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A NEW SPECIES OF *RHOPALOMYIA* (DIPTERA: CECIDOMYIIDAE)
FROM *ARTEMISIA LUDOVICIANA* NUTTALL (COMPOSITAE) IN UTAH

Raymond J. Gagné¹

ABSTRACT.—*Rhopalomyia* (*Diarthronomyia*) *subhumilis* Gagné, a new species of *Artemisia ludoviciana* Nuttall (Compositae), is described and its taxonomically important structural features illustrated. The new species is compared to its most similar North American congeners.

This paper provides a name for a species of *Rhopalomyia* whose biology is treated in a companion paper by Ranasinghe (1977). As pointed out in Jones, Gagné, and Barr (in press), *Rhopalomyia* species are so numerous and the structural differences so few and so slight that the species do not lend themselves well to description without biological data. That condition is met for this new species by the information in Ranasinghe (1977).

Rhopalomyia subhumilis n. sp.

MALE.—Wing length, 2.2-2.5 mm. Eyes separated at vertex by less than diameter of 1 eye facet. Antenna with 14-16 flagellomeres; neck flagellomere III, 0.50-0.86 times length node; neck V, 0.60-0.88 times length node; neck VII, 0.64-0.90 times length node. Fused labellae (Fig. 6) with ventral notch in frontal view, 0-4 setae per side. Palpus (Fig. 6) 2-segmented: segment I as wide as long, with 1-5 setae; segment II as long as I but tapered apically, with 1-3 setae. Frontoclypeus with 6-9 setae per side. Anepisternum with 4-8 setae. Claws toothed (Fig. 7). Empodia as long as claws. Abdomen: tergum III with 8-22 setae per side, tergum V with 13-26, VII with 13-20 and occasional scales, and VIII with 8-20, the two groups on VII united mesally or separated by short distance; pleura with scales, 0 setae; sterna II-VII each with basal pair of trichoid sensilla, sternum VII with basal setal group continuous across sclerite. Terminalia (Figs. 3-5): basimere stout with

short ventral lobe; telomere short-ovoid, the tooth wide; sternum X concave apically.

FEMALE.—Wing length, 1.8-1.9 mm. Antenna with 15-16 flagellomeres; flagellomere necks not defined or very short to VI, undefined beyond VI. Other head and thoracic characters as in male. Abdomen: tergum III with 12-14 setae per side; V with 13-18, and VII with 5-12, the two groups on VII barely divided; pleura and sterna as in male; tergum VII 0.23-0.26 times length distal half of ovipositor.

PUPA.—Head (Figs. 1-2): antennal horns strongly developed, acutely pointed; frons with two prominent, pointed protuberances. Pronotum convex, not prominent, the two setae long.

HOLOTYPE, male, ex subterranean stem galls on *Artemisia ludoviciana* Nutt., Philadelphia Flat, 12 mi. E Ephraim, Sanpete Co., Utah, 9-VII-1975, R. B. Farnsworth, USNM Type No. 66621. Paratypes: 14 males, 23 females, same data as for holotype; 2 males, 6 females, same data as holotype, except collected 10-VII-1976, S. K. Ranasinghe. Other material: pupal exuvia and galls associated with above collections. Representative collections of males, females, and pupal exuvia in Life Science Museum, Brigham Young University and California Academy of Sciences. Remainder of material in USNM.

REMARKS.—*Rhopalomyia subhumilis* belongs in the subgenus *Diarthronomyia* as do all other *Rhopalomyia* that occur on *Artemisia* and *Chrysanthemum*. The dis-

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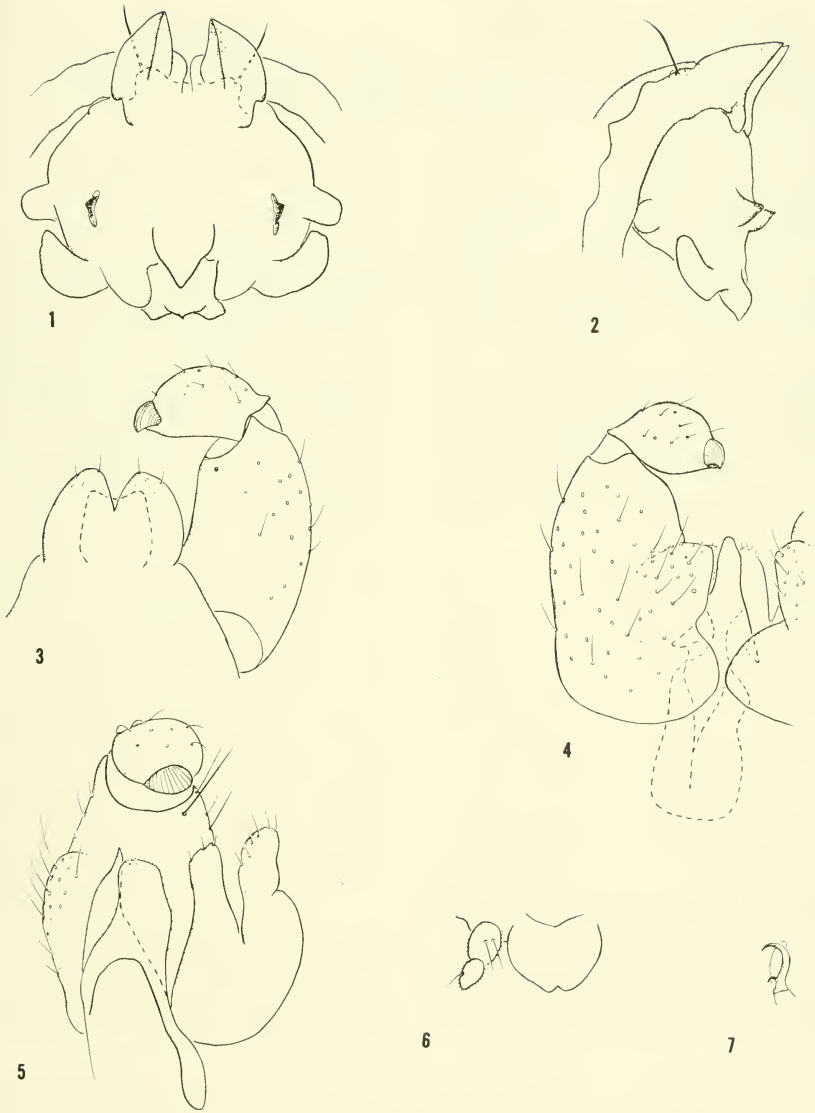


Figure Legends

Figs. 1-7, taxonomic characters of *Rhopalomyia subhumilis* Gagné: 1-2, pupal head; 3, male terminalia (dorsal); 4, same (ventral); 5, same (mesal); 6, labella and palpus; 7, claw and empodium.

tinguishing structural feature uniting these species is the lack of all but caudal setae on the abdominal terga. The new species differs from all other Nearctic species of *Diarthronomyia* by the following combination of characters: palpus two-segmented, claws toothed, male basimere with ventral lobe, male telomere short, with wide apical tooth, pupal head with frontal protuberances and strongly developed antennal horns. *Rhopalomyia subhumilis* will not run past couplet 5 in the key to 23 species of *Rhopalomyia* on *Artemisia tridentata* (Nuttall) in Jones, Gagné, and Barr (in press). The pupal head will readily distinguish this species from the other keyed *Rhopalomyia* having 2-segmented palpi and toothed claws. Of the 9 other Nearctic *Rhopalomyia* (*Diarthronomyia*), only *R. gnaphalodis* Felt from a woolly leaf gall of "*Artemisia gnaphaloides*" and *R. chrysan-*

themis from a conical gall on green tissues of *Chrysanthemum* spp. have two-segmented palpi and toothed claws, but the pupal antennal horns are much more attenuate in both species, and the male telomere of *R. chrysanthemum* is much longer than in *R. subhumilis*. The name "subhumilis" means "subterranean".

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