards. Hind tarsi darkened from tip of second segment onwards; otherwise legs yellow.

Fore leg: Coxa anteriorly with white hairs; at apex a row of 5 thin black bristles. Femur ven-

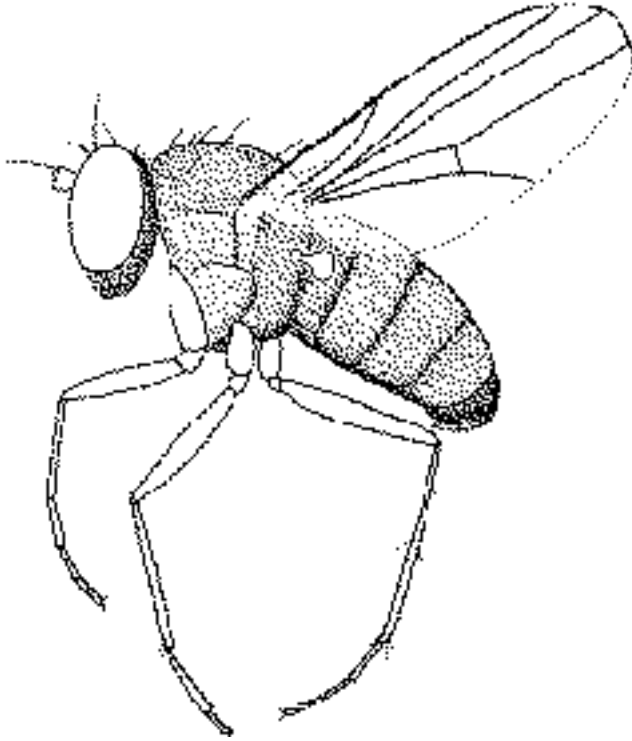


Fig. 1. *Thinophilus hardyi*, n. sp. male habitus.

trally without bristles; posteroventrally on apical third a row of 4–5 very short bristles; a black anterior preapical. Tibia about as long as femur; 2 dorsals and a short ventral on basal third. First tarsal segment spinulose ventrally; tarsal segments 1–4 each with 2 apicoventral spinules. Length of tibia and tarsal segments (in mm): 0.7 : 0.3 : 0.13 : 0.1 : 0.08 : 0.1.

Mid leg: Coxa with a fine black exterior bristle. Trochanter with a black ventral spot at tip. Femur with a double row of minute brown bristles ventrally; a strong, black anterior preapical bristle as long as femur is broad and a shorter posteroventral preapical. Tibia about as long as femur; 2 ad and 2 pd (or dorsals), forming pairs near base and at middle of tibia, all as long as or slightly longer than tibia is broad; a ventral and a cirlet of apicals, including a rather strong ventral bristle. Tarsal segments 1–4 each with 2 apicoventral spinules. Length of tibia and tarsal segments (in mm): 0.83 : 0.34 : 0.15 : 0.13 : 0.1 : 0.13.

Hind leg. Coxa with a feeble, black exterior bristle. Trochanter with a black spot ventrally, with

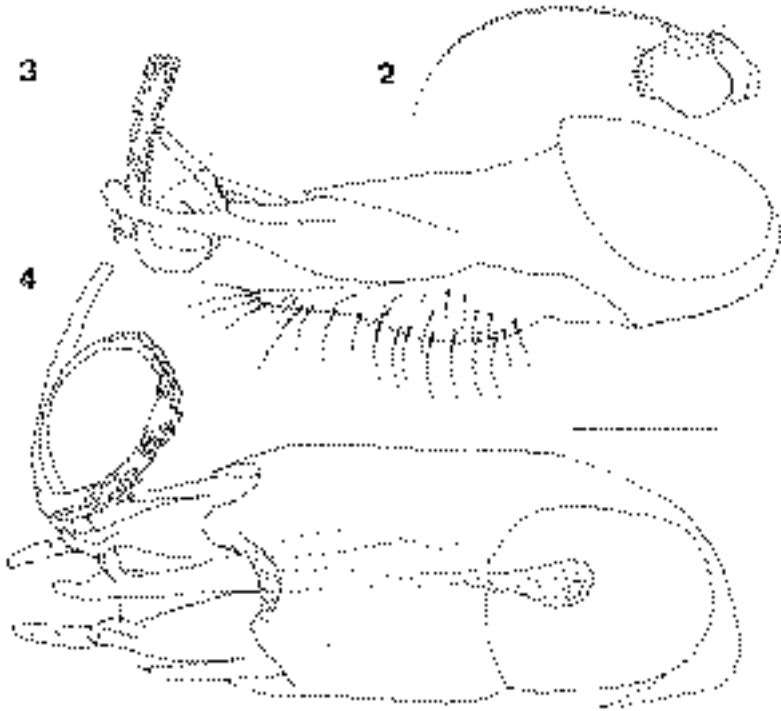


Fig. 2-4. *Thinophilus hardyi*, n. sp. paratype male. **2**, antennae, lateral view. **3**, genitalia: lateral view. **4**, genitalia ventral view. Scale 0.1 mm.

a ventral bristle and a few hairs. Femur with a row of very short bristles ventrally; dorsally near base some of the hairs are bristle-like; a short preapical ad. Tibia about as long as femur; 3 ad, 2 pd, all short; 4 apicals (dorsal very long); at anteroventral apical rim a short brownish fringe. Tarsal segments 1-4 each with 2 apicoventral spinules. Length of tibia and tarsal segments (in mm): 0.93 : 0.23 : 0.25 : 0.18 : 0.1 : 0.1.

Wing hyaline, feebly grayish-brown tinged, without clouding. Apical part of M_{1+2} gently curved (wing boss) before its middle, apically parallel to R_{4+5} . Apical part of M_{3+4} nearly $3 \times$ longer than tp. Anal vein present. Halter pale yellow. Squama pale yellow, with short white cilia.

Abdomen dark metallic green in ground color; gray dusted. Hairs and marginal bristles on terga very short, black. Venter with minute white hairs. Hypopygium (Figs. 3, 4) with brown surstyli. Cerci yellow, $3/4$ as long as surstyli. Aedeagus strap shaped, yellow.

Female. Body length: 2.38 mm; wing length: 2.43 mm. As in male except as follows: Face wider than in male; parallel-sided throughout. A row of distinct anterior bristles on hind femora. Apical bristles on terga longer than in male especially those on tergum 4.

Types. Holotype male (BPBM 15,830), allotype, and 10 paratypes (3 males, 2 females in alcohol; 1 male, 4 females on pin) from: Hawaiian Islands: OAHU: Pupukea Beach (Shark's Cove), 19.x.1996, P. Grootaert & N.L. Evenhuis (all in Bishop Museum, except 3 paratypes: 1 male, 1

female on pin and 1 male in alcohol in Royal Belgian Institute of Natural Sciences, Brussels).

Etymology. The species is named for Prof. D. Elmo Hardy who was a pioneer of the study of the dolichopodids in the Hawaiian Islands.

Discussion. Currently, 3 subgenera are recognized in the genus *Thinophilus*: *Schoenophilus* Mik, which has only 4 nearly equally long dorsocentrals (Grootaert & Meuffels, 1984); *Parathinophilus* Parent, which is characterized by the possession of small acrostichals and *Thinophilus* s.str., which has 5 or more dorsocentrals and no acrostichals.

Thinophilus hardyi, n. sp. can be distinguished from many congeners by its rather small size, the absence of a distinct bristling on the legs, the absence of dull black spots on the thorax and the unclouded veins. Also this new species does not correspond to the description of the almost cosmopolitan species *T. indigenus* Becker, 1902, which has 7 black dots on the thorax, 6 dorsocentrals, cerci with a broad tip, and black cloudings around tp and a boss on vein M_{1+2} .

Thinophilus hardyi was found on a marshy sandplate on top of a porous lava bench protected by a rocky shore from the sea. The sand was covered with brown patches of diatomaea. Sea water welled up through the lava bench from time to time. The *Thinophilus* were mainly active on the wet sand around the upwelling sea water.

Literature Cited

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