

## A NEW SPECIES OF *SIPHONA* (DIPTERA: TACHINIDAE) FROM AUSTRALIA

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*Abstract.* *Siphona kairiensis*, n. sp. (type-locality, Australia: Queensland: Tinaroo Lake, near Kairi), is described and figured. It is the first *Siphona* species recorded from Australia. Its known distribution east of the Great Dividing Range in Queensland suggests dispersal from New Guinea during the Pliocene or Pleistocene. Presumably a *S. kairiensis* ancestor dispersed from mainland SE Asia through the island archipelago to New Guinea and then to Australia. The route through the islands to New Guinea cannot be hypothesized until the phylogenetic history of *S. kairiensis* is better known. *S. kairiensis* does not appear closely related to the island species *S. gedeani* (Java) or *S. nobilis* (Philippines).

Members of the widespread genus *Siphona* Meigen are small, mostly secretive tachinids, and are rare in most museum collections. As recently as 1973 the tachinid fauna of Australia was comprehensively reviewed, yet no *Siphona* specimens were recognized at that time (Crosskey 1973: 80). Therefore, the new species of *Siphona* described below represents the first record for this genus in Australia. With this record, *Siphona* species are now known from all 6 faunal regions of the world.

Adults of *Siphona* are readily recognized by the following combination of character states:<sup>2</sup> small size (3–6 mm), anal vein reaching wing margin at least as fold, and proboscis elongate and elbowed, with prementum and labella each longer than eye height.<sup>3</sup> Elongation of the proboscis distinguishes *Siphona* specimens from all other known small Australian tachinids.

### MATERIALS AND METHODS

The description below is based on adult specimens borrowed from the Canadian National Collection, Ottawa (CNC) and the California Academy of Sciences, San Francisco (CAS).

Terms follow usage in the recent *Manual of Nearctic Diptera 1* (McAlpine 1981). A generic description of *Siphona* and explanation of measurements and descriptive format are given elsewhere (O'Hara 1982).

### *Siphona kairiensis* O'Hara, new species

Fig. 1–5

Length: 3.5–4.5 mm.

♂. *Head* (Fig. 1). Coloration: frontal vitta yellowish brown to brown, darkest posteriorly; gena and parafacial white to light yellow; fronto-orbital plate light yellow to light brown,

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2. For detailed description of *Siphona* see Mesnil (1964) or O'Hara (1982).

3. A very few non-Australian tachinids also share this diagnostic combination.

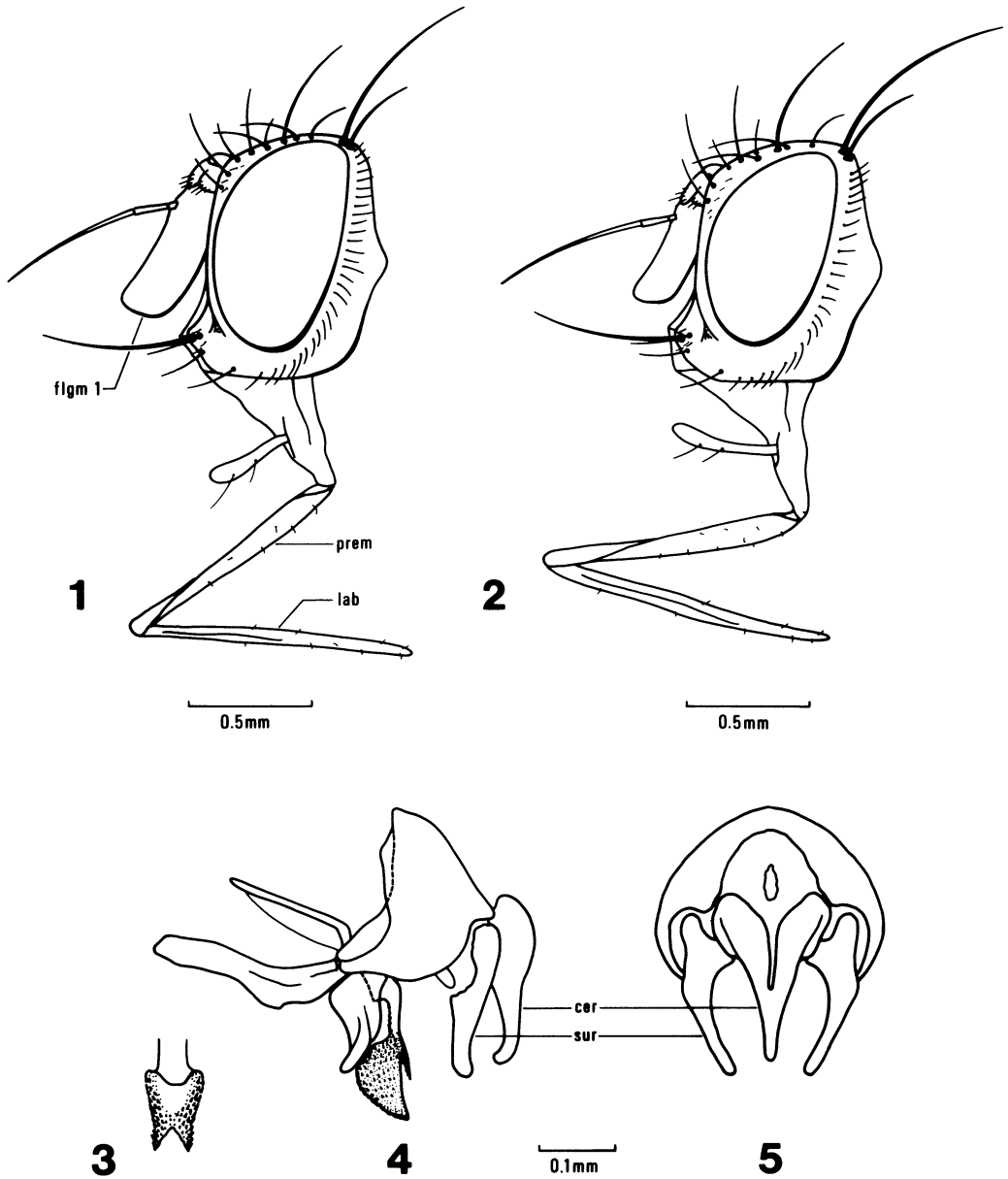


FIG. 1-5. *Siphona kairiensis*: 1-2, head in profile (postcranial vestiture omitted): 1, ♂; 2, ♀; 3-5, ♂ genitalia (vestiture omitted): 3, anterior view of distiphallus; 4, lateral view of genitalia; 5, posterior view of genitalia. cer = cerci; flgm 1 = flagellomere 1; lab = labella; prem = prementum; sur = surstylus.

darkest on orbital plate; scape and pedicel yellow; flagellomere 1 fuscous; palpus yellow; proboscis testaceous to reddish brown. Eye: large for genus, 0.88 head height in lateral aspect, broad, widest at center, evenly rounded along anterior margin. Macrotrichia: average for genus (see O'Hara 1982). Antenna: flagellomere 1 0.56 head height, slender, rounded apically along ventral margin; arista micropubescent, aristonere 2  $4\times$  longer than wide; aristonere 3 long, evenly tapered to tip. Mouthparts: proboscis (prementum + labella) length average for genus, 2.14 head height. *Thorax*. Coloration: dorsum dark in ground color, surface color gray to blue-gray and finely mixed with brown;<sup>4</sup> tegula light yellowish brown in surface color; no dorsal vittae; wing yellowish hyaline; coxa, femur and tibia yellow, tarsi reddish brown. Macrotrichia: 3 well-developed postsutural dorsocentral setae, 1 shorter seta between 1 and 2;  $R_{4+5}$  setulose dorsally between bifurcation of  $R_{2+3}$  and  $R_{4+5}$  and crossvein r-m, other veins bare; other macrotrichia average for genus. Acropod: claws and pulvilli small. *Abdomen*. Coloration: predominantly light colored, with narrow, indistinct dark vitta dorsomedially on  $T_{1+2}$  and  $T_3$ ;  $T_{1+2}$  and  $T_3$  laterally and  $T_4$  anterolaterally yellow in ground color and yellow to tawny in surface color;  $T_5$  and remainder of  $T_4$  dark in ground color and brownish gray in surface color, darker around macrotrichial insertions. Macrotrichia: no median marginal setae on  $T_{1+2}$ , 1 strong pair on  $T_3$ ; 1 pair strong lateral marginal setae on  $T_3$ , a weaker pair on  $T_{1+2}$ ; marginal row of strong setae on  $T_4$  and  $T_5$ . Genitalia (Fig. 3–5): apex of surstylus extended slightly beyond apex of cerci; distiphallus bent sharply downward from angle of basiphallus, anteroventral margin dentate (i.e., without large hooks), in profile apex sloped sharply posteroventrally.

♀. As described for ♂ except as follows. *Head* (Fig. 2). Eye: slightly smaller than in ♂, 0.80 head height in both specimens. Antenna: flagellomere 1 shorter than in ♂, 0.45 head height in both specimens. Mouthparts: proboscis length 2.23 (Tinaroo specimen) and 2.32 (Brisbane specimen) head height. *Thorax*. Macrotrichia: as described for ♂ except for 1 or 2 setulae on apical bend of  $R_1$  on Tinaroo specimen. *Abdomen*. Coloration: darker than ♂, not vittate; yellow ground color restricted to lateral surfaces of  $T_{1+2}$ ; rest of abdomen dark in ground color, brownish gray (Tinaroo specimen) or bluish gray (Brisbane specimen) in surface color and darker around macrotrichial insertions.

Holotype ♂ and allotype ♀, AUSTRALIA: Queensland: Tinaroo Lake, nr Kairi, 700 m, 8.XI.1962 (E.S. Ross & D.Q. Cavagnaro) (CAS). One ♀ paratype, AUSTRALIA: Queensland: Brisbane, 21.VI.1965 (G.B. Monteith) (CNC). Genitalia of holotype in microvial on pin below specimen.

*Derivation of specific epithet.* This species is named after Kairi, a town near the type-locality.

*Geographical distribution.* This species is known from 2 widely separated localities east of the Great Dividing Range in Queensland, Australia: Tinaroo Lake (17°02'S, 145°28'E) and Brisbane (27°28'S, 153°01'E).

*Host.* Unknown.

*Discussion.* Though *Siphona* species are distinctly autapotypic siphonines in their possession of a long geniculate proboscis, they are interspecifically conservative in most characteristics. Among the best features for identification are proboscis length, male eye height, length of male flagellomere 1 and male genitalia. (The eye and

4. Ground color is the hue of sclerites, surface color is the "hue or hues perceived as a result of light reflected from pruinosity as seen against ground color" (O'Hara 1982).

flagellomere 1 of females are smaller than in males and hence are less interspecifically different.) *Siphona kairiensis*, with its large eye and average length proboscis and flagellomere 1, is a typical member of the genus, without exceptional features.

The general pattern of *Siphona* species diversity is one of decrease outwards from Africa. With respect to the Orient, only 3 species presently assigned to *Siphona* are recorded from the region (O'Hara 1982). Though undescribed species exist there (Shima, pers. commun.), diversity is likely less than in the Palearctic or Afrotropical regions, suggesting that colonization of the former has been the most recent. With only 1 known *Siphona* species in Australia, it is likely that that continent has only been accessible to members of the genus for a relatively short period of time. This, along with the conservative features of *S. kairiensis*, suggests that the species has not had a long history in Australia.

*Siphona kairiensis* is clearly different from the *Siphona* species described from the island archipelago between mainland SE Asia and Australia: *S. gedeana* Wulp (Java) and *S. nobilis* (Mesnil) (Philippines).

Though the type of *S. gedeana* is lost, the specimen is believed to be conspecific with (and the valid name for) *S. nigripalpis* (de Meijere), also from Java (Crosskey 1976: 214). From the description, *S. nigripalpis* is much darker than *S. kairiensis*. The description is insufficient for comparison of other diagnostic characteristics.

Mesnil (1953) described *S. nobilis* as having a long proboscis (labella 1.3 head height); a feature shared by species of the *S. tropica* group (sensu O'Hara 1982) and some others, but not possessed by *S. kairiensis*. *S. kairiensis* is evidently not closely related to this species.

I have examined a new species of *Siphona* from Mindanao (Philippines), which will soon be described by H. Shima.<sup>5</sup> It is also unlike *S. kairiensis*, probably belonging to the *S. tropica* group on the basis of its very long proboscis, large male eye and flagellomere 1, and characteristics of the distiphallus.

Crosskey (1973: 80) records a *Siphona* species from New Guinea, but it is undescribed and its features are unreported.

New Guinea and Australia were probably contiguous during most of the Pliocene (Raven & Axelrod 1972) and during the glacial periods of the Pleistocene, when sea levels were depressed (Gentry & Sutcliffe 1981), so faunal exchange between these areas would have been facilitated at such times. A dispersal route for *S. kairiensis* (or ancestor) through New Guinea, perhaps during the Pliocene or Pleistocene, is consistent with its known distribution east of the Great Dividing Range in Queensland.

A dispersal route from mainland SE Asia (the presumed source for the ancestor of *S. kairiensis*) to New Guinea cannot be hypothesized at this time, because closely related species on the intervening islands have yet to be recognized.

The *Siphona* faunas of the Oriental and Australasian regions are incompletely known. Until this situation improves, phylogenetic and zoogeographic analyses of the known

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species will be limited to general statements. It is hoped that a pattern of dispersal from the Oriental Region to the Australasian Region will emerge as systematic studies on *Siphona* species in these regions progress.

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#### ADDENDUM

After this paper was reviewed for publication, 3 males and 7 females of *Siphona kairiensis* were received from Mr Bryan Cantrell of the Department of Primary Industries, Indooroopilly, Queensland. One female was collected from Rockhampton, Queensland, all others from Brisbane. These specimens are not included in the type series.