

A new species of *Eccopsis* Zeller (Lepidoptera, Tortricidae) from the coastal valleys of northern Chile, with the first continental record of *E. galapagana* Razowski & Landry

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ABSTRACT. A new species of *Eccopsis* Zeller (Lepidoptera, Tortricidae) from the coastal valleys of northern Chile, with the first continental record of *E. galapagana* Razowski & Landry. *Eccopsis* Zeller, 1852 is reported for the first time from Chile. *Eccopsis razowskii* Vargas, n. sp. is described and illustrated based on specimens reared from larvae collected on native *Acacia macracantha* Willd. (Fabaceae) in the coastal valleys of the northern Chilean desert. *Eccopsis galapagana* Razowski & Landry, 2008, previously known only from the Galapagos Islands, Ecuador, is recorded for the first time from continental South America. Larvae of the latter were collected in northern Chile feeding on *Prosopis alba* Griseb (Fabaceae).

KEYWORDS. *Acacia macracantha*; Neotropical; Olethreutini; *Prosopis alba*; taxonomy.

RESUMO. Uma nova espécie de *Eccopsis* Zeller (Lepidoptera, Tortricidae) dos vales litorais do norte do Chile, e o primeiro registro continental de *E. galapagana* Razowski & Landry. *Eccopsis* Zeller (Lepidoptera, Tortricidae) é registrado pela primeira vez para o Chile. *Eccopsis razowskii* Vargas, n. sp. é descrita e ilustrada com base em espécimes criados de larvas coletadas em *Acacia macracantha* Willd. (Fabaceae) nos vales litorais do deserto do norte do Chile. *Eccopsis galapagana* Razowski & Landry, 2008, conhecida previamente das Ilhas Galápagos, Equador, é registrada pela primeira vez para SulAmérica continental. Suas larvas foram coletadas em *Prosopis alba* Griseb (Fabaceae).

PALAVRAS-CHAVE. *Acacia macracantha*; Neotropical; Olethreutini; *Prosopis alba*; taxonomia.

Eccopsis Zeller, 1852 is known largely from the Afro-tropical Region, where it is comprised of fourteen species (Aarvik 2004; Baixeras *et al.* 2009). Aarvik (2004) indicated that there is a specimen identified as *Eccopsis incultana* (Walker, 1863) from Chile (without an abdomen) in the collection of The Natural History Museum, London. However, he stated that additional material is necessary to determine whether this species is actually present in South America. Subsequently, three Neotropical species of *Eccopsis* have been described from Ecuador: one from the mountains of the southern highlands (Razowski & Wojtusiak 2008) and two from the Galapagos Islands (Razowski *et al.* 2008).

On the other hand, an outstanding taxonomic contribution on the fauna of Tortricidae from Chile has been recently published (Razowski & Pelz 2010), but species of *Eccopsis* have been not cited. The purpose of this paper is to describe a new species of *Eccopsis* from the coastal valleys of the northern desert of Chile and present the first continental record of *Eccopsis galapagana* Razowski & Landry, previously known only from Galapagos Islands, Ecuador.

Specimens examined were reared from larvae collected on Fabaceae trees in the Azapa, Chaca, and Lluta valleys, Arica Province, northern Chile. Vouchers are deposited in the “Museo Nacional de Historia Natural de Santiago” (MNNC), Santiago, Chile, and in the “Colección Entomológica de la Universidad de Tarapacá” (IDEA), Arica, Chile.

Eccopsis galapagana Razowski & Landry, 2008

Eccopsis galapagana was previously known only from the Galapagos Islands, Ecuador, specifically from Floreana, Isabela, San Cristóbal, and Santa Cruz islands (Razowski *et al.* 2008). Thus, the specimens collected in northern Chile expand considerably the known geographic distribution of this species. Supposed evolutionary relationships among the moth fauna of the Galapagos Islands and the northern desert of Chile have been already suggested for other moth families, with pairs of morphologically similar species represented by one species restricted to the Galapagos Islands and the other distributed in northern Chile (*e.g.*, Vargas 2003; Vargas & Parra 2004). In the case of *Eccopsis galapagana*, the same species is shared by both geographic areas.

The specimens from Chile were reared from leaf-tying larvae on *Prosopis alba* Griseb (Fabaceae), which represents the first recorded hostplant for *E. galapagana*. Hostplant records for two African species of *Eccopsis* are in the families Anacardiaceae, Euphorbiaceae, and Sterculiaceae (Aarvik 2004). Thus, this is the first record of Fabaceae as a larval host for *Eccopsis*.

The identification of *E. galapagana* was based on comparisons with original descriptions and figures in Razowski *et al.* (2008) and photographs of the male and female genitalia of paratypes of *E. galapagana* provided by Bernard

Landry, "Muséum d'histoire naturelle de Genève", Geneva, Switzerland.

Examined material. CHILE, Arica: 2 males, 2 females, Lluta, Arica, Chile, October 2003, H.A. Vargas coll./reared from larva on *Prosopis alba*; 1 male, Lluta, Arica, Chile, August 2010, H.A. Vargas coll./reared from larva on *Prosopis alba*, July 2010; 2 males, 1 female, Lluta, Arica, Chile, October 2010, H.A. Vargas coll./reared from larva on *Prosopis alba*, September 2010 (IDEA); 2 males, 2 females, same data (MNNC).

Eccopsis razowskii Vargas, sp. nov.

(Figs. 1–3)

Diagnosis. The wing pattern and genitalia of the new species are similar to *E. galapagana*, but the two are easily separated by features of the male and female genitalia. Many short straight spines and a single strong, curved spine are present at terminal part of the right sacculus and near of the dorsal margin of the left sacculus of *E. razowskii*, but these are absent in *E. galapagana*. Many short spines and one long, curved spine are present on the terminal part of the left sacculus of *E. galapagana*, but these are absent in *E. razowskii*. The sterigma is a broad, well sclerotized ring in the female genitalia of *E. razowskii*, whereas it forms a pair of large lobes in *E. galapagana*.

Description. Male (Fig. 1). Head: Mostly reddish brown, vertex covered by elongate reddish brown scales with cleft apex, dorsal area of the front similar to vertex, ventral area covered by short whitish brown scales, occiput with elongate reddish brown scales; antenna filiform, scape and pedicel reddish brown, flagellomeres with dorsal surface with greyish brown scales, ventral surface ciliate; labial palpus slightly upturned, length near two times compound eye diameter, first palpomere whitish brown, second palpomere with elongated reddish brown scales, third palpomere with reddish brown scales. Thorax: Reddish brown dorsally, pale whitish brown laterally; foreleg greyish brown with some light whitish grey scales scattered; midleg similar to foreleg, but with a pair of pale whitish grey tibial spurs; hindleg pale whitish grey, with two pairs of tibial spurs. Forewing: length 4.9–6 mm; mostly pale reddish brown with some greyish brown and white-tipped scales scattered, median fascia dark reddish brown, reaching the discal cell, postmetian fascia reaching the posterior portion of the termen; fringe mostly reddish brown on the termen, dark reddish brown where the postmedian fascia meets the termen; also dark reddish brown on apex and tornus. Hindwing pale whitish grey with concolours fringe. Abdomen: Pale whitish grey. Male genitalia (Fig. 2) with tegumen straight; uncus relatively short, elongate, broadened distally, apex slightly excavated, apical ventral surface with 5–10 short spines; socii drooping, hairy, length similar to uncus, rounded terminally; saccus straight, U-shaped; valvae asymmetrical, without basal lobes; right valva: sacculus with ventral margin with many long spine-like setae along distal half, a distal lobe armed with many short, right spines and one strong, curved spine, cucullus with distal margin broadly rounded,

dorsal margin slightly concave, ventral margin concave distally, internal surface densely covered by short spine-like setae; left valva: sacculus with ventral margin with many long spine-like setae along distal half, more dense at distal lobe, a group of many short, straight spines and one strong, curved spine near to the dorsal margin, cucullus with distal margin broadly rounded, dorsal margin slightly concave, basal half of the ventral margin concave, internal surface densely covered by short spine-like setae; phallus short, strongly curved.

Female. General habitus similar to male. Forewing: length 5–6 mm. Female genitalia (Fig. 3): sterigma as a broad, well sclerotized ring; antrum slightly sclerotized, long, rest of the ductus bursae membranous, short, sinuous; ductus seminalis arising at basis of the membranous portion of the ductus bursae; corpus bursae membranous, spherical; signum ventrally in the corpus bursae, half-moon-shaped, with three-five plain processes with round apex.

Type material. Male holotype CHILE, Arica: Chaca, Arica, Chile, June 2004, H.A. Vargas coll., ex. larva on leaves of *Acacia macracantha* (MNNC). Paratypes CHILE, Arica: 2 males, 3 females, same data as holotype (MNNC); 1 male, Azapa, Arica, Chile, July 2004, H.A. Vargas coll., ex. larva on leaves of *Acacia macracantha*, 1 male, Azapa, Arica, Chile, June 2008, H.A. Vargas coll., ex. larva on leaves of *Acacia macracantha* (IDEA).

Etymology. *Eccopsis razowskii* is dedicated to Dr. Józef Razowski, honoring his outstanding contributions to the systematics of Tortricidae.

Hostplant. The specimens studied were reared from leaf-tying larvae on *Acacia macracantha* Willd. (Fabaceae).

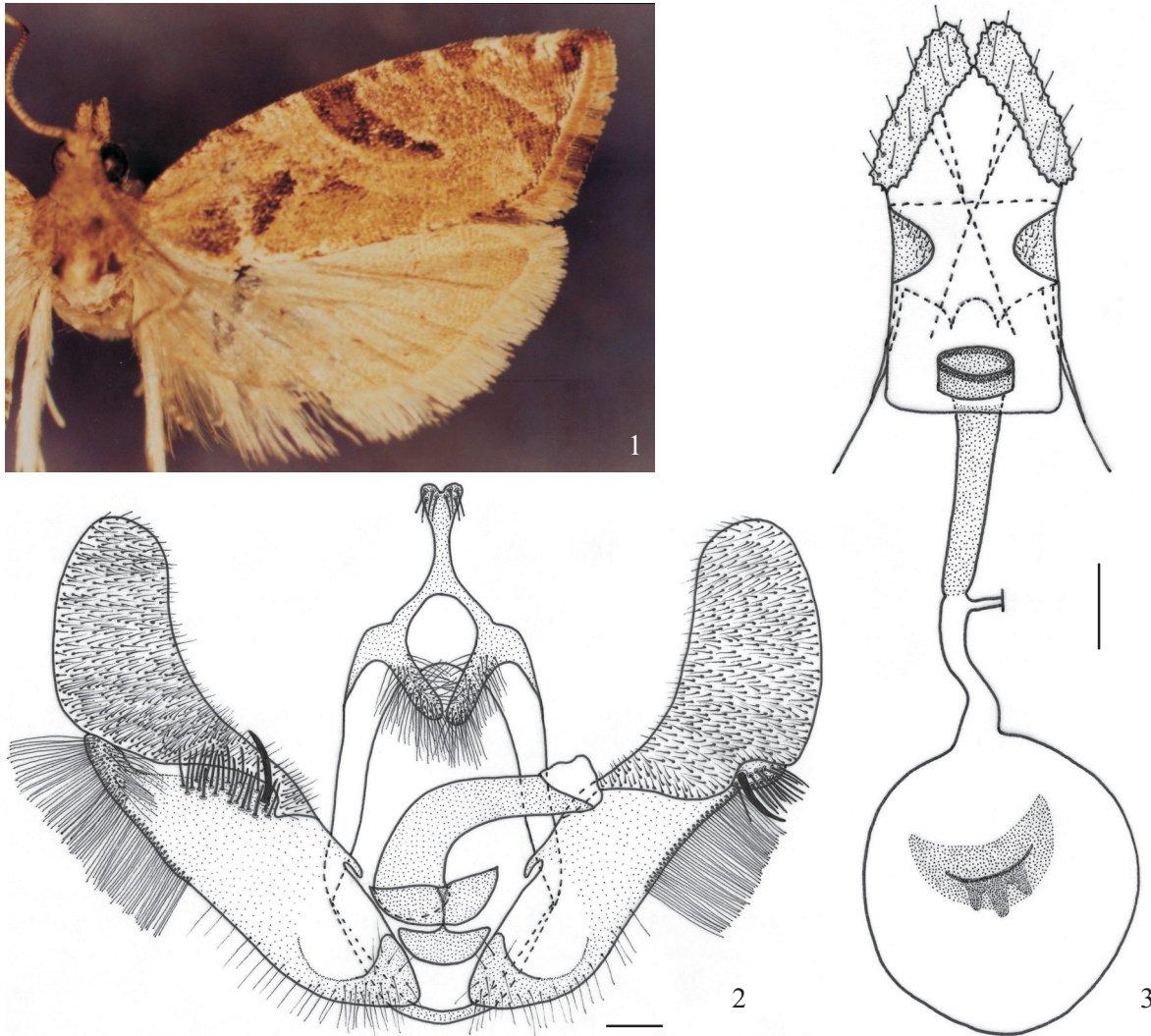
Geographic distribution. *Eccopsis razowskii* has been collected only in the Azapa and Chaca Valleys, coastal desert of northern Chile.

Remarks. *Eccopsis razowskii* is the first species in the genus described from Chile. The absence of basal lobes of the valvae is shared with two other Neotropical species, *Eccopsis floreana* Razowski & Landry, 2008 and *E. galapagana*. Thus, the character state may represent a synapomorphy for Neotropical members of the genus. However, the male of another Neotropical species, *Eccopsis eltundana* Razowski & Wojtusiak, 2008, remains unknown (Razowski & Wojtusiak 2008). Presence of basal lobes is shared by all African *Eccopsis*, even though basal lobes are strongly reduced in the male genitalia of the type-species, *E. wahlbergiana* Zeller, 1852 (Aarvik 2004).

The association of the larvae of *E. galapagana* and *E. razowskii* with Fabaceae also is novel to the Neotropics. Apparently, Fabaceae are important hostplants for larvae of native tortricids in northern Chile; this relationship was previously reported from this area by Clarke (1987), Vargas (2006, 2007), and Vargas & Parra (2006).

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Figs. 1–3. *Eccopsis razowskii* sp. nov.: 1, male holotype, dorsal view; 2, male genitalia, ventral view; 3, female genitalia, ventral view. Scale bars: 2 = 0.1 mm, 3 = 0.2 mm.

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