

A New Species of *Sphacophilus* (Hymenoptera: Argidae) from Mexico Feeding on Chipilin, *Crotalaria longirostrata* (Fabaceae)

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**A NEW SPECIES OF *SPHACOPHILUS* (HYMENOPTERA: ARGIDAE)
FROM MEXICO FEEDING ON CHIPILIN, *CROTALARIA*
LONGIROSTRATA (FABACEAE)**

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Abstract.—*Sphacophilus monjarasi* Smith and Morales-Reyes, n. sp., is described from Chiapas, Mexico. Larvae feed on chipilin, *Crotalaria longirostrata* Hook. & Am. (Fabaceae), an agricultural crop in Mexico and Central America.

Key Words: sawfly, Symphyta, agricultural pest

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Chipilin, *Crotalaria longirostrata* Hook. & Am. (Fabaceae), is valued for its young leaves and shoots cooked and eaten as “greens,” or combined with other foods. It is grown as an agricultural crop in southern Mexico and Central America (Morton 1994). It is also considered a forage plant for animals (Arias et al. 2003). During investigations of insect pests of this plant in Chiapas, Mexico, sawfly larvae were discovered feeding on the young leaves and shoots of chipilin. Adults obtained from these larvae were determined as a new species of *Sphacophilus* Provancher (Argidae), which is described here

to provide a name for this potential pest.

Sphacophilus includes 49 described species (Smith 1971, 1992; Taeger et al. 2010) distributed from southern Canada to Brazil with most species from southwestern United States to Central America. Hosts are not known for many species, but where known most belong to Fabaceae. In the United States, Smith (1971) reported *Dalea* (as *Petalostemum*) (Fabaceae) as a host for *Sphacophilus klugii* (Leach) and *S. nigriceps* (Konow); *Psoralea* and *Desmodium* (Fabaceae) as hosts for *S. abdominalis* (Cresson), *S. albicosta* Smith, and *S. apios* (Ross);

and *Ipomoea* and *Convolvulus* (Convolvulaceae) as hosts for *S. cellularis* (Say). In Costa Rica, *S. janzeni* Smith was reported on *Hymenaea courbarii* L. (Fabaceae) and *S. edus* Smith on *Heteropterys laurifolia* (L.) A. Juss (Malpighiaceae) (Smith and Janzen 2003).

MATERIALS AND METHODS

Acronyms used are USNM, National Museum of Natural History, Smithsonian Institution, Washington, D.C., USA; CNIN, National Insect Collection, Universidad Nacional Autónoma de México, México D. F., México.

Images were obtained using an Entovision Imaging Suite that included a firewire JVC KY-75 3CCD digital camera mounted to a Leica M16 zoom lens via a Leica z-step microscope stand. Multiple focal planes were merged using Cartograph 5.6.0 (Microvision Instruments, France) software.

Larvae were collected from leaves and stems of *Crotalaria longirostrata* and put into 500 ml plastic containers covered with a fine mesh for rearing. One pupa was also collected for rearing. Larvae were fed stems and leaves of the host plant. The collection site was in a suburban area, Valle Morelos, Villa Corzo, Chiapas, Mexico, March 28, 2014, 16°07'56"N, 92°59'37"W.

RESULTS

Sphacophilus monjarasi Smith and Morales-Reyes, new species

(Figs. 1–5)

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Female.—Length, 8.0 mm. Antenna, head, and thorax black. Legs black with front surface of apical half of forefemur and front surface of foretibia light orange.

Abdomen orange; basal plates slightly darkened; apical segment and sheath black. Wings darkly uniformly infuscated, veins and stigma black. Head and body strongly shiny; head and thorax with fine, widely separated punctures and short black hairs, shorter than diameter of an ocellus; abdomen smooth with short yellowish hairs.

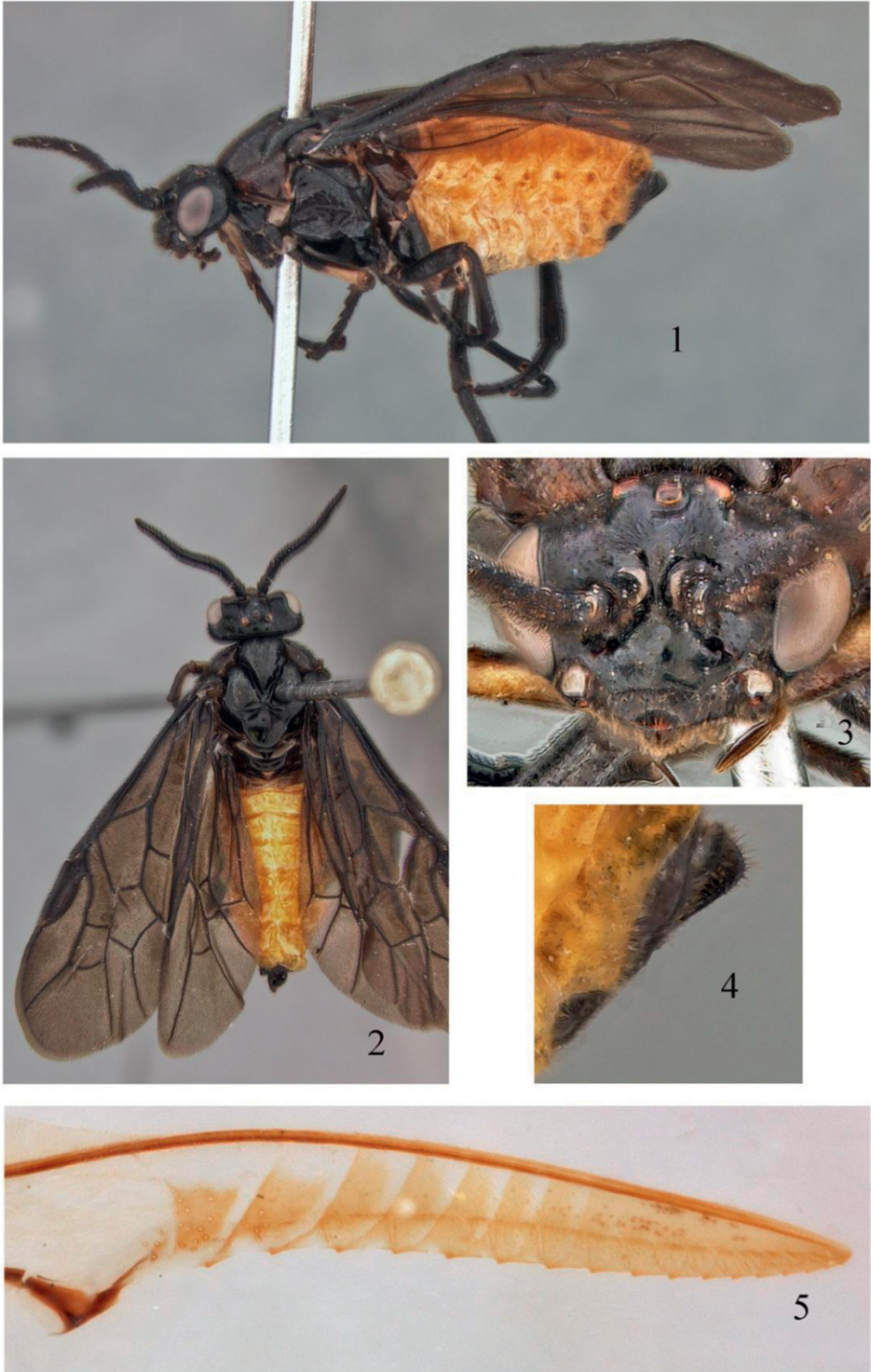
Antennal length 1.3X head width; first antennomere longer than broad; second antennomere broader than long. Eyes small, far apart, and slightly converging below, lower interocular distance 1.5X eye height (Fig. 3). Clypeus truncate; labrum with rounded central emargination. Malar space distinct, about two-thirds diameter of front ocellus. Interantennal carina short, sharp at center, not bisecting supraclypeal area. Postocellar area about 2.3X broader than long. Distances between eye and hind ocellus, between hind ocelli and between hind ocellus and posterior margin of head as 1.0: 0.8:0.6. Hind basitarsomere slightly shorter than rest of tarsomeres combined. Sheath truncate at apex in lateral view (Fig. 4); in dorsal view with short, posteriorly projecting scopae and short posteriorly directed black hairs (similar to Smith 1992: fig. 562). Lancet (Fig. 5), long, slender, with 17–18 serrulae, serrulae flat with no anterior and several very fine posterior subbasal teeth; apical annuli straight, basal annuli slightly slanted, without annular hairs or spines.

Male.—Unknown.

Type material.—Holotype female labeled “J. I. Monjaras B., 20 Marzo – 14, V. Morelos, Chis.” Deposited in USNM. Paratypes: 2 ♀ with same data, deposited in USNM and CNIN.

Etymology.—Named for the collector, José I. Monjarás-Barrera.

Discussion.—The distinctive color of *Sphacophilus monjarasi*, with the head, thorax, and legs black contrasting with the bright orange abdomen (Figs. 1, 2),



Figs. 1–5. *Sphacophilus monjarasi*. 1, Lateral. 2, Dorsal. 3, Head, front. 4, Sheath, lateral. 5, Lancet.

is unlike that of most all other species of *Sphacophilus*. Only one, *S. scutinus* Smith approaches it. It will key to couplet 15, *S. scutinus* in Smith (1992) but in *S. scutinus* the lancet (Smith 1992: fig. 587) is more triangular with deeper serrulae, the serrulae have distinct posterior subbasal teeth, and the annuli have short hairs. Also, in *S. monjarasi* the abdomen is all orange except for the infuscated basal plates and apical segment and sheath, the antennae are 1.3X the head width, the postocellar area is about 2.3X broader than long, and the sheath is truncate in lateral view. In *S. scutinus*, the dorsum of the abdomen is light black, at least with a central dark longitudinal stripe, the antenna is 1.5X longer than the head width, the postocellar area is about 1.6X broader than long, and the sheath is rounded in lateral view (Smith 1992: fig. 562). *Sphacophilus monjarasi* can be separated from all other *Sphacophilus* by the divided sheath (with posteriorly extended scopae), distinctive color with the antenna, head, thorax, and legs black and contrastingly orange abdomen, and the long lancet with low, serrate, serrulae, and lack of annular hairs.

Host plant and biology.—The larvae feed on the stems and leaves of chipilin, *Crotalaria longirostrata* Hook. & Am. (Fabaceae). Six larvae of about 1.5 cm in length were found on a single plant. Each larva was found feeding solitarily on a separate stem. Larvae were brought to the laboratory and fed stems and leaves and later pupated. The slightly yellow cocoons were attached to the defoliated

stems of the plant. Three adults emerged in 5-6 days.

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