



Three new species of *Spiladarcha* Meyrick, 1913 (Lepidoptera: Urodidae) from Costa Rica

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Abstract

Three new species of *Spiladarcha* are described from Costa Rica, including *S. puravida* n. sp., *S. septifera* n. sp., and *S. tuberculata* n. sp. The genus *Spiladarcha* is reported from Costa Rica for the first time. Synapomorphies of *Spiladarcha* are revised. Photos of adult habitus and genitalia of known sexes are provided.

Key words: Lepidoptera, Urodoidea, Urodidae, *Spiladarcha*, new species, Costa Rica

Introduction

The urodid genus *Spiladarcha* was described by Meyrick (1913) with the type species, *S. derelicta* Meyrick, 1913. *Anchimacheta* Walsingham, 1914 was synonymized with *Spiladarcha* (Meyrick 1931) but currently these two genera are considered to be distinct from each other (Heppner 1984; Sohn 2012). *Spiladarcha* is very similar to *Wockia* Heinemann, 1870 in superficial appearance, but differs from the latter in having small black dots of raised scales along the upper side of the forewing veins and a short CuP near the outer margin of the hindwing. CuP is either absent or reduced in *Wockia*. Sohn (2012) noted three additional synapomorphies for *Spiladarcha*: male genitalia with a pair of spiniform setal zones on the ventroapical area of the uncus; female genitalia with a zone of longitudinal pleats on the ductus bursae; and a linguiform antrum. The immature stages and life histories of *Spiladarcha* are unknown.

Spiladarcha currently includes two Neotropical species: *S. derelicta* Meyrick, 1913 from Guyana and *S. adamskii* Sohn, 2012 from Venezuela. Two urodid genera, *Incawockia* Heppner, 2010 and *Urodus* Herrich-Schäffer, 1854, occur in Costa Rica (Kyrki 1988; Sohn 2014), but no species of *Spiladarcha* has been known from that country until this study. The objectives of this paper are to describe three new species of *Spiladarcha* from Costa Rica and to revise the definition of the genus.

Materials and methods

All specimens examined were obtained from and will be deposited in the Instituto Nacional de Biodiversidad (= National Biodiversity Institute), Santo Domingo de Heredia, Costa Rica (INBIO). Genitalia slides were prepared following Clarke (1941), except that chlorazol black was used for staining and Euparal resin was used as a permanent slide mounting. Pinned specimens were examined with a Leica MZ APO stereoscope. Slide-mounted specimens were examined with a Leica LEITZ-DMRX microscope. Images were captured using a VDBK digital imaging system, acquired by the United States Department of Agriculture in the Department of Entomology, United States National Museum of Natural History. Verbatim label data are given within quotations only for holotypes; “ | ” indicates a line break. Additional label information is in brackets; [GSN] and [WSN] within

sacculus 7/8 as long as valva, with setal zone along distal half; setae wider and longer on apical part; costal process slender, curved at distal 1/3, dilated in basal 1/3, with setae in basal 2/3 and a spiral line of spines along distal 1/3. Juxta slender, broadened basally, with two divergent apical. Vinculum broadly rounded; saccus linguiform, 1/2 as long as uncus. Phallus slender, slightly broadened to coecum; ductus ejaculatorius arising from anterior end of phallus; cornutus absent.

Female A8 and genitalia (Fig. 12)—Sternite VIII semicircularly emarginated posteromedially, with a pair of digitate, setose projections posteriorly. Papillae anales small, semi-globular. Ovipositor 2× longer than ductus bursae; A9 with semicircular sclerotized area laterally. Apophyses posteriores 1.4× longer than apophyses anteriores. Ductus bursae narrow, with a weakly sclerotized digitate antrum in posterior 1/3; inception of ductus seminalis present near anterior 1/3 of ductus bursae. Corpus bursae elliptical with a signum at middle; signum spiniform, with granulate, semicircular plate basally.

Types: Holotype—male, “HOLOTYPE | *Spiladarcha* | *tuberculata* | SOHN 2014” [red label enclosed with black lines], “COSTA RICA, Heredia: | Est. Biol. La Selva, 50- | 150m, 10°26'N 84°01'W | June 1994, INBio-OET”, “29 Junio 1994 | Lab. Area | L/04/108”, the dissected abdomen in a glycerin-filled plastic envelope attached with the specimen, INBIO. Paratypes (4♂, 3♀)—1♀, same locality as holotype, 19 April 1993 (INBio-OET); 1♂, ditto, 14 February 1994 (INBio-OET); 2♂, 1♀, ditto, 5–14 February 1996 (INBio-OET), [GSN] SJC-767 (♀); 1♀, ditto, 13 March 1996 (INBio-OET), [GSN] SJC-760; 1♂, Puntarenas Prov., Manuel Antonio National Park, Quepos, alt. 80m, March 1991 (R Zuniga), [GSN] SJC-529, [WSN] SJC-W022, all in INBIO.

Distribution: Costa Rica (Heredia, Puntarenas).

Etymology: The species epithet is derived from the Latin word ‘tuber’, meaning “swelling” and refers to the patch of raised scales on the antemedian line of the forewing.

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