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Southwestern States

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# New Tarantulas From the Southwestern States

By RALPH V. CHAMBERLIN AND WILTON IVIE

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In this paper are presented diagnoses of seven new species of mygalomorph spiders, one of which represents the new genus *Hesperopholis*. The other species are placed in *Delopelma*. We are indebted to Dr. W. P. Cottam for making the photographs reproduced on the first three plates. All of these are taken at the same scale, which is a little less than natural size, the ratio being about 9:11.

Excepting the holotypes of *Delopelma radinum* *D. simulatum*, and *D. moderatum*, which are in the American Museum of Natural History, the types are in the University of Utah collection.

## HESPEROPHOLIS, gen. nov.

A genus resembling *Cyrtopholis* Simon in having the scopulæ of the tarsi IV bisected by a setose band which in the present genus is very distinct. It differs in having the deep thoracic fovea a little recurved, the metatarsi III scopulate only over the distal third, the tibia of leg I in the male with only a single stout spur instead of two, and the trochanters of palpus and leg I lacking a lyra. Carapace sub-ovoid, the pars cephalica about half as wide as the widest part. Anterior row of eyes procurved, the posterior recurved, with anterior median eyes larger than the posterior. Sternum a little longer than wide and the labium wider than long.

Genotype: *H. centronethus*, sp. nov.

## *Hesperopholis centronethus*, sp. nov.

Pl. IV, ff. 7-9

The integument of carapace and legs chestnut colored, clothed with appressed light golden brown hair, the legs also with numerous long, dark brown or blackish hairs. Abdomen appearing golden brown, the appressed hairs light in color, the longer ones dark, no definite pattern. Venter and coxæ beneath light brown, the abdomen behind bearing areas darker brown. Fringe of endites and chelicerae light ferruginous.

Metatarsus I shorter than tibia, evenly and moderately curved, bearing an apical spine beneath, scopulate to base; tibia I with distal spur stout and bearing two robust apical spurs. Metatarsus II also scopulate to base, bearing a ventral spine at apex and one proximad of middle. Metatarsus III scopulate only over distal one-third or less. Metatarsus IV with a few scopular hairs at distal end only; tarsus with setose band dividing scopulæ consisting of several series

of setæ. Palpus sub-pyriform, the stylus long, slender, and only moderately curved (fig. 8); inner surface of tibia with two stout submedian spines, proximad of which are two more slender ones and across distal end three others in addition to two stout ones on ventral edge distad of middle.

Length without chelicerae, 23 mm.; with chelicerae, 26 mm.

Legs	I	II	III	IV	PALPUS
Coxa .....	5	5	3.8	4.2	4
Trochanter .....	2.2	2.2	2	2.2	2
Femur .....	9.2	9	7.2	9.2	5.1
Patella .....	5.2	5	4.2	5	3
Tibia .....	7.2	6.2	6	9	4
Metatarsus .....	6.3	6.2	7	8.8	...
Tarsus .....	5	4	4	5.2	2.3
TOTAL .....	40.1	37.6	34.2	43.6	20.4

TYPE LOCALITY: California: Mayfield. Male holotype taken 9 Oct. 1922 by J. C. Chamberlin.

*Delopelma radinum*, sp. nov.

Pl. III, f. 6; Pl. IV, ff. 10, 11

A species close to *D. marxi* in general structure but with obviously more slender legs and with three spines on mesal surface of tibia of palpus instead of two, and with metatarsus equal in length to tibia instead of shorter. Integument of carapace and legs dark chestnut or chocolate color, in part nearly black, completely clothed with appressed grayish hair; legs with similar appressed hair and long brown setæ; abdomen clothed above with long, blackish hairs, which in part are light colored over apical portion, and with shorter appressed hair of grayish color.

The palpal organ of the usual pyriform shape typical in the group, the slender tip angularly bent as shown in the figure. Inner surface of tibia of palpus with three spines, one at base and two submedian. Metatarsus I unarmed, equal in length to the tibia, scopulate to base; metatarsus II also scopulate except at very base; III scopulate over distal four-fifths or more of length; IV over less than half of length.

*Male.* Length without chelicerae, 17 mm.; length with chelicerae, 19 mm. Cephalothorax: Length, 8.1 mm.; width, 7 mm.

Legs	I	II	III	IV	PALPUS
Coxa .....	3.5	2.8	2.7	2.7	2.6
Trochanter .....	1.6	1.5	1.2	1.2	1.2
Femur .....	8.1	8	7.2	8.4	5.1
Patella .....	4.1	3	2.9	3.6	2.1
Tibia .....	7	6.2	5.1	7.1	4.4
Metatarsus .....	7	6.2	6.2	8.8	---
Tarsus .....	4.1	4	4	5	1.8
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TOTAL .....	35.4	31.7	29.3	36.8	17.2

TYPE LOCALITY: California: Manhattan Beach. One male taken in November, 1937, by Guy Beevor. (Am. Mus. of Nat. History.)

*Delopelma melanius*, sp. nov.

Pl. I, f. 1 and 2

In the male, the legs, palpi, chelicerae, and abdomen dark gunmetal brown. Under sides of coxae, sternum, labium and venter darker. Carapace much lighter, yellowish gray. Long hairs on legs brownish black, those on posterior part of abdomen light brownish. Long reddish brown hairs surrounding mouth region.

The female slightly more brownish in color than the male, but with a distinct gunmetal hue. Patella and tibia of legs and palpi noticeably lighter than the other segments. Carapace, abdomen and under sides as in male. Legs, palpi, chelicerae and abdomen covered with long soft brownish hairs, those on abdomen lighter and more buff colored. The color tends to fade to brown in alcohol, especially if poorly preserved.

In structure the male resembles *D. californica* in general structure, but much smaller in size, with legs proportionately more slender. Palpal organ similar to that of *californica*. Tibia of palpus on mesal surface with a pair of long basal spines, a single submedian one and several at distal end. Leg I with metatarsus moderately arched, and with tibial spurs similar to those of *californica*. Scopula of legs extends over full length of metatarsi I and II, and over about distal two-thirds of metatarsi III and IV. Abdomen usually small and shrunken in the adult; with a dark velvety patch on posterior part above, which is frequently rubbed bare.

In the female, the body larger than in male. Legs shorter, but much heavier; scopulae dense. Chelicerae heavy.

*Measurements: MALE.*

Length, with chelicerae, 34 mm.; without chelicerae, 28.5 mm.

Carpae; Length, 13.5 mm.; width, 12.0 mm.

Legs	I	II	III	IV	PALPUS
Coxa .....	6.4	5.5	5.0	5.4	5.0
Trochanter .....	2.6	2.3	2.2	2.5	2.3
Femur .....	13.5	13.0	12.0	13.5	8.1
Patella .....	6.9	6.4	5.5	6.0	5.0
Tibia .....	10.8	10.3	9.0	11.1	7.2
Metatarsus .....	11.8	12.0	12.0	15.7	....
Tarsus .....	7.1	7.1	7.0	8.0	2.0
TOTAL .....	59.1	56.6	52.7	62.2	29.6

## FEMALE:

Length with chelicerae, 42.0 mm.; without chelicerae, 35.0 mm.

Carapace: Length, 16 mm.; width, 13.7 mm.

Legs	I	II	III	IV	PALPUS
Coxa .....	6.8	5.7	5.5	5.7	6.0
Trochanter .....	2.4	2.0	1.8	2.0	2.0
Femur .....	12.1	11.6	10.3	12.0	9.0
Tibia .....	8.1	7.8	6.7	8.8	6.5
Metatarsus .....	7.9	7.9	8.0	11.0	....
Tarsus .....	5.5	5.5	5.4	6.0	5.5
TOTAL .....	49.3	46.7	43.7	51.7	34.0

TYPE LOCALITY: Utah: Salt Lake City. Common in Salt Lake County.

OTHER LOCALITIES: Utah: Tooele County, near Stockton; Utah County; Davis County; Box Elder County, Brigham City.

*Delopelma iodius*, sp. nov.

PL. I, f. 3

In the male, the color of legs, palpi, chelicerae and abdomen uniform rust color. Under sides of coxae, sternum, labium, and venter darker and more brownish. Long hairs rust color. Carapace pale buff. In structure very close to *melanius*, sp. nov. Legs somewhat longer. Scopula on underside of metatarsi slightly more extensive, covering about three-fourths of length of legs III and IV. Inner surface of tibia of palpus usually with four spines, two submedian and one toward each end.

This species is easily distinguishable from *melanius*, which it apparently resembles most closely, by its rich rust color as contrasted with the dark metallic color of *melanius*. This difference is somewhat nullified in poorly preserved specimens. The legs of *iodius* are also slightly longer in proportion, and the spines of the tibia of the palpus differ as indicated.

*Measurements:*

Length with chelicerae, 35.0 mm.; without chelicerae, 30 mm.

Carapace: Length, 14.0 mm.; width, 12.8 mm.

Legs	I	II	III	IV	PALPUS
Coxa .....	6.9	6.0	5.1	5.9	5.4
Trochanter .....	2.7	2.6	2.5	2.7	2.7
Femur .....	15.0	14.7	13.5	15.0	9.2
Patella .....	7.0	6.5	6.0	6.6	5
Metatarsus .....	13.5	13.3	13.8	17.0	8
Tarsus .....	7.2	7.2	7.5	8.5	2.7
TOTAL .....	65.0	62.2	57.8	68.4	33.0

TYPE LOCALITY: Utah: 2 mi. west of Castle Cliffs, Washington Co., 27 November, 1936, male holotype.

OTHER LOCALITY: Utah: Zion National Park, male paratypes; common.

*Delopelma vorhiesi*, sp. nov.

Pl. II, f. 4; Pl. IV, ff. 12, 13

In the male the color of carapace bronze. Chelicerae light bronze. Legs, palpi and abdomen medium brown, the abdomen with long buff hairs on posterior part. Sternum and under side of coxae brown, about same shade as legs, venter darker.

In general structural typical. Proportions of leg segments as listed below. Metatarsus I shorter than tibia and only slightly curved on basal part. Tibial spurs typical. Palpal organ somewhat similar to that of *californicum*. Inner surface of tibia of palpus with two submedian spines on an oblique line. Scopulae on all tarsi and on metatarsi as follows: I, all but very base; II, distal three-fourths; III, about distal two-fifths; IV, distal one-fourth.

Differs from *marxi*, etc., in color, extent of scopula, etc.

Length with chelicerae, 27 mm.; without chelicerae, 23 mm.

Carapace: Length, 11.2 mm.; width, 9.7 mm.

Legs	I	II	III	IV	PALPUS
Coxa .....	5	4.5	4.1	5	4
Trochanter .....	2	2	2	2	2
Femur .....	12.3	10	9.2	11	7
Patella .....	5.2	4.8	4.2	4.8	3.8
Tibia .....	9	7.7	3.8	9	5.4
Metatarsus .....	7.2	7.2	8	11	---
Tarsus .....	5	5	5	5.1	2.6
	<hr/>	<hr/>	<hr/>	<hr/>	<hr/>
TOTAL .....	45.7	41.2	40.3	47.9	24.8

TYPE LOCALITY: ARIZONA: Tucson. Two males collected by Professor C. T. Vorhies, to whom the species is dedicated.

*Delopelma simulatum*, sp. nov.

A species of the *marxi* group close to *vorhiesi*, but smaller and with shorter legs, hairs of ventral fringe of anterior femora longer, and the metatarsus of leg I somewhat shorter relatively to the tibia. The light ferruginous hairs of endites over entire ventral surface whereas in *vorhiesi* they are confined more to the mesal border, darker hairs occupying the rest of the surface.

Integument of carapace and legs of chestnut color. Hair of the matted appressed pubescence of carapace, etc., appearing somewhat more plumbeus than in *vorhiesi*.

Length without chelicerae, 20 mm.; with chelicerae, 23 mm.

Length of cephalothorax, 10.7 mm.; width, 9 mm.

Legs	I	II	III	IV	PALPUS
Coxa .....	5	4	4	5	31.
Trochanter .....	2.4	2	2	2.2	2
Femur .....	5	4.2	4	4.2	4
Patella .....	5	4.2	4	4.2	4
Tibia .....	8	6.1	6	7.2	6
Metatarsus .....	6.1	6	6.2	9	---
Tarsus .....	5	5	5	5.5	2.8
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TOTAL .....	41.8	36.2	35.2	42.1	24.1

LOCALITY: Utah: *Fruita*. Male holotype taken by Gertsch and Johnson, July 14, 1931. (Am. Mus. of Nat. History.)



*Delopelma moderatum*, sp. nov.

Pl. III, f. 5

In the male, color of carpace brown, the legs darker brown, the femur clothed with fine bronze hair, the legs with long brown hair. Abdomen above with bronze colored hair, the hair of sides mostly brown, the venter dark brown or black. Hair of coxæ and sternum also dark brown. Fringe of endites and chelicerae light reddish.

General structure as typical for the group. Palpal organ of the usual pyriform shape, the stylus evenly curved; inner face of tibia of palpus bearing 4 spines in a longitudinal line much as in *iodius*. Tarsus of leg I much shorter than the metatarsus; metatarsus obtusely bent at about one-third its length from the base, unarmed. Metatarsus I scopulate to base; II scopulate throughout except at very base where the scopula is replaced by long setæ; III scopulate over distal two-thirds of length, the proximal end being on a level with the proximal of the two spines on caudal surface; IV scopulate over somewhat less than the distal half of length.

Apparently near *iodius* but a smaller and darker species differing also in the lesser extent of the scopula on leg III and especially on leg IV.

*Male*. Length with chelicerae, 28.8; without chelicerae, 25 mm.

Carapace: Length, 13.6 mm.; width, 11 mm.

Legs	I	II	III	IV	PALPUS
Coxa .....	5.8	5	5	5.5	5
Trochanter .....	3.2	3	2.1	2.4	1.9
Femur .....	13	12.2	10.1	12.1	8
Patella .....	6	4.2	3.8	4.2	3.8
Tibia .....	10	9.2	7.5	10	7
Metatarsus .....	10	9.2	10	13	....
Tarsus .....	6.1	5.8	5.9	6.8	2.6
TOTAL .....	54.1	48.6	44.4	54	28.3

TYPE LOCALITY: 5 mi. east of Rio Grande City, one male taken by S. Mulaik, May 1, 1937. (Am. Mus. of Nat. History.)

OTHER LOCALITY: TEXAS: 32 mi. southwest of Laredo, one male taken by S. Mulaik, March 10, 1936.

## PLATE I

1. *Delopclma melanius* n.sp. Male.
2. Same. Female.



1



2

## PLATE II

3. *Delopelma iodius* n.sp. Male.

4. *Delopelma vorhiesi* n.sp. Male.



3



4

## PLATE III

5. *Delopelma moderatum* n.sp. Male.

6. *Delopelma radinum* n.sp. Male.



## PLATE IV

7. *Hesperopholis centronethus* n.gen. and n.sp. Eyes, dorsal view.
8. Same. Right male palpus, mesal view.
9. Same. Part of first leg of male, showing tibial spur, etc., anterior view.
10. *Delopelma radinum* n.sp. Left male palpus, mesal view.
11. Same. Distal portion of left male palpus, subectal view.
12. *Delopelma verhiesi*, n.sp. Left male palpus, mesal view.
13. Same. Palpal organ, antero-ventral view.



