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DIADASIA PATTON; A GENUS OF BEES.

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The genus Diadasia was first described by Patton in the Bulletin of the United States Geological Survey (vol. 5, p. 475). The type is the Melissodes enavata of Cresson, which, as Patton showed, is nearer to Anthophora than to Melissodes. The genus occurs in our southwestern States, and is, undoubtedly, of neotropical derivation. Ashmead has recently placed it as a synonym of the South American Ancyloscelis Latreille, but it appears to me to be sufficiently distinct.

Our species of Diadasia have not hitherto been tabulated, and as I have now seen all the species but one, I offer tables for their identification. The species of Cresson are in the collection at the Philadelphia Academy; I have been permitted to borrow cotypes from that institution, through Mr. Viereck, and this has enabled me to clear up several doubtful points. Entechnia toluca (Melissodes toluca Cresson) and Dasiapis ochracea Ckll., are included in the table, as the first has for some years stood in our lists as a Diadasia, while the latter is often mistaken for a species of that genus.

**Females.**

| Hair of head and thorax above short and dense, orange fulvous; abdomen with four clean cut bands of fulvous tomentum on a black ground; outer side of basal joint of hind tarsi with very long, strongly plumose, dark chocolate-colored hairs; inner side of this joint with shining dark ferruginous hair; tegulae red; flagellum all dark; front rough with very close punctures | sumichrasti (Cresson). | Hair of thorax not thus colored; or if fulvous, abdomen not thus banded | 1.
| Scopa on outside of hind legs dark gray or blackish (in afflida paler on basal part of tibiae.) | 2.
| Scopa on outside of hind legs white, or not gray or blackish | 4.
| 2. Very small; less than 8 mm. long; abdomen with narrow bands of tomentum on apical margins of segments; mesothorax and scutellum |
minutely, extremely densely punctate all over, therefore rough and not shining 

Entechnia toluca (Cresson).

Larger; at least over 8 mm. long; mesothorax well punctured but shining

3. Large and stout; about 12 mm. long, or more 

D. bituberculata (Cresson).

Smaller; about 10 mm. long, or less 

afflicta (Cresson).

4. Very large species, about 15 mm. long 

megamorpha Cockerell.

Large stout species, about 13 mm. long; hair of thorax above ochraceous or fulvous, with the disc bare 

5. Smaller species, less than 12 mm. long .

6. Hind spur of hind tibia straight or practically so; clypeus more closely punctured, the large punctures stronger 

enavata (Cresson).

Hind spur of hind tibia strongly bent at end; clypeus less closely punctured, the large punctures weaker

6. Legs dark red; abdominal segments 3 and 4 with a narrow apical fringe, the rest thinly hairy 

australis (Cresson).

Legs black; abdominal segments 3 and 4 with lateral areas where the surface is raised and shining black, the hair on it being very sparse and dark

australis opuntiae (Cockerell).

7. Anterior edge of abdominal bands curved, the basal part of the segments dark; comparatively large and broad form; hind spur of hind legs curved at end 

australis rinconis (Cockerell).

Anterior edge of abdominal bands not curved, the pubescence, except at margin, uniformly distributed; smaller forms

8. Hair on inner side of basal joint of hind tarsi light ferruginous; abdomen entirely covered with yellowish tomentum 

Dasiapis ochracea Ckl.

Hair on inner side of basal joint of hind tarsi fuscous or black

9. Face broad, eyes scarcely converging below; eyes narrow, especially above; mesothorax shining, impunctate in middle, at sides with large scattered punctures; abdomen broad, with narrow ochreous hair-bands on hind margins of segments 2 to 4 

laticauda Cockerell.

Eyes broader and shorter, distinctly converging below; mesothorax duller, the sides with very numerous feeble minute punctures

diminuta (Cresson).

Larger than the two last (11 mm. long) and at once separated from them by having much fuscous or black hair on the abdomen; there are ochreous marginal hair-bands

friesei Cockerell.

MALES.

Hair of face black 

nigrifrons (Cresson).

Hair of face not black 

1.

1. Apex of abdomen truncate; tongue very long; maxillary palpi not fringed with hair; size very small 

Entechnia toluca (Cresson).
Apex of abdomen bidentate 2
2. Abdomen above with much black hair on discs of segments beyond the second 3
Abdomen above without black hair 6
3. Large; at least 13 mm. long; apical teeth of abdomen large and divergent · bituberculata (Cresson).
Smaller; about 10 mm. long; apical teeth of abdomen small and close together 4
4. Hind tibiae thickened, but shape not remarkable; basal joint of hind tarsi dark ferruginous, long, slender, and curved, its apex not produced, the hair on its inner side orange; maxillary palpi not fringed with hair, except a little tuft at the end of second joint; tegulae light rufous
sumichrasti (Cresson).
Hind tibiae greatly swollen, narrowing to a very slender base, shaped something like a wine-bottle; basal joint of hind tarsi dark, not so long, with black or dark fuscous hair on inner side 5.
5. Tegulae dark but decided red; second submarginal cell much narrowed above; hair of mesothorax white · afflcta (Cresson).
Tegulae piceous; second submarginal cell scarcely narrowed above; hair of mesothorax and scutellum gray · afflcta perafflcta Cockerell.
6. Basal joint of hind tarsus ending in a long process; species covered with gray hair; maxillary palpi with no fringe of long hairs, but second joint ciliate 7.
Basal joint of hind tarsus not ending in a long process 8.
7. Larger forms · australis (Cresson).
Smaller, down to about 10 mm. long · australis rinconis (Cockerell).
8. Very large, about 16 mm. long · megamorpha Cockerell.
Rather large, length over 10 mm., the pubescence more or less ochraceous on thorax, sometimes quite fulvous; facial quadrangle longer than broad 9.
Small, length less than 10 mm. 10.
9. Hair of thorax more or less fulvous · enavata (Cresson).
Hair of thorax paler · enavata var. densa (Cresson).
10. Abdomen above shining and sparsely hairy, not banded; face broad, orbits little converging below (distinctly less than in diminuta)
nitidifrons Cockerell.
Abdomen hairy, the hind margins of the segments banded
 diminuta (Cresson).
Abdomen covered with appressed white tomentum
spheralcearum Cockerell.

D. albovestita Provancher, I have not seen. It was described from the female; length just over 8 mm., flagellum reddish beneath, tegulae brownish, margins of abdominal segments pale yellow and covered with dense whitish pubescence; apex red-
dish brown. It must be similar to *D. sphæralcearum*, but the antennæ are differently colored.

The following species are not considered valid:—

*D. tricincta* Provancher, from California, is said by Fowler to be a synonym of *enavata*. This cannot be, from the description; but it is not apparent that it differs from *afficta*. *D. nerea* Fowler, from California, is *nigrifrons* Cresson; *D. cinerea* Fowler, from California, is *bituberulata* Cresson. Fowler can hardly be blamed for describing these as new, as when he published his paper Cresson's species were supposed to belong to Melissodes. *D. ursina* (Cresson) is *enavata*. *D. apacha* (Cresson) is *diminuta*. The types of *apacha* have been in some liquid, presumably alcohol, and this accounts for part of their characters. I formerly separated the specimens of the Middle Sonoran zone as *apacha*, leaving those of the Upper Sonoran as *diminuta*; but the comparison of specimens from various localities appears to show that the characters relied upon are too variable to serve for specific distinction.

Two forms are new:—

**Diadasia afficta** (Cr.) subsp. *perafficta* n. subsp.

♂. — Tegulae piceous; second submarginal cell scarcely narrowed above; hair of mesothorax and scutellum gray.

♀. — This sex does not materially differ from true *afficta*.

*Hab.*—Clark Co., Kansas, 1962 ft., May (F. H. Snow, 1191); Hamilton Co., Kansas, 3350 ft. (F. H. Snow, 400); Wallace Co., Kansas, 3000 ft. (F. H. Snow, 852). Three females, from the same three localities, are numbered 851, 1197, and 445.

**Diadasia sphæralcearum** n. sp.

♂. — Length 7½ mm.; like *D. diminuta* Cr., but with shorter, perfectly white pubescence, and a narrower, more parallel-sided abdomen; the pubescence of the abdomen, instead of being loose and suberect as in male *diminuta*, is appressed (except on first segment) and covers the surface; aside from the pubescence, the hind margins of the segments are themselves white; the apex is bidentate, the teeth being like those of *diminuta*, but rather larger; hind legs constructed as in *diminuta*; shining hairless triangle of metathorax much smaller than in *diminuta*; posterior part of mesothorax almost nude; tegulae subhyaline, ferruginous, dark at base; antennæ entirely black.
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**GENUS DIADASIA.**

_Hab._—Between Las Cruces and Mesilla Park, New Mexico, at flowers of _Sphaeralcea fendleri lobata_ (Wooton), middle of August (Cockerell). It was accompanied by _Macroteropsis latior_ (Ckll.).

The distribution of the species in States, etc., so far as known, is as follows:

**MEXICO.**— _D. diminuta_ Cr.; _sumichrasti_ Cr.; _enavata_ Cr. (Lower California).

**CALIFORNIA.**— _D. albovestita_ Prov.; _afflcta_ Cr. (tricincta Prov.); _nigripennis_ Cr.; _bituberculata_ Cr.; _nitidifrons_ Ckll.; _latiacauda_ Ckll.; _frisei_ Ckll.; _enavata_ Cr.; _diminuta_ Cr. (Palm Spring, Davidson); _australis rinconis_ Ckll.; _australis opuntiae_ Ckll.

**NEVADA.**— _D. bituberculata_ Cr.

**ARIZONA.**— _D. diminuta_ Cr. (Bill Williams' Fork, Snow; Grand Canyon, Hopkins); _australis rinconis_ Ckll. (Bill Williams' Fork and Oak Creek Canyon, Snow); _enavata_ Cr. (Oak Creek Canyon, Snow).

**NEW MEXICO.**— _D. diminuta_ Cr.; _sphaeralcearum_ Ckll.; _australis_ Cr.; _australis rinconis_ Ckll.; _enavata_ Cr.; _megamorpha_ Ckll.

**TEXAS.**— _D. australis rinconis_ Ckll. (part of Cresson's original _australis_, as shown by a ♀ cotype); _enavata_ Cr.; _enavata v. densa_ Cr. (a color variation merely); _afflcta_ Cr.

**KANSAS.**— _D. australis_ Cr. (Wallace Co., and Morton Co., Snow); _enavata_ Cr. (Wallace Co., Snow); _diminuta_ Cr. (Hamilton Co., Snow); _afflcta perafflcta_ Ckll.

**COLORADO.**— _D. enavata_ Cr. (Lamar, Snow, Palisade, Gillette, Julesburg, Ball, Trinidad, Titus); _enavata v. densa_ Cr. (Rocky Ford, in beet field, P. K. Blinn); _diminuta_ Cr. (Fort Collins, Trinidad, Colo. Agric. Coll.); _australis_ Cr.

_D. sumichrasti_ Cr., is peculiar for the densely punctured mesothorax, but the blade of maxilla is broad at base and narrow apically, as in true Diadasia. The maxillary palpi are long, 6-jointed. The sexes do not look much alike, but close comparison confirms their identity.

_D. australis_ and its subspecies may be found visiting the flowers of Opuntia. The small species, _diminuta_ and its allies, are addicted to the Malvaceae. _D. megamorpha_ (♀) was recorded from the flowers of _Sphaeralcea angustifolia_, but the plant was really _S. fendleri lobata_, which had not then been differentiated.

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