
A new genus of wolf spiders from Mexico and Southern United States, with description of a new species from Texas (Araneae: Lycosidae)

Género nuevo de arañas lobo de México y sur de Estados Unidos, y descripción de una especie nueva de Texas (Araneae: Lycosidae)

Charles D. Dondale¹, Maria-Luisa Jiménez^{2*} y Gisela Nieto²

¹Research Branch, Agriculture and Agri-Food Canada, K.W. Neatby Bldg., 960 Carling Ave., Ottawa, ON K1A 0C6, Canada.

²Laboratorio de Entomología y Aracnología, Centro de Investigaciones Biológicas del Noroeste, Apdo. Postal 128, La Paz, B.C.S., 23090, México.

*Correspondent: ljimenez04@cibnor.mx

Abstract. *Pardosa parallela* Banks, 1898 is made the type species of the new genus *Camptocosa*. *Camptocosa parallela* new combination is re-described from fresh material, and a new species *C. texana*, is described from Texas.

Key words: Lycosidae, *Camptocosa*, new genus

Resumen. *Pardosa parallela* Banks, 1898 ha sido designada como especie tipo del nuevo género *Camptocosa*. *Camptocosa parallela* nueva combinación, es redescrita de material recientemente colectado y una nueva especie, *C. texana* es descrita para Texas.

Palabras clave: Lycosidae, *Camptocosa*, género nuevo.

Introduction

One of the more problematic species of American Lycosidae was described as *Pardosa parallela* Banks, 1898. The species was based on several female specimens collected in the Sierra San Lázaro, Baja California, México. This species was later transferred to the genus *Schizocosa* Chamberlin, 1904 by Gertsch and Wallace (1937) and retained there by Gertsch and Davis (1940). Chamberlin (1910) described *Schizocosa celerior* from Las Vegas, Nevada, basing his generic placement on the impressive bottle brush of black erect setae on the front legs of the male, a character expressed in males of some species of *Schizocosa*. Gertsch and Davis (1940) proposed *S. celerior* as a junior synonym of *S. parallela*. Today the species is catalogued under the genus *Allocosa* Banks, 1900 (Roewer 1955, Platnick 2004), though Dondale and Redner (1978, 1983) felt that it lacked the diagnostic characters of either *Schizocosa* or *Allocosa*. Here we make *parallela* the type species of the new genus *Camptocosa*, and describe a second species *C. texana*.

Description

Camptocosa n. gen

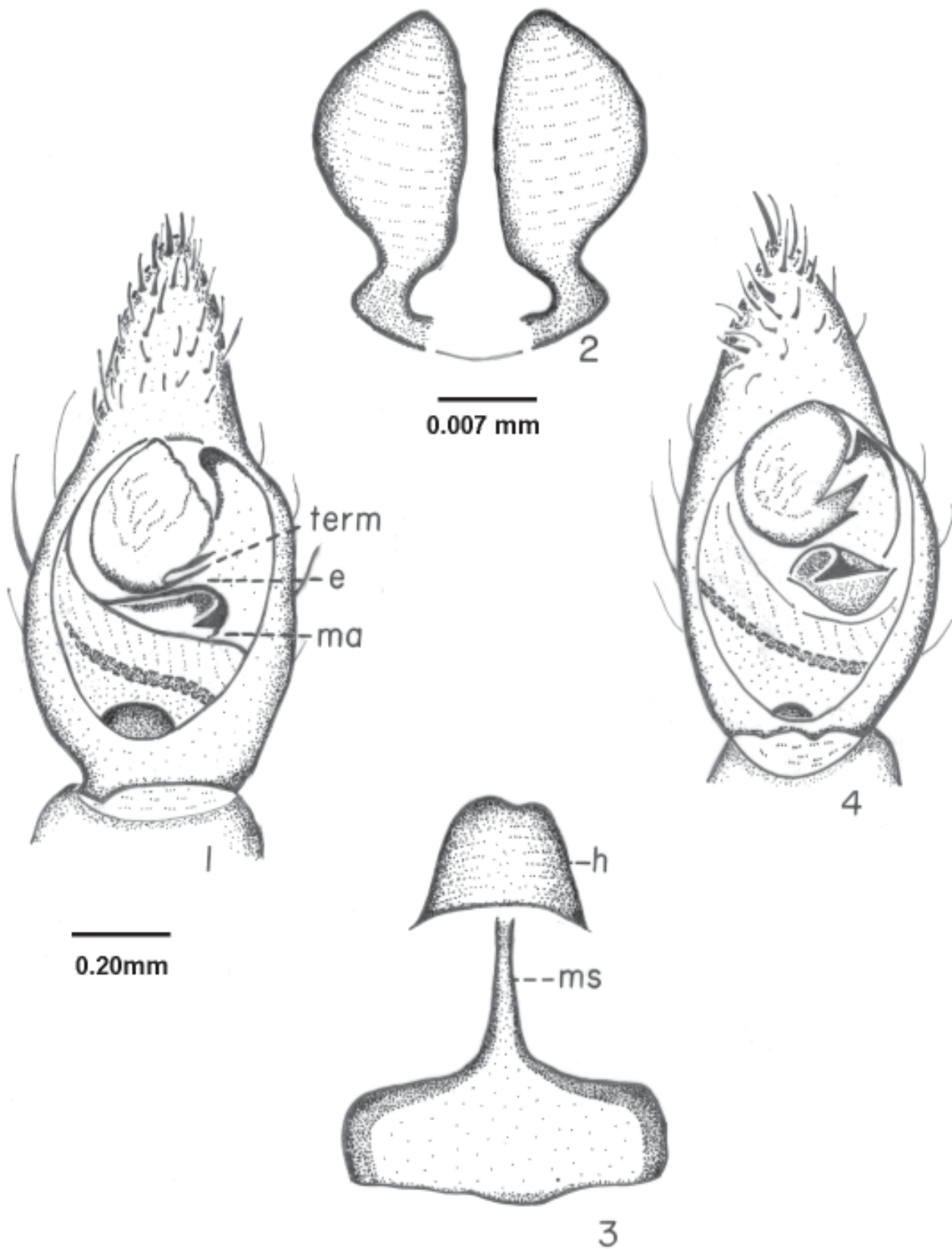
Type species. *Pardosa parallela* Banks, 1898. A genus of the family Lycosidae belonging to the Trochosa group of genera because possess a sickle-shaped terminal apophysis situated at the base of the embolus and tegular

lobe large, earlike functioning as conductor (Dondale, 1986). Representatives are distinguished from those of other genera in that group by the distinctively bent tip of the median apophysis in males and by the short slender longitudinal piece of the median septum in females. The unusually long and curved tegular lobe, the rounded or bulbous spermathecae, and the slender angled copulatory tubes are characters shared with representatives of the genera *Gladicosa* Brady, 1986 and *Hesperocosa* Gertsch and Wallace, 1937.

Male and female: Size medium (total length 5.1-7.0 mm). Tibia I of male with brush of long black erect setae. Palpus of male with terminal apophysis and embolus both short, slender, curved (Figs. 1,4); median apophysis with tip bent upon itself, with distinct ledge; epigynum (Fig. 3) with large protruding double hood, and with longitudinal piece of median septum short, slender; spermathecae large, round, kidney shaped, or ovoid; copulatory tubes short, slender, angled (Fig. 2).

Included species: *Camptocosa parallela* (Banks 1898), new combination, and *C. texana* new species.

Etymology: The name *Camptocosa* is derived from the Greek word *kamptos*, meaning bent, and *cosa*, from the Greek *Lycosa*, a genus of wolf spiders. The name refers to the distinctively bent tip of the median apophysis on the palpus of the male. The name is regarded as feminine in gender.



Figures 1-3. *C. parallela*, 1. male palpus, ventral view. 2. spermathecae, dorsal view. 3. epigynum, ventral view. 4. *C. texana*. Male palpus, ventral view. *e*, embolus; *h*, hood; *ma*, median apophysis; *ms*, median septum; *term*, terminal apophysis. Same scale bar for figures 1 and 4, same for figures 2 and 3.

Camptocosa parallela (Banks) Figs. 1-3.

Pardosa parallela Banks, 1898:276, fig. 27 (pl.16).

Schizocosa celerior Chamberlin, 1910: 2, figs. 1,2 (pl.1). Gertsch and Wallace, 1937:18. First synonymized under *P. parallela* Banks, 1898 by Gertsch and Davis, 1940: 10, here confirmed.

Allocosa parallela: Roewer, 1955:209. Platnick, 2004.

Males of *C. parallela* are distinguished from that of *C. texana* by the separate terminal apophysis and embolus and by the smaller fold on the median apophysis. *Camptocosa parallela* is the only species for which the female is known. **Male** (Fig. 1). Total length 5.58±0.29 mm; carapace 3.09±0.16 mm long, 2.26±0.16 mm wide (10 specimens measured). Carapace dull yellow, with distinct reddish or dark brown longitudinal bands; bands including the eyes and front; submargins with row of dark spots. Chelicerae reddish brown, with 3 teeth on promargin and 3 (sometimes 2) on retromargin. Anterior row of eyes procurved or straight, shorter than middle row; anterior median eyes equal to or larger than anterior lateral eyes. Legs dull yellow, with faintly visible rings on femur and basitarsus I; tibia I with long dense black setae forming brush, and basal half of basitarsus I with similar brush of pale setae; tibia I with 3 pairs of ventral macrosetae; scopula rather dense; trochanters with shallow notch. Sternum pale yellow, sparsely covered with erect brown setae. Abdomen dark yellow, with variable dark pattern dorsally; venter pale yellow. Palpal tibia nearly as long as cymbium, with stridulatory file at tip; cymbium with 9-16 stout dark macrosetae at tip and with stridulatory pick at base; terminal apophysis and embolus both short, slender, parallel; median apophysis bent at tip.

Female (Figs. 2 and 3). Total length 6.46±0.56 mm; carapace 3.19±0.32 mm long, 2.38±0.20 mm wide (10 specimens measured). Coloration of carapace, legs, and abdomen much as in male but leg I lacking the setal brush; scopula rather sparse. Epigynum with large prominent hood; median septum with longitudinal piece short, slender; posterior transverse piece approximately rectangular and with small lip at posterior margin. Copulatory tubes rather slender, not coiled, angled at mid-length. Spermathecae round to ovoid or somewhat kidney-shaped, sometimes with minute nodules at anterior ends.

Range. Interior California east to southern Utah and Texas, south to Baja California Sur and Durango.

Natural history. Chamberlin (1910) observed males and females «in large numbers running across a footpath along a small stream» at Las Vegas in September, 1909. The spiders seemed to be specially active after sunset. Other specimens have been found in deserts on open stony ground and on sandy ground of an oasis at Baja California Sur. Adult males were collected from mid-May to early August, and adult females from 17 June to 15 September. One female with young spiderlings on her back was recorded on 25 July.

Material examined. Types of *Pardosa parallela*, several syntype females from Sierra San Lázaro, Baja California Sur, México (23° 14'N 109° 49'W), deposited in the

California Academy of Sciences, San Francisco, California, destroyed; one female syntype from the same locality, deposited in the Museum of Comparative Zoology, Harvard University (MCZ#22578), examined. Of *Schizocosa celerior*, one male and one female syntype from Las Vegas, Clark County, Nevada (36° 03'N, 115° 08'W), 2 June 1909 (R.V. Chamberlin), deposited in the Museum of Comparative Zoology, Harvard University (MCZ#20752), examined.

Other material examined. Eighty-five males and 150 females from the following localities: MEXICO: BAJA CALIFORNIA SUR: Arroyo de San José de Comodú (26°03'N, 111°49'W) 17 June 2003, 1 male, 1 female in Colección de Aracnológica y Entomológica, Centro de Investigaciones Biológicas del Noroeste, La Paz. SONORA: 16 km southwest of Agua Prieta (31°18'N, 109°34'W) 15 September 1970 (V. Roth), 1 male, 3 females in the American Museum of Natural History, New York (AMNH). CHIHUAHUA: Chihuahua (28°47'N, 106°10'W) 8 September 1964 (W. Ivie), 1 female in AMNH; Primavera (25°03'N, 99°10'W) 29 June 1947 (W. J. Gertsch), 1 male, 3 females in AMNH; Camargo (27°40'N, 105°10'W) 13 July 1947 (W. J. Gertsch), 1 female in AMNH. COAHUILA: Saltillo (20°41'N, 102°09'W) 5 July 1936 (Davis), 1 female in AMNH. DURANGO: La Quebrada (27°41'N, 104°29'W) 30 July 1947 (W. J. Gertsch), 2 females in AMNH. UNITED STATES OF AMERICA: CALIFORNIA: SAN BERNARDINO COUNTY: Twenty-nine Palms (34°07'N, 116°03'W) 1-15 July 1945 (J. H. Branch), 1 female in AMNH. ARIZONA: MARICOPA COUNTY: 9 km northwest of Cavecreek (33°00'N, 111°57'W) August 1966 (W. Eberhard), 4 females in AMNH; Phoenix (33°27'N, 112°04'W) July 1964 (W. Eberhard), 9 males, 4 females in AMNH. PIMA COUNTY: Tucson (32°13'N, 110°58'W) 25 June 1971 (F. Richman), 1 male in AMNH; 20 May 1941 (R. H. Crandall), 1 female in AMNH; 5 July 1954 (W. J. Gertsch), 1 male in AMNH; 10-20 July 1967 (H. K. Wallace), 5 males, 3 females in AMNH; July/August 1935 (P. Steckler), 1 female in AMNH; 4 August 1973 (P. Steckler), 1 female in AMNH; 26 August 1973 (W. J. Gertsch), 1 female in AMNH; Brown Canyon, Baboquivari Mountains (34°12'N, 111°35'W) 19 July 1959 (V. Roth), 1 female in AMNH; 9 June 1952, 1 male in AMNH; 18-29 July 1951 (W. S. Creighton), 1 female in AMNH; 4 September 1950 (W. J. Gertsch), 1 female in AMNH; Quitobaquito, Organ Pipe Cactus National Monument (32°02'N, 113°00'W) 13 June 1952 (M. Cazier, W. Gertsch, R. Schrammel), 3 males, 1 female in AMNH; Molina Basin, Santa Catalina Mountains AMNH ains (32°26'N, 110°45'W) 24 July 1965 (W. J. Gertsch and R. Hastings), 1 female in AMNH; 6 km south of Oracle (32°26'N, 110°45'W) 25 July 1949 (W. J. and J.W. Gertsch), 1 male in AMNH. SANTA CRUZ COUNTY: Dry Canyon, Whetstone Mountains (31°30'N, 111°03'W) 21 August 1951 (W. S. Creighton), 1 female in AMNH. COCHISE COUNTY: Portal (31°54'N, 109°08'W) 1 July - 29 August 1964-73 (W. J. Gertsch), 12 males, 27 females in AMNH; 1 July 1975 (J. Russell), 1 male in AMNH; 19 July 1964 (J. A. Woods and V. Roth), 1 male in AMNH; 22 July 1966 (L. Pinter), 1 female in AMNH; August 1960 (Zweifel),

12 males, 2 females in AMNH; August 1964 (V. Roth), 1 male 1 female in AMNH; Southwestern Research Station, 9 km east of Portal, 6-20 July 1955 (W. J. Gertsch), 3 males, 1 female in AMNH; 25 July 1968 (V. Roth), 1 female in AMNH; 6 July 1962 (A. R. Brady), 3 males 8 females in AMNH; Paradise (32°06'N, 109°55'W) 22 August 1964 (R. Hastings), 1 female in AMNH; Dragoon (32°01'N, 110°02'W) 15 August 1963 (V. Roth), 1 female in AMNH. YAVAPAI COUNTY: 9.6 km southeast of Camp Verde (34°31'N, 111°45'W) 24 June 2000 (P. W. Miller, G. Stratton, R. Suter), 2 males in Pat Miller Collection; 1 male in Canadian National Collection of Insects and Arachnids, Ottawa, Ontario; Jerome (34°44'N, 112°06'W) 12 September 1962 (V. Roth), 1 female in AMNH; Montezuma Pass (34°20'N, 111°40'W) 6 September 1950 (W. J. Gertsch), 1 female in AMNH. NEW MEXICO: HIDALGO COUNTY: Rodeo (31°50'N, 109°01'W) 6 July 1962 (A. R. Brady), 4 males 2 females in AMNH; 5 August 1963 (V. Roth), 10 females in AMNH; 10 July 1962 (W. J. Gertsch), 2 males, 1 female in AMNH; Animas (31°57'N, 108°48'W) 28 August 1964 (W. J. Gertsch), 1 female in AMNH; Lordsburg (32°20'N, 108°42'W) 17 July 1970 (M. H. Muma), 1 male, 5 females in AMNH; 28 July 1970 (M. H. Muma), 2 males, 1 female in AMNH. NEVADA: CLARK COUNTY: LAS Vegas (36°03'N, 115°08'W) 10 June 1909 (R. V. Chamberlin), 1 male, 3 females in AMNH; 27 July 1944 (D. J. Zim), 1 female in AMNH; 2 males in AMNH; 2 July 1945 (D. J. Zim), 1 female in AMNH; Moapa (36°40'N, 114° 37'W) 10 June 1934 (Ivie and Rasmussen), 1 female in AMNH. UTAH: WASHINGTON COUNTY: St. George (37°06'N, 113°34'W) 12-21 June 1934 (W. Ivie), 3 males, 4 females in AMNH; Zion National Park (37°09'N, 113°04'W) 21 June 1973 (W. Ivie), 1 male in AMNH. TEXAS: BREWSTER COUNTY: Chisos Basin (29°00'-29°30'N, 103°00'-103°50'W) 24-25 May 1967 (A. R. Brady), 3 males in AMNH; Big Bend National Park 27 August 1967 (Gertsch and Hastings), 1 female in AMNH; 28 May 1952 6 males, 13 females in AMNH; 3 July 1962 (A. R. Brady), 3 females in AMNH.

Camptocosa texana n. sp (Fig. 4).

Males of *C. texana* are distinguished from those of *C. parallela* (Banks) by the conjoined terminal apophysis and embolus, and by the larger bend on the median apophysis. *Male* (Fig. 4). Total length 5.98 mm (holotype), 6.03 mm (paratype); carapace 3.03, 3.18 mm long, 2.24, 2.30 mm wide. Carapace orange, with paired reddish or reddish brown longitudinal bands; bands enclosing eyes. Anterior row of eyes shorter than middle row; anterior median eyes equal to or somewhat larger than anterior lateral eyes. Chelicerae orange or dark red, with 3 teeth on promargin and 3 on retromargin. Sternum dull yellow, with scattered erect dark setae. Legs pale orange; tibia and basal half of basitarsus I with brush of long dark setae; brush longer and more dense dorsally and ventrally; trochanters with shallow notch. Abdomen with indistinct heart mark and crossbars. Venter yellow. Palpal tibia nearly as long and wide as cymbium, with stridulatory file at tip; cymbium with stridulatory pick

at base, and with 9-16 stout macrosetae at tip. Terminal apophysis and embolus conjoined except at tips; median apophysis bent abruptly at tip, with ledge; tegular lobe long, curved, abruptly tapered and rugose at tip.

Female. Unknown.

Material examined: Holotype male from 2 miles south of Riviera, Kleberg County, Texas (27° 17'N, 97° 48'W), 14 April 1963 (W.J. Gertsch and W. Ivie), deposited in the American Museum of Natural History, New York. Paratype male from Hully Gully Cave, Culberson County, Texas, 8 July 1970 (J. Reddell), deposited in the American Museum of Natural History, New York.

Etymology: The specific epithet is derived from the name of the State of Texas.

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Literature cited

- Banks, N. 1898. Arachnida from Baja California and other parts of Mexico. *Proceedings of the California Academy of Sciences (Zoology)* 1: 205-308.
- Chamberlin, R.V. 1910. A new lycosid from Nevada. *Entomological News* 21: 1-4.
- Dondale, C.D. and J. H. Redner. 1978. Revision of the nearctic wolf spider genus *Schizocosa* (Araneidae: Lycosidae). *Canadian Entomologist* 110: 143-181.
- Dondale, C.D. and J. H. Redner. 1983. The wolf spider genus *Allocosa* in North and Central America (Araneae: Lycosidae). *Canadian Entomologist* 115: 933- 964.
- Dondale, C.D. 1986. The subfamilies of the wolf spiders (Araneae:Lycosidae). *Actas X Congreso Internacional de Aracnología. Jaca/España*. 1: 327-332.
- Gertsch, W.J. and I. Davis. 1940. Report on a collection of spiders from Mexico II. *American Museum Novitates* 1059. 18 p.
- Gertsch, W. J. and H. K. Wallace. 1937. New American Lycosidae with notes on other species. *American Museum Novitates* 919. 22 p.
- Platnick, N.I. 2004. The world spider catalog, version 5.0. American Museum of Natural History online at <http://research.amnh.org/entomology/spiders/catalog/INTRO.html>
- Roewer, C.F. 1955. *Katalog der Araneae*. Band 2. Institut Royal des Sciences Naturelles de Belgique, Brussels, Belgium. 1751 p.