



## A new species of the selenopid crab-spider genus *Selenops* Latreille, 1819 (Araneae: Selenopidae) from Guerrero, Mexico

The spider family Selenopidae Simon, 1897 consist of four genera, of which *Selenops* Latreille, 1819 has about 110 species in tropical to temperate regions around the world (Platnick 2007). The distribution of this genus in America is from Argentina and Paraguay in South America, northward through tropical and subtropical America to Florida, Texas, New Mexico, Arizona, and southern California in North America (Muma 1953). These spiders can be found in different habitats, from dry desert and chaparral to tropical areas. They are typically found under rocks and other objects on the ground, occasionally inside tree trunks, and between the bases of the leaves of tropical plants. They also occur in the entrances of caves, on flat surfaces and in narrow cracks and crevices. They are commonly found inside human habitations. Their flattened body allows them to slide into these cracks with very fast movements, which makes their collection in the field difficult. They are nocturnal and do not build webs (Muma 1953).

The first systematic study of the genus was done by Walckenaer (1837), who recognized three species groups based on the chelicerae, labium and leg lengths (Crews 2005). However, Simon (1880) could not corroborate the characters used by Walckenaer, and separated Old and New World species based on eye size. Later, O. Pickard-Cambridge (1905) distinguished species of the American continent using eye size, eye position and genitalic characters (Crews 2005). The most complete work on the genus *Selenops* in North and Central America was made by Muma (1953) who described several new species based on leg lengths, eye size and position, and genitalic characters (Crews 2005).

*Selenops* differs from other selenopids genera by the arrangement of the eyes: the anterior median eyes, posterior median eyes and anterior lateral eyes are aligned or slightly recurved, with the posterior median eyes being equal or subequal in size to the anterior median eyes (Corronca 2002). The male palp has two apophyses, with the retrolateral tibial apophysis (RTA) being larger than the ventral tibial apophysis (VTA). The median apophysis of the tegulum is small and simple, showing one or two branches. The female epigynum is characterized by the well-developed central area with distinct lateral lobes (Corronca 2002).

From Mexico 14 species are recorded, including the new species that is described below. These species belong to two groups: the *debilis* and *mexicanus* groups. In the state of Guerrero three species have been reported: *S. gracilis* Muma, 1953 (*mexicanus* group), *S. scitus* Muma, 1953 (*debilis* group) and *S. nigromaculatus* Keyserling, 1880 (unplaced species).

**Material and methods.** The specimens used in this study are deposited in the Colección Nacional de Arácnidos (CNAN) of the Instituto de Biología, Universidad Nacional Autónoma de México (IBUNAM). Palps and epigynes were dissected in isopropilic alcohol (80%) and cleared in KOH (10%) for 10 to 15 minutes. A dissecting microscope Zeiss Stemi SV11 with a camera lucida attached was used to make the drawings. All measurements are in millimeters.

**Abbreviations of morphological terms:** AER, anterior eye row; ALE, anterior lateral eyes; AME, anterior median eyes; C, conductor; CD, copulatory duct; E, embolus; GO, genital openings; LLE, lateral lobes of the epigynum; MA, median apophysis; MF, middle field; P, promargin; PER, posterior eye row; PLE, posterior lateral eyes; PME, posterior median eyes; R, retromargin; RTA, retrolateral tibial apophysis; S, spermatheca; T, tegulum; VTA, ventral tibial apophysis.

### *Selenops juxtlahuaca* sp. nov.

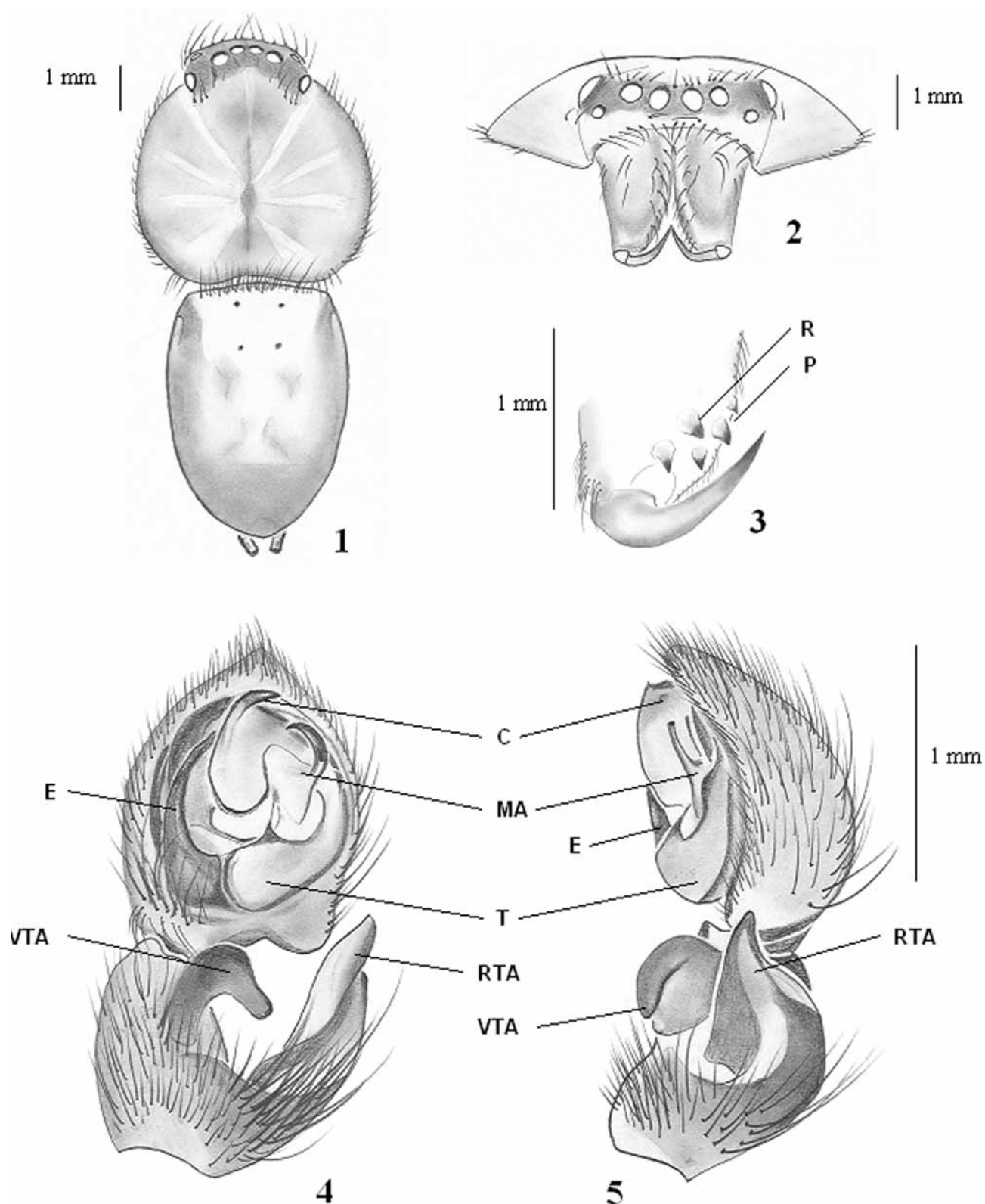
Figures 1–8

**Type material.** Holotype: male, from near entrance of the caves named Grutas de Juxtlahuaca, 938 m, 5 km northwest of the town of Colotlipa, 59 km southeast of Chilpancingo, [17° 26' 32.4" N, 99° 09' 57.0", Guerrero, Municipality of Quechultenango, Mexico], 17 January 2006, Valdez, A. and Montaña, H. (CNAN T0239).

Paratypes: 1 male, 2 females, 7 immatures, 9 and 15 September 2005, same locality as holotype (CNAN T0240–T0244).

**Etymology.** The specific name is a noun in apposition and refers to the type locality.

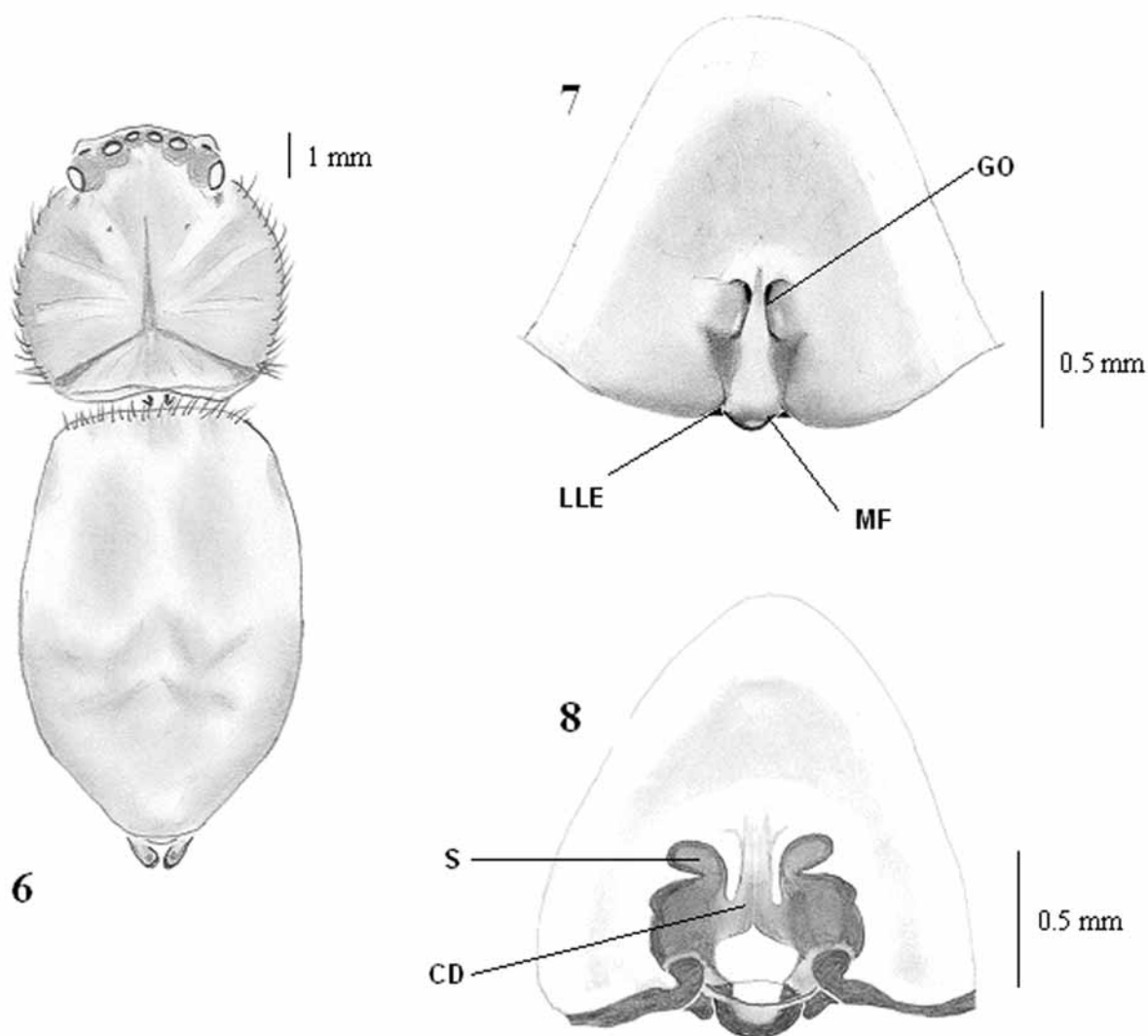
**Diagnosis.** Males can be distinguished by the unique shape of VTA which points towards the base of the RTA, and by the thin and short conductor with curved form in his distal part (Figs 4, 5). Females can be distinguished by the epigynum with two heavily chitinized structures anteriorly and by the middle field which extends beyond the epigastric furrow (Figs 7, 8).



**FIGURES 1–5.** *Selenops juxtlahuaca* sp. nov. Male: 1 Prosoma and opisthosoma, dorsal view; 2 Prosoma, frontal view; 3 Left quelicera, teeth of promargin and retromargin; 4 Left palp, ventral view; 5 Left palp, retrolateral view.

**Description.** Male (Holotype). Total length 10, prosoma 4.8 long and 4.8 wide. Prosoma pale orange, circular, with a projection to the anterior portion (Fig. 1). Chelicerae oblique, pale orange like the prosoma, with a white spot on prolateral face and dark spots in front of each chelicera (Fig. 2). Promargin of the chelicerae with three teeth, the middle one bigger; retromargin with two teeth of equal length (Fig. 3). Size of clypeus a little more than half of diameter of AME (Fig. 2). AER and PER with four eyes. Diameter of PLE 0.5, ALE 0.2, AME 0.3 and PME 0.4. AME–ALE 0.5. PME–PLE 0.5. Sternum circular, pale orange. Coxae long. Opisthosoma pale grey. Leg lengths: I femur 5.5/ patella 2.3/ tibia 5.3/ metatarsus 5.3/ tarsus 3.2/ total 21.6. II 6.2/ 2.3/ 5.6/ 5.5/ 3.0/ 22.6. III 6.5/ 2.2/ 5.5/ 5.6/ 3.0/ 22.8. IV 6.5/ 1.9/ 5.7/ 5.8/ 3.1/ 23.0. Leg formula: 4-3-2-1. Legs grey, coxae and trochanters lighter, patellae, tibiae, metatarsi and tarsi darker. Ventral spines formula: Tibiae I and II 2+2+2, tibiae III and IV 2+2; metatarsi I–IV 2+2. Femura lighter ventrally. All leg segments with irregular dark spots. RTA longer than tibia (Fig. 4). Embolus short, almost half of the bulb length (Fig. 4).

Female (Paratype). Total length 12, prosoma 5.3 long and 5.3 wide. Prosoma circular, dark orange (Fig. 6). Chelicerae teeth and clypeus as in the male. Diameter of PLE 0.5, ALE 0.2, AME 0.3 and PME 0.4. AME–ALE 0.5. PME–PLE 0.5. Sternum, coxae and form and coloration of the opisthosoma similar to the male. Leg lengths: I femur 5.1/ patella 2.4/ tibia 4.5/ metatarsus 4.15/ tarsus 2.3/ total 18.45. II 5.9/ 2.5/ 4.8/ 4.4/ 2.3/ 19.9. III 6.1/ 2.2/ 5.0/ 4.5/ 2.3/ 20.1. IV 6.0/ 2.1/ 5.2/ 4.7/ 2.3/ 20.3. Leg formula: 4-3-2-1. Legs orange, patellae, tibiae, metatarsi and tarsi darker. Femora pale ventrally. All leg segments with irregular dark spots, well marked on tibiae and metatarsi. Ventral spines formula as in the male. Genital openings in the anterior portion of the middle field (Fig. 7). Oval and separated spermathecae with solid copulatory ducts (Fig. 8).



**FIGURES 6–8.** *Selenops juxtlahuaca* sp. nov. Female: 6 Prosoma and opisthosoma, dorsal view; 7 Epigynum, ventral view; 8 epigynum, dorsal view.

**Distribution.** Known only for the type locality.

**Remarks.** *Selenops juxtlahuaca* **sp. nov.** can be included in the *debilis* group, by having a leg formula 4-3-2-1, the shape of the tibial apophyses (Fig. 4), and by the shape of the epigynum with a subquadrate middle field (Fig. 7). Six mexican species belong to the *debilis* group: *Selenops abyssus* Muma, 1953; *S. actophilus* Chamberlin, 1924; *S. debilis* Banks, 1898; *S. lepidus* Muma, 1953; *S. nesophilus* Chamberlin, 1924; and *S. scitus* Muma, 1953. Locus typicus of the latter is located in Guerrero State.

*Selenops juxtlahuaca* **sp. nov.** resembles *S. actophilus* in the general shape of the tibial apophyses, but in the new species the VTA has a projection towards the base of the RTA. The conductor of *S. juxtlahuaca* is smaller and thinner than that of *S. actophilus*. The females of *S. juxtlahuaca* differ from those of *S. actophilus* in the shape of the middle field with a posterior projections to the epigastric furrow.

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