

## THE SPIDER GENUS *POULTONELLA* (ARANEAE: SALTICIDAE)

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### ABSTRACT

The rare North American salticid genus *Poultonella* is reviewed and diagnosed. *Poultonella* is removed from Fissidentati and placed in Unidentati, subfamily Dendryphantinae. The female of *P. alboimmaculata* is redescribed and the male of the species is described for the first time. The natural history of *P. alboimmaculata*, in north-central Texas, is discussed. *P. nuesensis*, new species, is described from Mustang Island on the Texas coast.

### INTRODUCTION

The validity of the salticid genus *Poultonella* has been questioned because of scarcity of material and lack of male specimens. This paper presents a new description of *Poultonella alboimmaculata*, including for the first time the male, and supplements the genus by description of a new species, *P. nuecesensis*. Although Peckham and Peckham (1909) placed *Poultonella* in Simon's group Fissidentati (lower margin of the chelicera with a compound tooth), we found that all specimens, including the holotype of *P. alboimmaculata*, belong to Unidentati (those with a single tooth on the lower margin). Petrunkevitch (1928), also placed *Poultonella* in the Fissidentati, in his subfamily Maeviinae. Based upon the structure of the genitalia, *Poultonella* is best placed in Dendryphantinae.

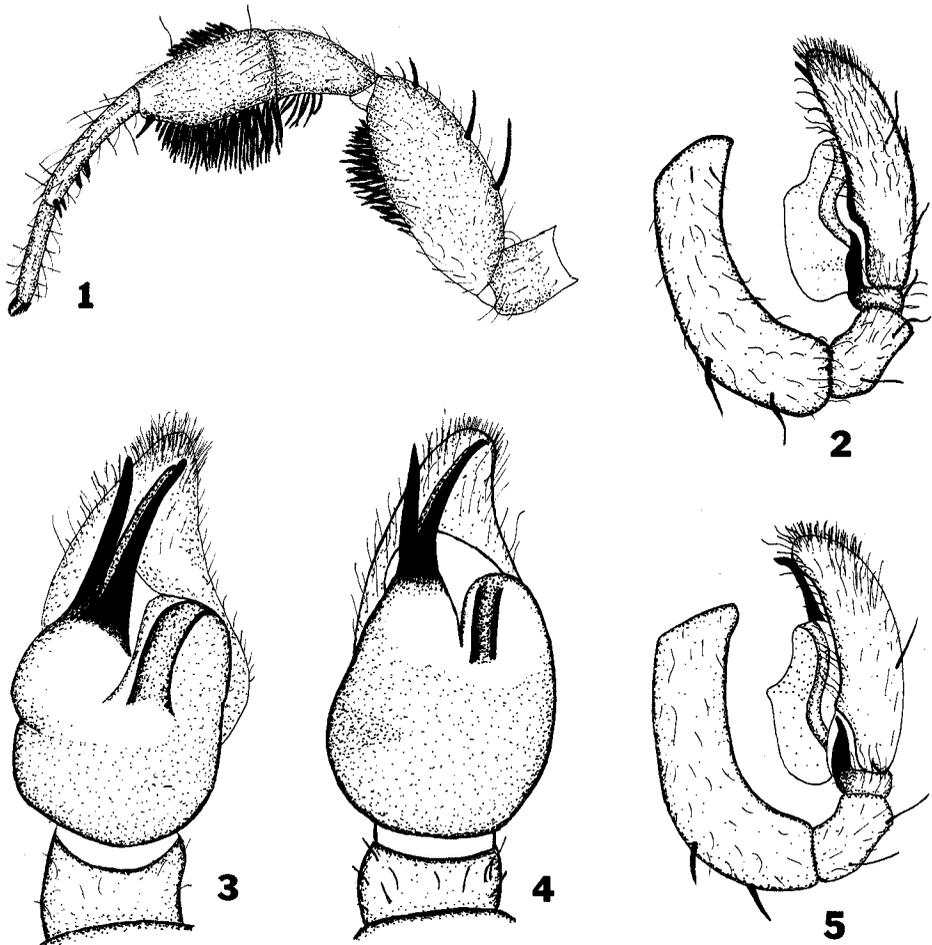
#### *Poultonella* Peckham and Peckham

*Poultonella* Peckham and Peckham 1909:576. Type-species (by monotypy): *Attus alboimmaculatus* Peckham and Peckham; Banks 1910:66; Petrunkevitch 1911:696, 1928:191; Crosby and Bishop 1928:1073; Bonnet 1958:3767; Prószyński 1976:18.

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**Diagnosis.**—Examination of available material has convinced us that *Poultonella* is a valid genus separable from other salticid genera by the following characters: length of tibia plus patella of legs IV longer than III; ocular area, occupying one half carapace length, wider (4/5) behind, with small eyes nearer first row than third; tibia I with one or two ventral spines. *Poultonella* can be distinguished from *Bianor*, *Sassacus* and *Agassa* by the presence of heavy hair tufts on leg I; palpal embolus straight and bifid; guide of epigynum well developed and originating posteriad.

**Description.**—Medium large (3-5mm) spiders with the carapace slightly longer than wide. Anterior median eyes one-third their radius apart, twice diameter of anterior and posterior laterals; posterior median eyes one-fifth diameter of anterior median eyes. Cheliceral fang furrow with a simple retromarginal tooth. Endites three times as long as wide, expanded anteriorly, scopulated, males with distolateral apophysis. Labium one-half as long as wide, base equal to or slightly less than anterior width of sternum. Legs of moderate length, formula 1:4:2:3 in males, 4:1:2:3 or 4:1:3:2 in females, first pair with



Figs. 1-5.—*Poultonella alboimmaculata* (Peckham and Peckham): 1, male leg I, retrolateral view; 2, left palp, retrolateral view; 3, left palp, ventral view. *P. nuecesensis*, new species; 4, left palp, ventral view; 5, left palp retrolateral view.

femur, patella, and tibia possessing tufts of hair and greatly expanded (Fig. 1). Strong spines on dorsum of femora, 1-1-2 or 1-1-1; tibia I (ventral), 0-1-1 or 0-0-1; metatarsus (ventral) I 0-1-2, II 0-0-2, III and IV 0-0-4.

*Poultonella alboimmaculata* (Peckham and Peckham)

Figs. 1-3, 6, 7, 10

*Attus albo-immaculatus* Peckham and Peckham 1883:24-25, pl. II, fig. 19, pl. III, fig. 19a (Female holotype, from Iowa, in Museum of Comparative Zoology, examined).

*Dendryphantes albo-immaculatus*, Peckham and Peckham 1888:41, p. III, fig. 29; Marx 1890:570 (*alboimaculatus*, sic.), 1892:161 (*albomaculatus*, sic.).

*Poultonella alboimmaculatus*, Peckham and Peckham 1909:576-577; Banks 1910:66 (*alboimaculatus*, sic.).

*Poultonella alboimmaculata*, Petrunkevitch 1911:696, 1928:191; Crosby and Bishop 1928:1073; Bonnet 1958:3767-3768 (*albimmaculata*, suggested emendation).

**Description.**—Female: Holotype from Iowa missing five legs but important legs I (right) and IV (both) present. Epigynum (Fig. 6). Spermathecae of epigynum (Fig. 7) of female from Wichita County, Texas (Museum of Comparative Zoology) similar to holotype. Fresh specimens with white, spatulate hairs, in some places resembling scales, densely covering dorsal and lateral aspects of cephalothorax and entire abdomen. Anterior margin of abdomen and posterior margin of cephalothorax with rows of long, slender, white hairs. Sternum dark brown with scattered white, spatulate hairs; posterior portion with several long, slender, white hairs. Labium dark brown. Coxae and trochanters light brown with several long, white hairs. Spinnerets black. Femur I dark brown, covered with white, spatulate hairs; these heavily concentrated on the distodorsal portion to produce a white band. Dorsum of patella I with white, spatulate hair bands on ends. Tibia I distodorsal surface with a light band of white hairs. Lateral surfaces of metatarsus and tarsus of leg I with ventral band of white, spatulate hairs. Legs II-IV marked as leg I except femora covered with many, spatulate, white hairs. Hairs confined to lateral surfaces on patella and tibia, producing longitudinal stripes. Metatarsus and tarsus without spatulate hairs.

Measurements in millimeters of five mature females; range followed by mean in parentheses. Total length, 3.13-4.75 (4.04); carapace length, 1.65-1.80 (1.71); carapace width, 1.21-1.34 (1.28); leg I length, 2.61-3.02 (2.75); leg II length, 2.19-2.30 (2.24); leg III length, 2.23-2.41 (2.30); leg IV length, 3.31-3.03 (3.14).

Male: Color and markings like those of female. Number of hairs in banding of legs II-IV reduced. Sternum covered with few spatulate, white hairs; margins with long, white hairs reduced near labium. Palpi as in Figs. 2 and 3.

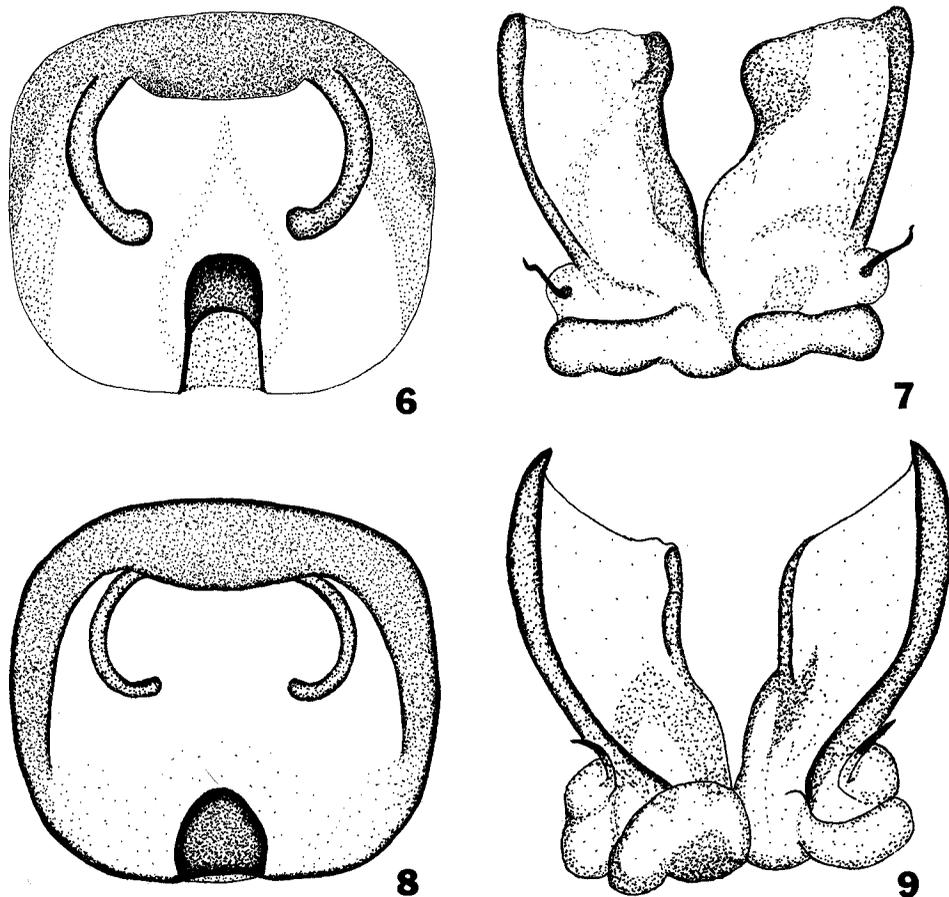
Measurements in millimeters of six mature males; the range followed by mean in parentheses. Total length, 2.95-4.38 (3.47); carapace length, 1.60-2.08 (1.77); carapace width, 1.15-1.44 (1.29); leg I length, 3.06-4.67 (3.75); leg II length, 2.47-3.01 (2.63); leg III length, 2.10-3.09 (2.54); leg IV length, 2.75-3.91 (3.25).

**Range.**—North-central and western Texas, Iowa and New York (Fig. 10).

**Natural History.**—Specimens of *Poultonella alboimmaculata* have been taken during all months except March, November and December. Adult males are available from late January to mid August with females maturing later, mid May until early September.

Several hibernating chambers were located beneath the bark of mesquite trees (*Prosopis juliflora*). Some adult males were found with immatures in the same hibernating chambers. May appears to be the peak period of activity of this species. In May some adults move away from the *Prosopis* and seek food on flowering plants: *Asclepias oenotheroides* (Asclepiadaceae), *Bromus tectorum* (Gramineae), *Gaillardia pulchella* (Compositae), *Helianthus sp.* (Compositae) and *Thelesperma sp.* (Compositae). Although primarily diurnal, a single, adult male was taken while ballooning at 3:00 a.m. in late May. Carpenter (1972) reported *P. alboimmaculata* from sparse sage and salt cedar.

**Material Examined.**—All specimens are at Midwestern State University unless otherwise indicated. *Texas. Wichita County:* Wichita Falls; four males, two females, 21 immatures (May 1977, G. E. Bastin), one male, two immatures (28 Jan. 1977, G. E. Bastin), one male (22 May 1976, H. S. Zaltsberg), one immature (10 Feb. 1973, L. Pierce), one female, one immature (24 July 1977, J. C. Cokendolpher), 4.8 km NW Iowa Park; two immatures (28 Sept. 1968, R. Carpenter), 16 km S. Electra; one female (8 Sept. 1968, R. M. Carpenter), 14.4 km WSW Burkburnett, one female (14 May 1977, J. C. Cokendolpher, MCZ), Bridgetown, one female (25 June 1977, J. C. Cokendolpher, AMNH), 3.2 km SSW. Burkburnett, one male (15 April 1977, J. C. Cokendolpher), one male (28 May



Figs. 6-9.—*Poultonella alboimmaculata* (Peckham and Peckham): 6, epigynum, ventral view; 7, spermathecae, dorsal view. *P. nuecesensis*, new species; 8, epigynum, ventral view; 9, spermathecae, dorsal view.

1977, J. C. Cokendolpher, AMNH), one female, two immatures (23 July 1977, J. C. Cokendolpher), one immature (17 Oct. 1975, J. C. Cokendolpher), Burkburnett; one male, one female (20 Aug. 1968, R. M. Carpenter), 14.7 km E Burkburnett; two females (14 May 1977, J. C. Cokendolpher), 4.8 km SSW Friberg Cooper Community; one male (14 May 1977, J. C. Cokendolpher, MCZ). *Donely County*: 11.2 km N Clarendon, one female (19 June 1976, K. Douglass). Iowa. No specific locality, one female (1883, G. W. Peckham, MCZ).

*Poultonella nuecesensis*, new species

Figs. 4, 5, 8, 9, 10

**Types.**—Male holotype from Port Aransas (27°24'N. 97°04'W.), Mustang Island, Nueces County, Texas (14 August 1977, W. W. Dalquest and R. M. Carpenter) deposited in the American Museum of Natural History. Female paratype from same locality (9 April 1977, G. E. Bastin), same depository. Two male paratypes: (9 April 1977, D. Holub) in the Museum of Comparative Zoology, (14 August 1977, W. W. Dalquest and R. M. Carpenter) at Midwestern State University. All specimens taken at an altitude of 7 m.

**Etymology.**—The specific name is derived from Nueces County, Texas, where the original material was collected.

**Diagnosis.**—*Poultonella nuecesensis* is readily separated from *P. alboimmaculata*, the only other member of the genus, by details of the genitalia, color, and reduction of spatulate hairs: *P. nuecesensis* is orange-red in color whereas *P. alboimmaculata* is brownish-black. *P. nuecesensis* has few spatulate hairs, particularly on the dorsum of the cephalothorax and on the legs. *P. alboimmaculata* has the abdomen and cephalothorax densely covered with white, spatulate hairs. The palpi of *P. nuecesensis* differs from those of *P. alboimmaculata* by the shorter conductor length, thinner and less convoluted

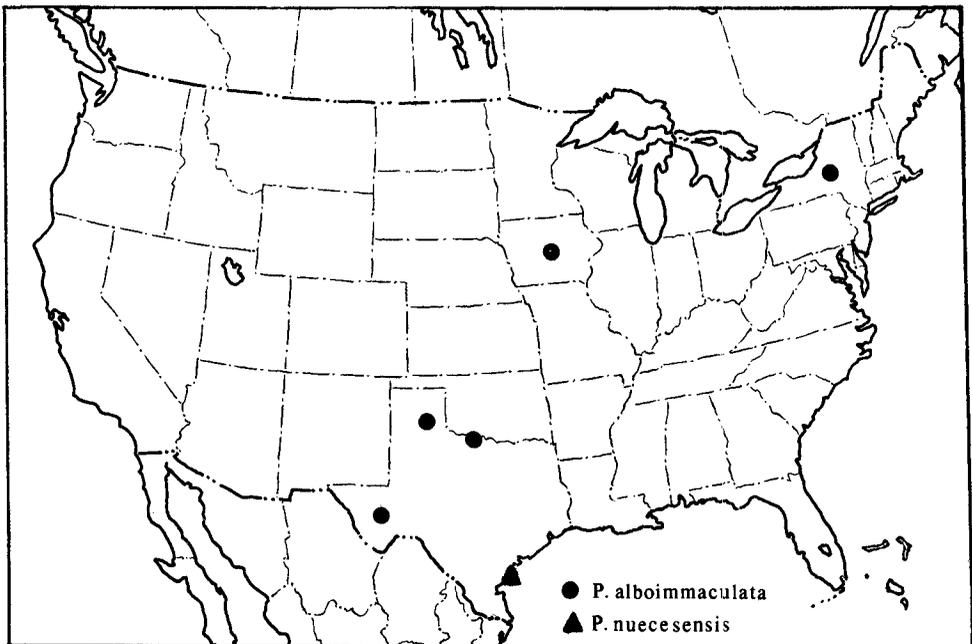


Fig. 10.—Distributions of *Poultonella alboimmaculata* (Peckham and Peckham) and *P. nuecesensis*, new species.

receptaculum seminis, and less bulbous shape of the tegulum. The epigynum of *P. nuecesensis* differs from *P. alboimmaculata* by the shorter guide and openings, and by having the openings more curved. The spermathecae of *P. nuecesensis* differs from those of *P. alboimmaculata* by having the anterior margin pointed and with the origin of the efferent ducts mesad, whereas *P. alboimmaculata* is more laterad.

**Description.**—Female: Poorly preserved, most colors faded, but in usable state for comparative purposes. Epigynum (Fig. 8). Spermathecae (Fig. 9). Cephalothorax orange-red (reddish-brown in ethanol); with sparse white hairs anteriorly, sparse, long, white hairs and few white spatulate hairs posteriorly. Abdomen orange-red (dark brown in ethanol); dorsum with many white, spatulate hairs, long white hairs anteriorly; venter orange-red (dark brown in ethanol) with few, white, spatulate hairs. Spinnerets reddish-brown. Sternum brown with white, spatulate hairs, margins with long, white hairs. All legs reddish-orange. Femur I with white spatulate hairs forming a circular band on distal end. Femora II-IV with dorso-lateral strips of white, spatulate hairs. Patella I with circular white, spatulate, hair bands on ends. Matatarsus I has a longitudinal stripe of white, spatulate hairs on the retrolateral surface. All other segments unmarked. Total length, 4.41; carapace length, 1.64; carapace width, 1.23; leg I length, 2.77; leg II length, 2.18; leg III length, 2.14; leg IV length, 3.12.

Male: Color and markings essentially as female, but brighter. Cephalothorax and abdomen with white, spatulate hairs on posterior portions, number greatly reduced. Dorsum femur I and IV with thin, black hairs. Palpi (Fig. 4 and 5). Measurements of three mature males; holotype in parenthesis, paratypes after holotype. total length, (3.35) 2.69-4.83; carapace length, (1.56) 1.48-1.92; carapace width, (1.38) 1.04-1.48; leg I length, (3.26) 2.72-4.16; leg II length, (2.19) 1.96-2.75; leg III length, (2.16) 1.94-2.65; leg IV length, (2.83) 2.40-3.64.

**Range.**—Known only from the type locality.

**Habitat.**—The four known specimens were taken as adults in early April and August by sweeping low vegetation; a female and one male from *Gaillardia pulchella* (Compositae), the other males on salt-grass.

#### ACKNOWLEDGMENTS

We are grateful to Dr. H. W. Levi, Museum of Comparative Zoology at Harvard University, for the loan of the holotype of *Poultonella alboimmaculata* and Dr. W. J. Gertsch, Portal, Arizona for critical review of the manuscript.

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