

New species of *Campsicnemus* from the Waianae Range of Oahu, Hawaii (Diptera: Dolichopodidae)¹

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Collections by the Hawaii Biological Survey in the Waianae mountain range of Oahu, Hawaii in the last few years resulted in the discovery of 2 new species of *Campsicnemus* Haliday. Their description is given here to aid in their identification and to allow names to be used in future studies.

Materials and Methods

Diagnosis of and key characters in *Campsicnemus* are based almost entirely on the male. Females are, for the most part, fairly indistinguishable from each other and can only be accurately assigned to species on the basis of association with males.

Descriptive morphological terminology and associated abbreviations used here follow Bickel (1991) and McAlpine (1981).

Specimens examined are deposited in the Bishop Museum (BPBM).

Abbreviations used: I, II, III = fore, mid, and hind leg; C = coxa; F = femur; T = tibia; MSSC = male secondary sexual characters; *ac* = acrostichal setae; *dc* = dorsocentral setae; *hm* = postpronotal setae; *np* = notopleural setae; *oc* = ocellar setae; *pa* = post alar setae; *ph* = posthumeral setae; *sc* = scutellar setae; t = tarsus; t1–5 = tarsomeres 1 to 5; *vt* = vertical setae.

Systematics

Campsicnemus charliechaplini Evenhuis, new species

Fig. 1

Diagnosis. Keys to couplet 6 using the key to species in Tenorio (1969), but is stymied there not fitting either *C. williamsi* Van Duzee or *C. invaginatus* Tenorio. The striking FII modification is somewhat similar to that found in its Koolau mountain counterpart, *C. brevipes* Van Duzee, but *C. charliechaplini*, n. sp. can be easily separated from it by the much more modified ventral swelling, the presence of a peg-like protuberance, and the prominent silvery white tuft of setae subbasally on that femur, by the longer II t1, and by lack of greenish hues in the body color.

Male. Body length: 2.04–2.48 mm. Wing length: 2.80–2.92 mm. *Head.* Face and clypeus brown, front and vertex brown pollinose, subshining in some portions; *oc* and *vt* black, about one-half length of antennal arista; clypeus slightly yellowish pollinose; face only slightly constricted at middle, eyes dichoptic below antennae; palp small, brown; proboscis brown to yellowish-brown, extending below eye in lateral view; antennal scape and pedicel yellowish brown, flagellomere brown; arista subequal to head height.

Thorax. Brown throughout, darker brown on dorsum of mesoscutum and scutellum, brownish pollinose admedially; thoracic setae (except *ac*) black: 4 *dc*; 2 + 1 *np*; 1 + 1 *ph*; 1 *pa*; 1 *sc*; 5–6 pale *ac*.

Legs. Fore coxae yellowish, remainder of legs brown. Leg I unmodified, without MSSC. FII (Fig. 1) with prominent subtriangular swelling ventrally, small peg-like protuberance basally, and small, flange-like flap apically, peg-like protuberance with small, fine hairs, large, dense silvery white tuft of hairs basal to triangular swelling, small, dense tuft of dark setae distal of triangular

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swelling, strong, black setae ventrally from swelling to dense patch of small dark setae (all MSSC); TII (Fig. 14) slightly wider apically than basally, with long patch of fine setae subapically; patch of strong black setae along apical one-fifth (MSSC); IIt1 (Fig. 14) subequal in length to IIt2, with minute black spatulate apical spur (MSSC); IIt2–5 unmodified. FIII with 3 black setae apicoventrally, remainder of leg III unmodified, without MSSC.

I—6.5/4.5/3.5;2.2;2.0;1.5;1.5

II—8.5/10.0/3.2;3.0;2.0;1.2;1.2

III—9.5/10.8/3.0;3.0;2.0;1.0;1.0

Wing subhyaline; halter and knob brown.

Abdomen. Dark brown with short black hairs dorsally on each tergite, a few longer hairs laterally. Hypopygium brown, not dissected.

Female. As in male except for lack of MSSC; legs normal, without modifications; antennal flagellomere slightly longer than in male.

Types. Holotype male (BPBM 15,716), from Hawaiian Islands: **Oahu:** Waianae Mts., Mt. Kaala: Upper Halenau Gulch near summit bog, 3800 ft [1190 m], 14.i.1992, N.L. Evenhuis & J.M. Cumming, taken by hand from small pool. *Paratypes:* 54, topotypic, 22.iv.1991 (D.A. Polhemus), 4.viii.1991 (D.A. Polhemus), 20.i.1992 (D.A. Polhemus), 20.ii.1993 (N.L. Evenhuis, D.A. Polhemus) (all in BPBM).

Discussion. This species is a water skater found only on the upper reaches of Halenau stream near the summit of Mt. Kaala. It is restricted to the small quiet pools along the edges of the stream away from the current. It has been observed crossing moss covered soil and rocks to move from one pool to another, but prefers to remain on the water unless disturbed. It feeds on small invertebrates in the water or that fall upon the water surface including carcasses of other *C. charliechaplini* and has even been observed at times attempting to capture other individuals of this species from behind.

Etymology: This species is named in honor of the great silent movie comedian, Charlie Chaplin, because of the curious tendency of this fly to die with its midlegs in a bandy-legged position.

***Campsicnemus halonae* Evenhuis, new species**

Figs. 2–3

Diagnosis. Keys to couplet 12 using the key to species in Tenorio (1969), but is stymied there. It is most similar to the Hawaii Island species, *C. grimshawi* Van Duzee, but is separated from it by the setation on the subbasal projection on TIII (such setation lacking *grimshawi*), the darker lower pleura (yellowish in *grimshawi*), and by the yellowish antennal segments (brown in *grimshawi*). The striking infumate spot on the wing is found elsewhere in Hawaiian species only in *fumpipennis* Parent, which has additional strong infumation along other veins and crossveins. Moreover, *C. halonae* is half the size of *C. fumpipennis* and is a dark-colored species, whereas *C. fumpipennis* is large and yellowish with brownish abdominal markings.

Male (Fig. 3). Body length: 1.68–1.76 mm. Wing length: 1.84–2.0 mm. *Head.* Black, face gray pollinose, subshining in some portions; *oc* and *vr* black, about one-half length of antennal arista; face constricted at middle, almost holoptic, eyes separated below antennae by width of 1–2 ommatidia; palp small, brown; proboscis brown, extending below eye in lateral view; antennal segments yellow; arista subequal to head height.

Thorax. Mesoscutum, scutellum, and pleura dark brown throughout; thoracic setae black: 3 + 1 *dc*; 2 *np*; 2 *ph*; 1 *pa*; 1 *sc*; *ac* absent.

Legs. CI white, smoky brownish black on basal 1/5; CII brown, slightly paler than surrounding pleura; CIII yellowish; F and Ti yellowish except as noted, remainder of legs brownish; FI with small brownish patch of color dorsally in middle; FIII with dark brown band subapically. foreleg without

MSSC; FII with long black seta on apical 1/3, 4–5 smaller black setae apically (MSSC); FIII with single strong black seta subapically; TiII (Fig. 2) with small rounded projection subbasally bearing 4–5 strong black apically curved setae (MSSC), smaller black setae and hairs along entire length, 2 strong black setae near middle and single apical black seta; remainder of mid and hind legs normal, without MSSC.

I—5.5;4.5;2.5/1.7/1.0/0.5/0.5

II—6.2;6.5;3.0/1.8/1.2/0.8/0.5

III—8.2;8.0;2.5/3.0/1.7/1.0/0.7

Wing (Fig. 3) subhyaline to pale smoky; spot of smoky black color on posterior crossvein; clear area just distal to posterior crossvein.

Abdomen. Dark brown with short black hairs dorsally on each tergite, a few longer hairs laterally; tergal interstices white. Hypopygium brown with paler brown cerci, not dissected.

Female. As in male except for lack of MSSC; legs normal, without modifications.

Types. Holotype male (BPBM 15,717) from Hawaiian Islands: **Oahu:** Waianae Mts., Lualualei Naval Magazine, Halona Valley, 450 m, 22.xi.1995, N.L. Evenhuis, yellow pans. *Paratypes:* 10 = ×, same data except, 9.v.1994 (F.G. Howarth), at light; 10, 23.v.1994 (G.M. Nishida); 1 =, 7.xii.1995 (D.J. Preston); 2 =, 3.i.1996 (D.J. Preston & G.M. Nishida), Malaise trap; 4 = ×, 1420 ft [432 m], 18–19.i.1996 (D.J. Preston & G.M. Nishida), yellow pans; 1 =, 1620 ft [493 m], 18–19.i.1996 (D.J. Preston & G.M. Nishida); 15 = ×, Palikea Peak, 3100 ft [945 m], 3.v.1995 (D.A. Polhemus), running on leaves; 8 = ×, Puu Kaua summit, 3100 ft [945 m], 4.v.1995 (D.A. Polhemus), sweeping understory (all in BPBM).

Discussion. This species has been observed running on leaves on low-growing vegetation and on leaf litter on open ground.

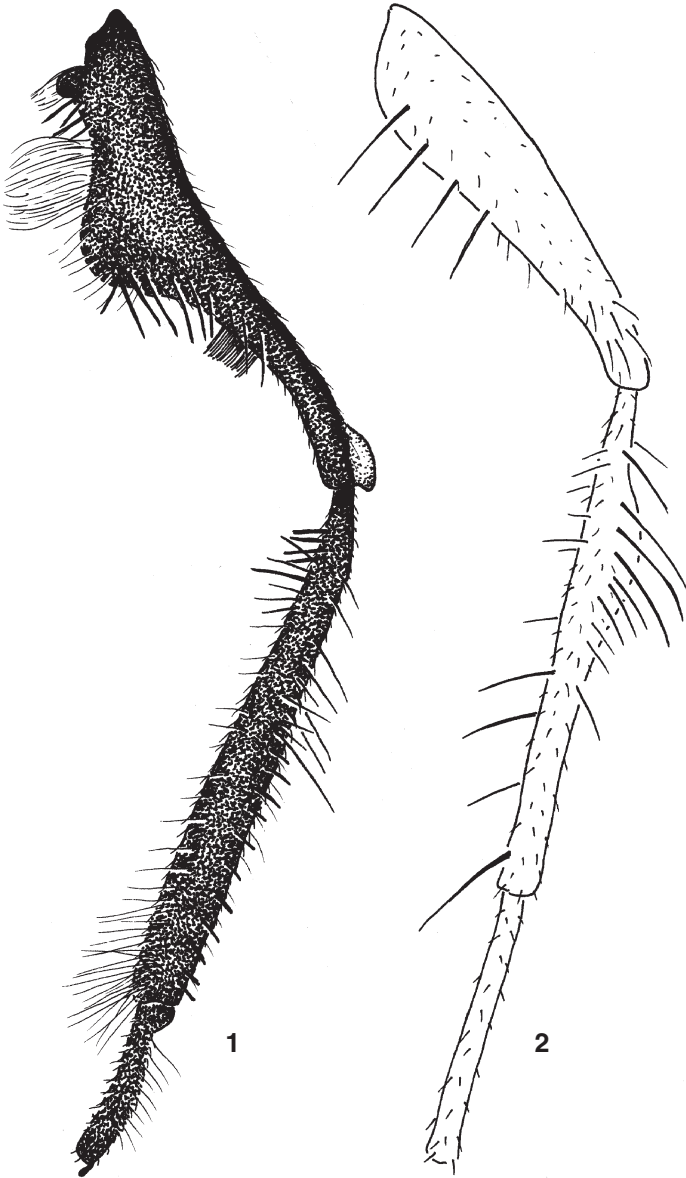
Etymology: This species is named for the Waianae Mts valley to which it is apparently endemic.

Acknowledgments

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Figs. 1-2. *Campsicnemus* male mid femur, tibia, and basitarsus. 1, *C. charliechaplini*, n. sp.; 2, *C. halonae*, n. sp.

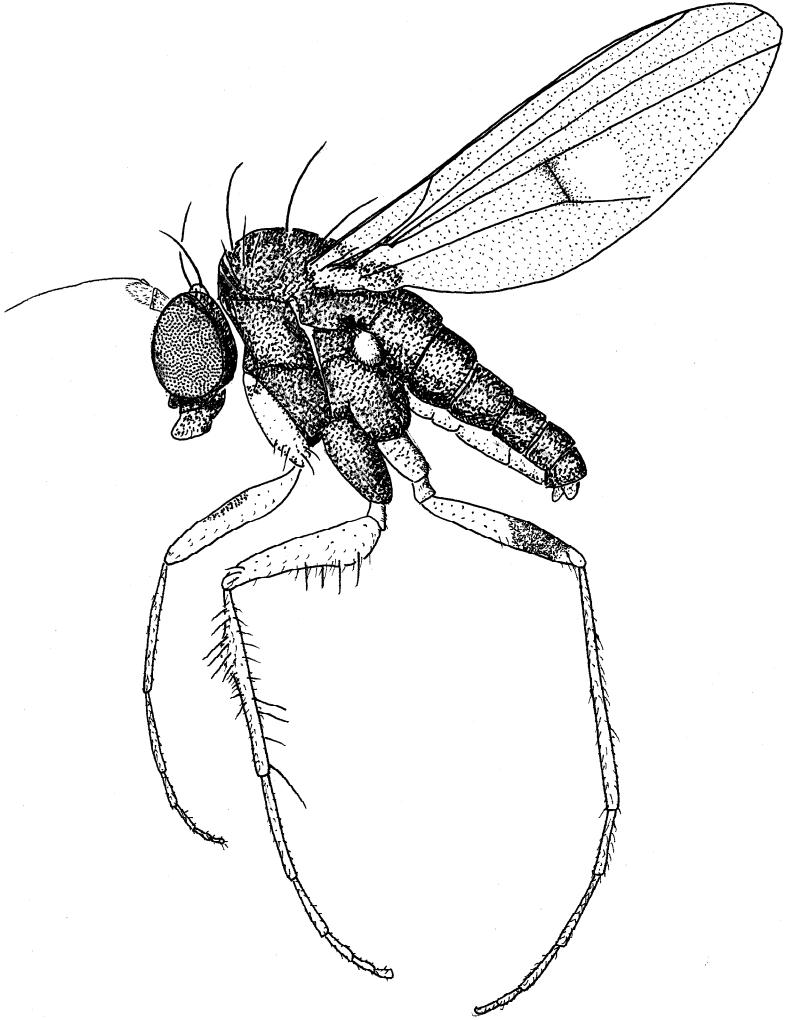


Fig. 3. *Campsicnemus halonae*, n.sp., male habitus.