

A NEW *ERETMOCERUS* (HYMENOPTERA: APHELINIDAE)
SPECIES REARED FROM *DIALEURODES KIRKALDYI*
(HOMOPTERA: ALEYRODIDAE)

GREGORY A. EVANS AND FRED D. BENNETT¹
Entomology and Nematology Department, University of Florida
Gainesville, Florida 32611-0620

¹Current address: Crofton, Baldhoon Road, Laxey IM4 7NA, Isle of Man

ABSTRACT

A new species of the genus *Eretmocerus*, reared from *Dialeurodes kirkaldyi* (Kotinsky), is described and illustrated.

Key Words: *Eretmocerus*, whitefly, jasmine, biological control, parasitoid, *Dialeurodes*, ornamentals

RESUMEN

Se describe e ilustra una nueva especie del género *Eretmocerus*, criado de *Dialeurodes kirkaldyi* (Kotinsky).

Dialeurodes kirkaldyi (Kotinsky) was described from Hawaii by Kotinsky (1907) and was found in North America at Key West, Florida, in 1972; it has also been reported from Africa, Asia, Central and South America, and the West Indies (Nguyen & Hamon 1989). *Dialeurodes kirkaldyi* is found on several species of host plants in Florida, including citrus, but high populations of this whitefly are only known to occur on jasmine species. Only one parasitoid species, *Encarsia protransvena* Viggiani, has been reported from this host (Nguyen et al. 1993). *Eretmocerus rosei* Evans and Bennett is the first record of an *Eretmocerus* species that has been reared from this whitefly species, and only the second record of an *Eretmocerus* species that attacks this whitefly genus. Denmark (1964) reported on the introduction of an undetermined species of the genus *Eretmocerus* into Florida as a natural enemy of the citrus whitefly, *Dialeurodes citri* (Ashmead).

Eretmocerus rosei Evans and Bennett, **New Species**. (Figs. 1-6)

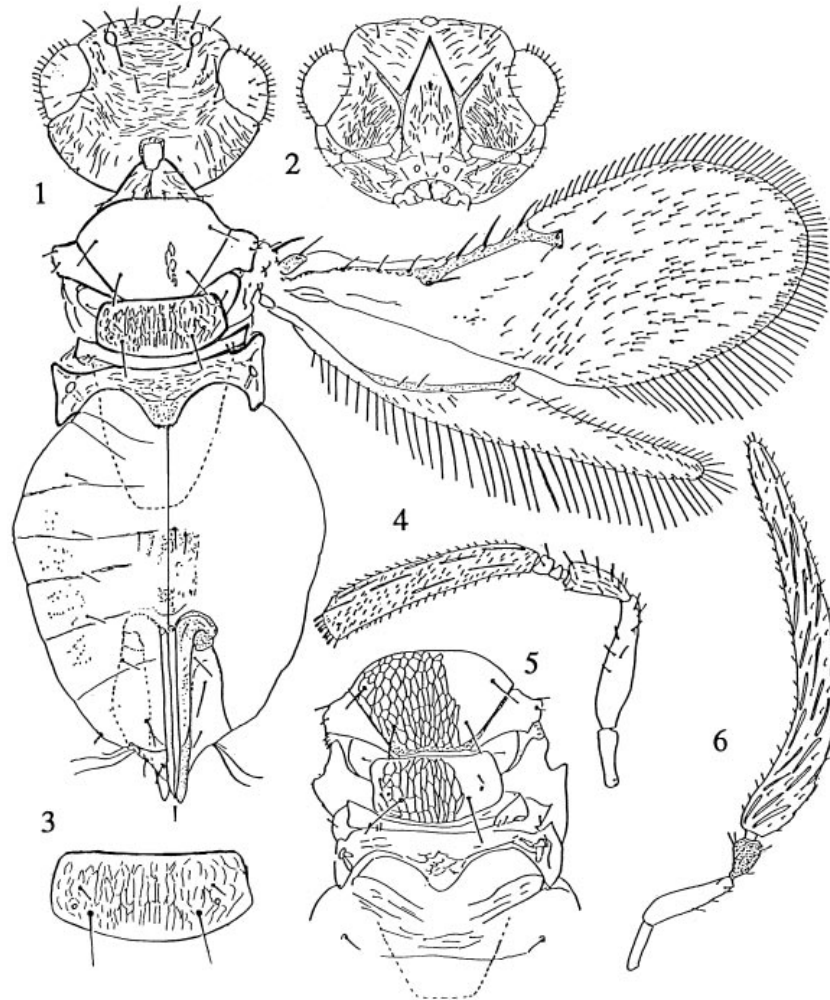
DIAGNOSIS: Female with 2 pairs of mesoscutal setae, anterior scutellar setae (Sc1) very short, 0.2-0.3 times as long as posterior scutellar setae (Sc2), club moderately elongate, about 5.5 times longer than wide, 3.8 times as long as the pedicel, and 1.1 times longer than the tibia of the midleg.

FEMALE (Figs. 1-4): Body length: 0.7-1.0 mm (mean length of 10 specimens = 0.8 mm). Color: pale yellow, eyes reddish, legs pale, wings hyaline. **Head:** eyes (Figs. 1, 2) with sparse, long setae; mandibles tridentate, labial and maxillary palpi each 1-segmented; malar sulcus wide, extending from base of clypeus becoming narrower towards eye, branching posteriorly under toruli; facial sutures extending diagonally from midpoint along lateral margins of frons towards apex of eye; frons with 10-12 setae at base; vertex with 2 pairs of setae between compound eyes, and 3-5 setae along

each eye margin; ocellar triangle obtuse with 3 pairs of setae. Antenna (Fig. 4) composed of radicle, scape, pedicel, 2 funicular segments and an unsegmented club, with the following length to width ratios: 4.6:4.5:2.2:0.7:1.0:5.5; relative length of each antennal segment to length of pedicel: 1.1:2.1:1.0:0.2:0.3:3.8; first funicle right-triangular, second funicle subquadrate, club 1.1 times as long as tibia II and with approximately 17 elongate longitudinal sensilla and 13 papillae. **Mesosoma** (Fig. 1): pronotum with 4-5 pairs of setae; mesoscutum trapezoidal, 1.5 times as wide anteriorly as long with very fine, longitudinally elongate sculpture and 2 pairs of long and stout setae, subequal in length; scutellum 2.5 times as wide as long and 0.5 times as long as mesoscutum, sculpture similar to that of mesoscutum, 2 pairs of setae, anterior pair (Sc1) very short and slender, about 0.2-0.3 times as long as posterior pair (Sc2); each parapsis with 2 stout setae near the antero-distal margin; axillae short, each with 1 seta; propodeum imbricate, greatest length 0.9 times as long as scutellum, central lobe extends more than halfway over the first metasomal tergite; endophragma extends to approximately the center of fourth metasomal tergite. Midleg formula (relative length of femur:tibia:tarsus) 1.0:1.2:1.1; midleg tarsal formula (relative length of tarsomeres 1:2:3:4) 1.0:0.6:0.5:0.5; midtibial spur 0.5 times as long as basitarsus. Forewing (Fig. 1) almond-shaped, 2.5 times as long as greatest width; submarginal vein 1.3 times as long as marginal vein with 3 equally-spaced setae, parastigmal vein with long stout seta at base; marginal vein 3 times longer than wide with 3 large stout setae along anterior margin and 1 long seta at base; stigmal vein 0.4 times as long as marginal vein, costal cell with 2-3 setae at distal margin, basal group setae lacking, linea calva broad with 6-7 elongate setae along its inner margin and 6-7 tubercles at base; disc setae long, slender, and somewhat sparse; alary fringe 0.35 times as long as greatest fore wing width; hind wing 7.5 times as long as wide, longest alary fringe 1.3 times as long as width of disc. **Metasoma** (Fig. 1): tergites smooth except for fine stippling along lateral margins of tergites IV-VIII; tergites III-VII each with 1 pair of slender setae, tergite VIII with 1 pair of lateral setae and 2 pairs of medial setae, syntergum with 3 pairs of setae; cerci located laterally on anterior margin of syntergum, with 2 long and 1 short setae. Venter smooth except for very fine reticulate central area between ovipositor and 4-5 slender medial setae. Ovipositor short, arising at anterior base of tergite VII, 1.1 times as long as tibia II, outer plate with 4-5 pairs of setae; third valvulae 0.3 times as long as ovipositor and 0.5 times as long as second valvulae.

MALE (Figs. 5, 6). Length: 0.7-0.8 mm (mean of 6 specimens=0.8 mm). Similar to female except for the following: thorax darker with stronger sculpturing (Fig. 5), antenna lacking funicular segments, pedicel dark brown, club infuscate, more elongate than that of female and with numerous longitudinal sensilla, costal cell and hind tarsal segments infuscate. Antennae (Fig. 6) composed of radicle, scape, pedicel, and unsegmented club with the following length to width ratios: 5.0:4.5:1.4:12.6; relative length of each antennal segment to length of pedicel: 1.5:2.6:1.0:11.1.

MATERIAL EXAMINED. Holotype female, **USA**, Florida, West Palm Beach, 21 VII 1991, reared from *Dialeurodes kirkaldyi* on *Jasminum* sp. by F.D. Bennett in Canada balsam (USNM). Allotype male, same data as holotype (USNM), in Canada balsam. Paratypes, 99 females (F) and 5 males (M), all reared by F. D. Bennett from *Dialeurodes kirkaldyi* on *Jasminum* sp. on the following dates and locations in Florida: 23F and 1M, Pompano Beach, 19 X 1992; 33F and 4M, West Palm Beach 21 VII 1991; 7F, Davie 12 V 1990; 2F, Gainesville 1992; and 36F, Snapper Creek, 17 VI 1992. Specimens deposited as follows: 1F,1M (Museum of Natural History, London, UK); 1F,1M (Florida State Collection of Arthropods, Gainesville, Florida); 1F,1M (Gregory Evans personal collection), remainder of specimens deposited in USNM.



Figs. 1-6. *Eretmocerus rosei*: (1-4) female 1) habitus with metasoma divided left side dorsum, right side venter 2) head, frontal view 3) scutellum 4) antenna; (5-6) male 5) thorax dorsum 6) antenna.

ETYMOLOGY: This species is named for Mike Rose in recognition and appreciation for his work on the taxonomy of the genus *Eretmocerus*.

COMMENTS

Eretmocerus rosei is similar to *Eretmocerus debachi* Rose & Rosen and *Eretmocerus diversiciliatus* Silvestri in the number of mesoscutal setae, the shape and size of the antennal segments and the shape and ciliation of the fore wing. *E. rosei*,

can be distinguished from these species by its very short pair of anterior scutellar setae. The sex ratio of *E. rosei* appears to be highly female biased; 100 female specimens were reared from this host versus 6 males.

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