

TWO NEW SPECIES OF  
CERATOPOGONIDAE (DIPTERA)<sup>1</sup>

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During an investigation of the bionomics and immature stages of the Ceratopogonidae, two new species were encountered. The purpose of this paper is to describe these insects.

**Helea (Isohelea) serrata** n. sp.

Fig. 1

*Description:* Antennae dark brown, pedicel black, vertex black; eyes barely touching. Tergum of thorax shiny black with faint bluish brown pruinescence; pleurae shining black; scutellum black. Femora brownish, all tibia with yellow-white apices; tarsi whitish, claws unequal with small basal barbs. Wings milky-white; M2 broadly interrupted; costal vein light brown; radial cells with slight brownish infuscation; cell R1 longer than cell R2, cell R2 teardrop-shaped. Halteres with bases brownish, knobs white. Abdomen black-brown above with faint bluish pruinescence. Female resembles male in most respects, but has lighter legs. Tibial comb with six equally long spines, each about as long as tibial width at distal tip; five small spines between each two adjacent long spines; these small spines one half the length of the long spines. Male genitalia (Fig. 1) large, basistyles about as broad as long, dististyles very short and slender. Parameres separated at base, fused distally and finally separated at very tip, these tips recurved. Aedeagus

<sup>1</sup> A portion of a thesis submitted in partial fulfillment of the requirements for the Doctor of Philosophy degree at the University of Connecticut in 1955.

broad, spatulate with sclerotized teeth on lateral margins of tip (Fig. 1, B). Dorsal inner processes small but longer than ventral inner processes. Ninth sternite small with a shallow excavation in middle. Apicolateral processes small and blunt.

Length: 1.4 mm.; wing 1.0 mm. x 0.5 mm.; female slightly larger.

*Type Data*: Holotype; male, Storrs, Conn., May 18, 1953 (F. B. Lewis); USNM type No. 62699, deposited in U.S. National Museum. Paratypes; male, Storrs, Conn., June 15, 1953 (F. B. Lewis); two females, Storrs, Conn., June 14, 1954 (F. B. Lewis); deposited in USNM, University of Connecticut, and author's collections.

*Comparative Notes*: A small blackish species having a shiny black thorax and a dull black abdomen with brownish blue pruinescence. The wings are whitish. This species keys out to *pruinosa* in Wirth's (1952)<sup>2</sup> key to the California species. *Serrata* resembles *pruinosa* Wirth closely but differs in the bluish cast, larger size, and unequal claws. The most outstanding difference is between the aedeagi of the two species. The toothed edges of *serrata's* aedeagus is the best distinguishing character as it separated the species from all others in the genus known to the author. The bluish cast will separate either sex from all known New England species.

### **Johannsenomyia smithi** n. sp.

Fig. 2

#### *Description*:

Head black, eyes separated; vertex shining black; antennae brownish, pedicel shining black; flagellar hairs brownish-black. Dorsum of thorax shiny black with a thin covering of short light brown hairs, pleurae shining black. Fore and mid femora light brown with black apices, hind femora light brown on basal fourth, distal three-quarters dark brown. Hind tibia all dark; hind tarsi light with dark apices. Claws equal and unbarbed. Wings hyaline,

<sup>2</sup> Wirth, W. 1952. The Heleidae of California. Univ. Cal. Pub. Ent., 9(2):95-266.

M2 sessile; two distinct radial cells. Abdomen dark brown. Tibial comb with five long equal spines shorter than tibial width at distal tip. Small spines one quarter the length of the long spines. Male genitalia (Fig. 2) with ninth sternite deeply excavated; basistyles long and slender with sharp medially pointing inner processes very large; dististyles small, slender, and sharp-pointed. Ninth tergite blunt and truncated with large lobe-like apicolateral processes each with a small lateral lobe at the base. Parameres fused to distal third, tips separate and knobbed. Aedeagus broad, sclerotized along lateral margins, tip with laterally produced lobes forming a crescent-shaped tip.

Length: 1.7 mm.; wing 1.5 mm. x 1.0 mm. Female unknown.

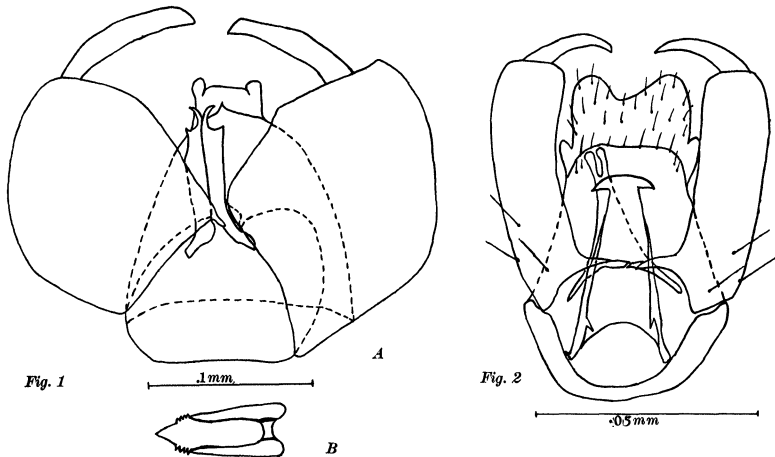


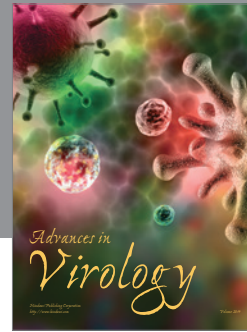
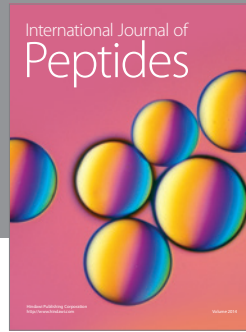
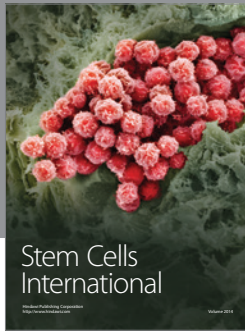
Fig. 1. A. Ventral view of male genitalia of *Helea (Isohelea) serrata* n. sp. B. Aedeagus. Fig. 2. Ventral view of male genitalia of *Johannsenomyia smithi* n. sp.

*Type Data:* Holotype; male, reared from pupa, Oxford, Conn., June 4, 1954 (F. B. Lewis), USNM type No. 62698, deposited in U.S. National Museum, Paratypes; two males, same data as holotype, in University of Connecticut and author's collections.

*Comparative Notes:* A blackish species with shiny black thorax and legs brownish with black knees. The specimens were taken from a small brook-fed bay on a large lake. The water was still and algae-choked. This species resembles *Johannsenomyia syblae* Wirth from California, but differs in the details of the male genitalia. The genitalia easily separate this species from any known New England species. This species is named for Dr. Howard W. Smith in appreciation of his continued advice and help during the author's study.

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THE IDENTITY OF LORDOMYRMA RUGOSA CLARK. — Through the courtesy of Curator Elisabetha Bajári of the Hungarian National Museum, I have been able to examine the type of *Dacryon christae* Forel (1907, Ann. Mus. Nat. Hungar., 5: 16, worker: type loc., Botany Bay, Sydney, New South Wales) and to compare it with nido-types and topotypes of *Lordomyrma rugosa* Clark (1934, Mem. Nat. Mus. Victoria, Melbourne 8: 38, pl. III, figs. 3, 4, worker, female: type loc., Ferntree Gully, Victoria) and with a worker and female from Como, New South Wales (J. Freeland). All of these samples appear to represent a single species. The type is a rather small example, with a relatively slightly narrower head (head L, including clypeus, 0.92 mm., head width without eyes 0.82 mm.), but in other ways agrees perfectly with the *rugosa* types. *Lordomyrma rugosa* must therefore be considered as a NEW SYNONYM of *Dacryon christae*. This species varies appreciably in depth of color, length of propodeal and petiolar teeth, and coarseness of sculpture. At Ferntree Gully, Victoria, where I collected the species, it nested in small colonies (40-50 workers, one queen) under stones in grassy-floored sclerophyll forest of the intermediate moisture type. The adults feign death when disturbed. — W. L. BROWN, JR., Museum of Comparative Zoology, Harvard University.



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