

Three Apparently Rare Sphecoid Wasps from
Southern California, Including a New Subgenus
and Species of *Dolichurus*

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Family AMPULICIDAE (Cockroach-Hunting Wasps)

Genus **Dolichurus**

Paradolichurus Williams, new subgenus.

TYPE SPECIES: *Dolichurus (Paradolichurus) californicus* Williams, new species.

FEMALE. Head of the usual *Dolichurus* form, the frontal protuberance or platform rather short. Thorax strongly sculptured; base of pronotum only slightly depressed mesad, its lateral cornicles not strongly defined; scutum and scutellum with deep elongate punctures, often confluent and forming fossae. No notaulices. Disc of propodeum with a basal subtriangular area of strong parallel carinulae; no abrupt posterior declivity, the propodeum being gently rounded and finally somewhat flattened posteriorly, with the transverse carina weak and scarcely interfering with the dorsal profile. Tarsal claw tooth quite weak. In the forewing the fourth abeissa along the radius is fully equal to the sum of abeissae 1 plus 2 plus 3. Abdomen above gibbous anteriorly, tapering to a fine point, pygidial area not defined by carinae.

It is unfortunate that the male of this subgenus remains unknown.

Dolichurus (Paradolichurus) californicus Williams, new species.

(Figures 1, 2, and 4.)

FEMALE, holotype: Length 7 mm. Black; shining; head and thorax strongly sculptured, abdomen smooth; mandibles reddish apically, disc of frontal protuberance from anteriorly, with a slightly interrupted recurved line, and a small spot anterodorsad on posterior coxae, creamy white; wings slightly infusate, short pilose; first abdominal segment predominately black, remaining

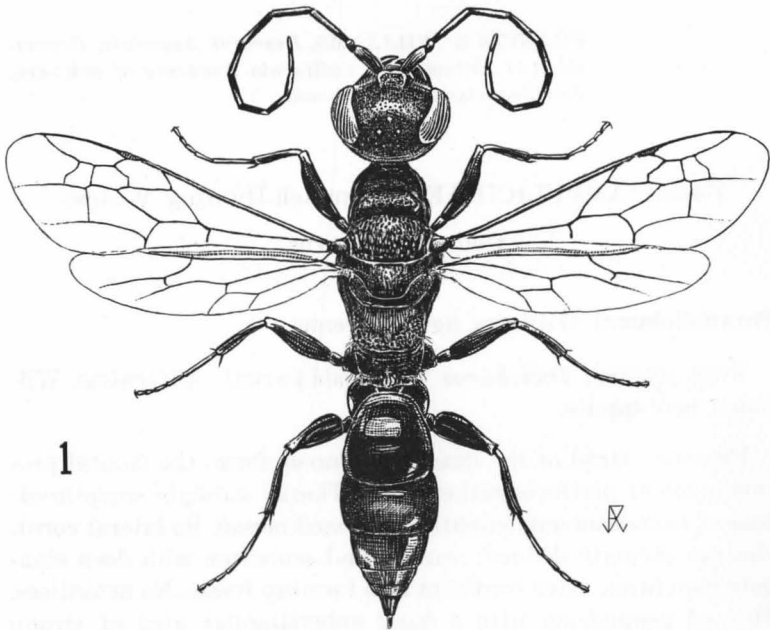


Figure 1. *Dolichurus (Paradolichurus) californicus*. Female, holotype. Length 7 mm.

segments reddish. Clypeus shining, rounded out subtruncate mesad, the disc gently convex and with sparse punctures; mandibles stout, indistinctly quadridentate; no malar space; antennae slender, arising from each side anteriorly of the frontal protuberance, scape of antennae stout, pedicel subglobose, article 3 the longest, thence the articles decrease in length and diameter; frontal protuberance wider than long, rising obliquely from face,

steep anteriorly, the disc with some strong punctures on each side; ocelli forming slightly less than a right-angle triangle, posterior ocelli about their width distant from the anterior one and about twice their width from the compound eyes. Head not tessellate, strongly and closely punctate, the punctures at vertex more separate; eyes broadly and very shallowly emarginate, converging toward vertex, interocular space at vertex about equal to antennal articles 2 plus 3. Pronotum steeply depressed ante-

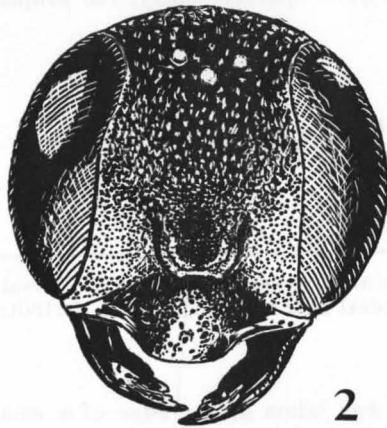


Figure 2. *Dolichurus (Paradolichurus) californicus*. Head, from in front.

riorly, the basal portion somewhat flattened, the humeri scarcely tuberculate; sculpture of anterior portion of pronotum generally transversely rugulose, of the basal portion strongly and sometimes confluent punctate; scutum and scutellum with strong, rather longitudinal punctures, often confluent and developing into fossae, except at a medium area which is relatively impunctate; notaulices absent; parapsidal furrows tolerably distinct, short; pleurae coarsely punctate and rugulose. Disc of propodeum with a subtriangular area of strong parallel carinae, otherwise rugulose, posterior declivity a gently rounded slope that is somewhat flattened posteriorly and with some transverse carinulae, the pleurae mostly with parallel rugulae. Legs rather weakly spinose, two apical spurs on tibiae 2 and 3, femora rather swollen near middle length, femur 3 most strongly so. Marginal cell of

forewing acute at apex, its length greater than its distance from the wing tip, third submarginal cell narrowed along the marginal, the first transverse cubital vein has a short stub where it is angled into the first submarginal cell. Basal abdominal tergites smooth, polished, with only a few punctures, the first tergite rising steeply from the very short petiole, apical tergites finely tessellate and sparsely punctate; pygidial area not defined by carinae, narrowly triangular, generally smooth, rather minutely bilobed apically from a suture that extends the length of the segment. Vestiture; quite sparsely hairy, the propodeum with some pale pubescence.

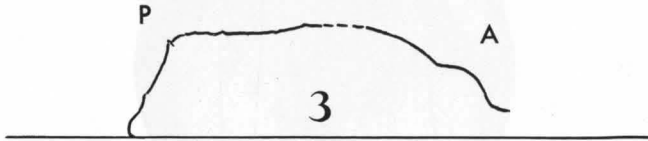


Figure 3. *Dolichurus corniculus* (Spinola). Dorsal outline of thorax, in profile. P, propodeal area to show posterior declivity. From Germany.

The holotype was taken at the edge of a small clearing in a rather open oak and pine forest, Pine Hills Lodge, near Julian, at an altitude of nearly 4,000 feet, Laguna Mountains, San Diego County, California, September 12, 1958 (F. X. Williams). This specimen has somewhat frayed wings, as if injured by a spider or by one of the very abundant *Vespula* wasps, that in hunting fly low over the forest floor. A further search for several days following the date of its capture, and at intervals during the very dry summer of 1959, failed to yield any more of the wasps.

Paradolichurus was compared with four species of *Dolichurus*: *D. corniculus* (Spinola) of Europe and the genotype species; *D. stantoni* (Ashmead) of the Philippine Islands; *D. greeni* Rohwer that occurs in Ontario, Canada, and along the Atlantic seaboard of the United States; and finally, *Dolichurus laevis* Smith of Brazil (Ega and Sao Paulo). *Paradolichurus* differs from these most obviously in that its pronotum is scarcely tuberculate, the notaulices are absent, evidently crowded out by the deep, heavy sculpture, and the non-tuberculate propodeum is

gently and almost uniformly rounded out posteriorly instead of being steeply declivous there (compare figures 3 and 4). *Dolichurus* (*Paradolichurus*) *californicus* differs more from *D. greenei* and *D. laevis* than it does from *D. corniculus* and *D. stantoni*.

I am indebted to the United States National Museum, the California Academy of Sciences, and the Experiment Station, Hawaiian Sugar Planters' Association for the loan of the four species.

The genus *Dolichurus* numbers about twenty described species that represent the temperate and tropical regions of both hemispheres.

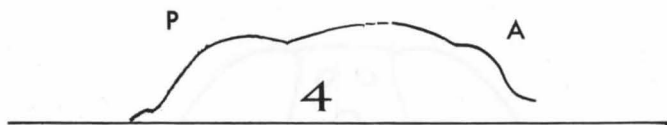


Figure 4. *Dolichurus* (*Paradolichurus*) *californicus*. Lettered as in figure 3, but the propodeal outline is only gently rounded.

Dolichurus (*Paradolichurus*) *californicus* is the first record of the family Ampulicidae in California.

As far as known, the prey of the wasps of the genus *Dolichurus* consists of small cockroaches (Blattidae).

The specimen has been deposited in the collection of the California Academy of Sciences.

Family SPHECIDAE

Subfamily ASTATINAE

Diploplectron diablensis Williams.

(Figure 5.)

Williams, 1950. *Wasmann Journal of Biology*, 8:363-365, fig. male.

This species was described from one of a series of male specimens taken on Mt. Diablo, some thirty miles east of San Francisco. An additional male specimen was taken on the leaf litter in an oak grove at Pine Valley, Laguna Mountains, San Diego County, on July 8, 1959. In September, 1958, I took a single female of *Diploplectron diablensis* near Julian, San Diego County.

Here follows the description of the female allotype; Length 5.5 mm. Black; Frons, meso- and metapleurae and propodeum subopaque, genae polished, meso- and metanotum shining; mandibles with dull red at middle length and a creamy white spot outwardly at base, pronotal lobes creamy white apically, all tarsi dusky reddish, hind femora and the tibiae reddish, abdomen shining reddish orange, wings light fuscous, venation testaceous. Head between the eyes of a finely tessellated appearance and with sparse punctures; clypeus shining, the median production rather tumid basally and thickly bifurcate apically, the median emargination thus formed is subquadrate; the clypeal margin retreats

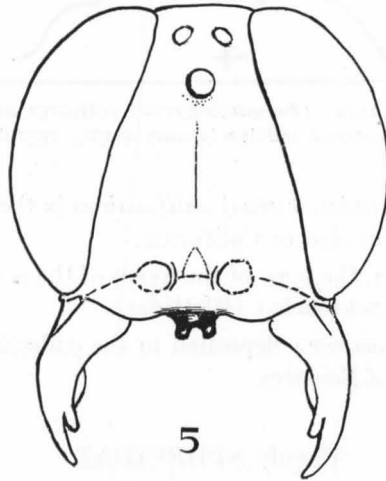


Figure 5. *Diptoplectron diablensis*. Female, allotype. Head, from in front.

from the inner base of the mandibles, and is provided with stiff hairs at a point about opposite the base of the antennae; mandibles with a low tooth within; antennae slender, tapering, articles 3 and 4 subequal, 12 a little shorter than 11 and slightly curved at the extreme tapering tip; space between the eyes at vertex about $\frac{1}{2}$ that at clypeus; ocelli large, forming an acute triangle, anterior ocellus depressed into frons, about $1\frac{2}{3}$ its diameter removed from the compound eyes, posterior ocelli less than their diameter from the compound eyes. There is a shining median line

from well above the base of the antennae but hardly extending to the fore ocellus. Pronotum not as finely tessellated as head, its sides with some vertical striae. Meso- and mesonotum and their subopaque pleurae similarly tessellated. Disc of propodeum finely granulated, with some indication of transverse rugulae, the sides with some horizontal rugulae, the posterior face with a moderate impression above. Tarsi rather spinose, fore tarsal comb with the bristles considerably longer than the diameter of the articles whence they originate. Marginal cell much shorter than the stigma, and shorter than submarginals 2 plus 3 along the cubitus; second submarginal cell receiving second recurrent vein beyond the middle, first submarginal receiving first recurrent vein near its apex; first transverse-cubitus angled inwards at its middle length; third submarginal cell rather parallel-sided. Abdomen with the tergites generally, showing very fine, mostly transverse reticulations. Pygidium small and narrow, with the lateral carinae strong.

This single female is in good condition, and was taken while it was briefly pausing on a little slope covered with gravel and dead leaves in a break in the chaparral composed chiefly of *Adenostoma fasciculatum* (Rosaceae) and *Ceanothus perplexans* (Rhamnaceae), at an elevation of 5100 feet, and 12 miles southeast of Julian, in the Laguna Mountains, San Diego County, California, September 15, 1958.

Both sexes of *Diploplectron diablensis* possess larger ocelli than the related *D. reticulatus* Williams (1946 Proc. Haw'n Ent. Soc., 12:648-650) from Arizona.

As far as is known, wasps of the genus *Diploplectron* store their nests with small Hemiptera.

The specimens have been deposited in the collection of the California Academy of Sciences.

Family SPHECIDAE

Subfamily LARRINAE

Miscophus species.

A single male *Miscophus* with a reddish abdomen was taken at Pine Hills Lodge, near Julian, Laguna Mountains, San

Diego County, on September 12, 1958. More material will be needed for comparison with *Miscophus americanus* Fox, of the eastern half and more, of the United States and our only catalogued species, to determine if the two are conspecific.

Miscophus is well represented in Europe, particularly in its southern part.

These small wasps prey on spiders.

The specimen has been deposited in the collection of the California Academy of Sciences.