

An Illustrated key to Alfalfa Leafcutter Bees *Eutricharaea*

(Hymenoptera: Megachilidae)

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The distribution of leafcutter bees *Megachile*, subgenus *Eutricharaea*, formerly included the continents of the Old World, but recently several species have become established in the continental United States (Hurd, 1954; Parker et al., 1976). The species in North America are associated with leguminous plants, especially alfalfa. One, *M. pacifica* (Panzer), is used commonly for alfalfa pollination; another, *M. concinna* Smith, is used for alfalfa pollination but mostly inadvertently by way of trapping populations of wild leafcutter bees in southwestern states and then transporting them to seed-growing regions in the northwest. Populations of *concinna* in California are frequently confused with *pacifica* (one sample of supposed *pacifica* sent to me by a California leafcutter bee dealer was all *concinna*).

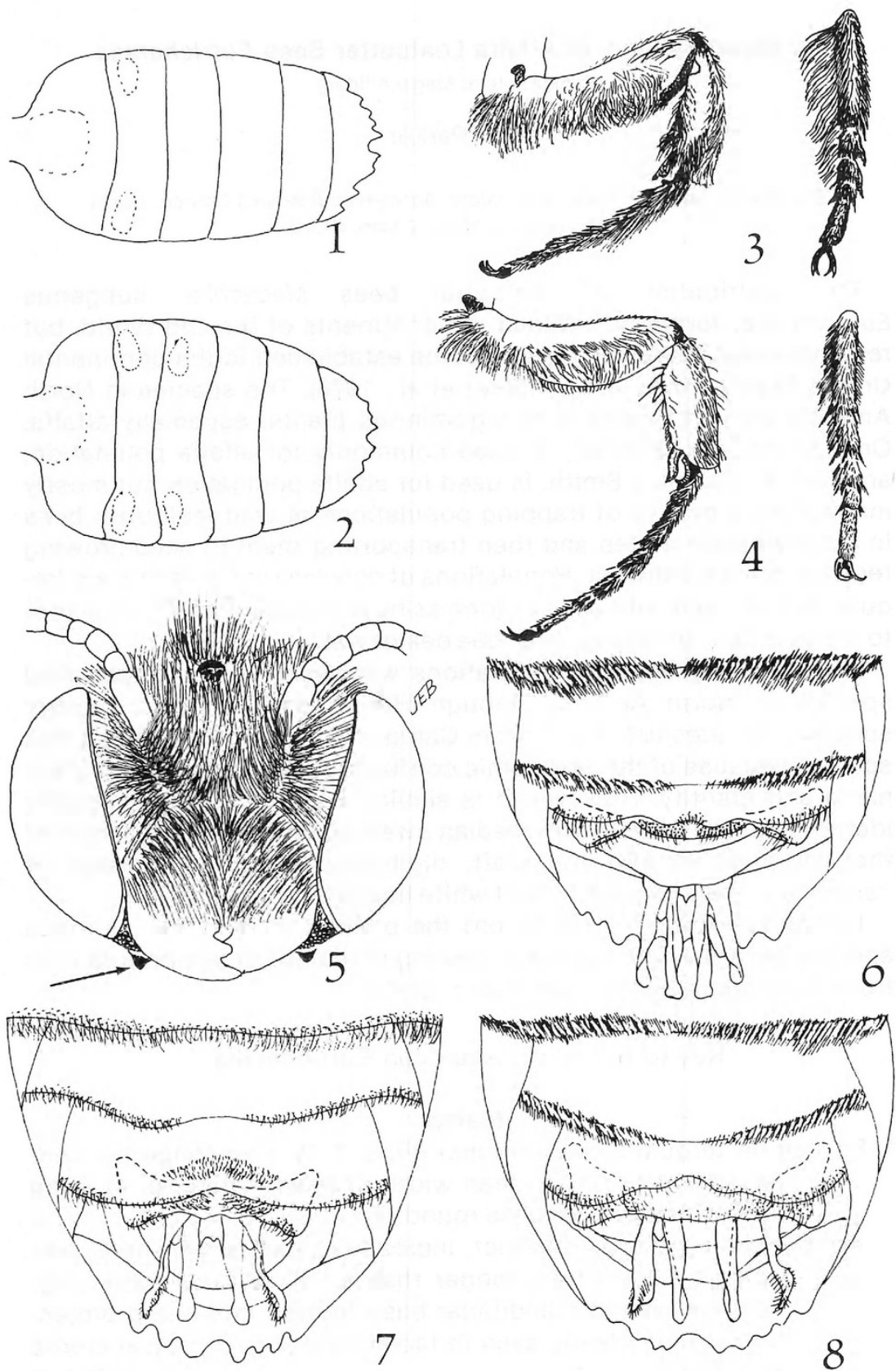
The following key and illustrations will separate the established species in North America, though Hurd (1954) reported another species, "*M. argentata* Fab." from California. I have not included this species because of the taxonomic confusion surrounding the correct name and identity. However, it is similar to *concinna* and is readily identified in the male by the median swelling on the apical margin of the 4th sternum and the cleft, digit-like paramere. Females of "*argentata*" have two patches of white hair on the last sternum.

I have not attempted to record the present distribution of these species because of the constant mixing of leafcutter bee populations from many areas via the "bee-board" traffic.

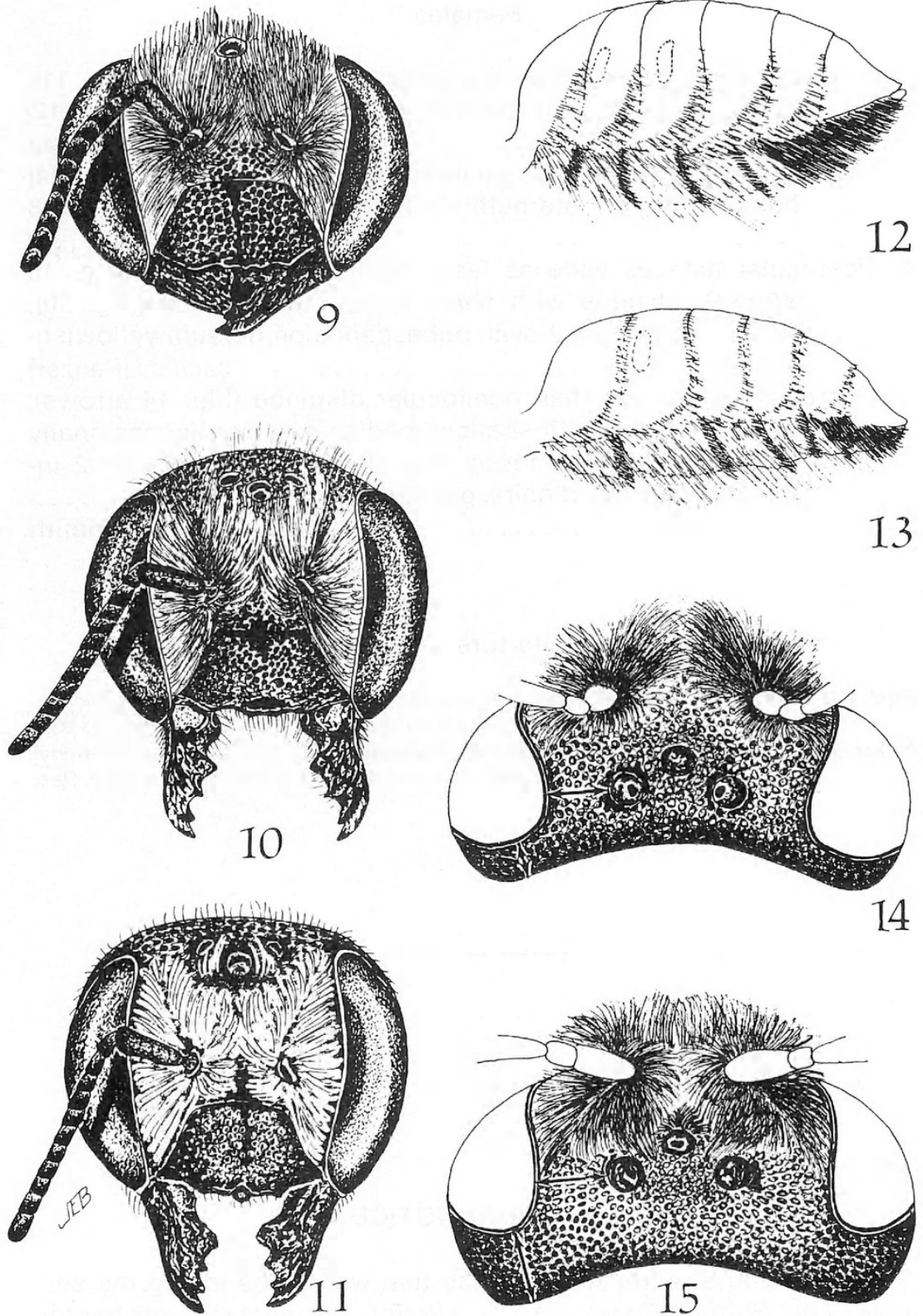
Key to the North American *Eutricharaea*

Males

1. Foveae on tergum 2 oval, distinct (Figs. 1, 2). Hair fringe on front tarsi short not more than width of basitarsus (Fig. 4), gena behind mandibular base round 2
- Foveae on tergum 2 indistinct, indicated by short hair only; hair fringe on front tarsi longer than width of basitarsus (Fig. 3); gena behind mandibular base formed into sharp projection, points clearly seen in facial view (Fig. 5); apical sterna as in Fig. 6 *concinna* Smith
2. Foveae present on terga 2 and 3 (Fig. 2); apical sterna as in Fig. 8 *apicalis* Spinola
- Foveae absent on tergum 3 (Fig. 1); apical sterna as in Fig. 7 *pacifica* (Panzer)



Figs. 1-2. Dorsal view of abdomens of male, 1-*pacifica*, 2-*apicalis*. Figs. 3-4. Front leg of male showing hair pattern on tarsi, 3-*concinna*, 4-*apicalis*. Fig. 5. Front view of head of male *concinna*, arrow indicates swelling on gena. Figs. 6-8. Apical sterna of males, 6-*concinna*, 7-*pacifica*, 8-*apicalis*.



Figs. 9-11. Facial view of female heads, 9-*concinna*, 10-*pacifica*, 11-*apicalis*. Figs. 12-13. Lateral view of abdomen of females, 12-*apicalis*, 13-*pacifica*. Figs. 14-15. Dorsal view of female head, 14-*concinna*, 15-*pacifica*. Arrows indicate differences in shape of heads.

Females

- 1. Clypeal margin with median triangular-shaped projection (Fig. 11); scopal hairs black on sterna 5, 6; foveae on terga 2, 3 (Fig. 12) *apicalis* Spinola
Clypeal margin truncate or excised medially (Figs. 9, 10); scopal hairs white on sternum 5; foveae absent on tergum 3 2
- 2. Postocular area as wide as least ocellocular distance (Fig. 15 arrows); clypeus with short shiny median lobe (Fig. 10); foveae on tergum 2 oval, pubescence on dorsum yellowish-white *pacifica* (Panzer)
Postocular area less than ocellocular distance (Fig. 14 arrows); clypeal margin with shallow median excision (occasionally with small median tooth (Fig. 9); foveae on tergum 2 indistinct, with short hairs; pubescence white *concinna* Smith

Literature Cited

Hurd, P.D. 1954. Distributional notes on *Eutricharaea*, a Palearctic subgenus of *Megachile*, which has become established in the United States. Entomol. News 65:93-95.

Parker, F.D., P.F. Torchio, W.P. Nye, and M. Pedersen. 1976. Utilization of additional species and populations of leafcutter bees for alfalfa pollination. J. Apic. Res. 15:89-92.

EDITORIAL NOTICE

We the editors regret to announce that we will be losing the services of our Editorial Assistant, Chris Walby. We want to thank her for all her help, and wish her well in her new position.



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