



***Keiferia dalibori* sp. nov. (Insecta: Lepidoptera; Gelechiidae) a new species from Chile**

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Received: 15 September 2011. Accepted: 25 May 2012.

KING G. E., VIEJO MONTESINOS J. L. 2012. *Keiferia dalibori* sp. nov. (Insecta: Lepidoptera; Gelechiidae) a new species from Chile. *Acta zool. cracov.*, **55**(1): 59-64.

Abstract. *Keiferia dalibori* sp. nov. is described from south-central Chile it being the first species in the genus *Keiferia* BUSCK, 1939 recognised from that country. Data are provided for the male imago, the female remaining undescribed.

Key words: Lepidoptera, Neotropics, Chile, Gelechiidae, Gnorimoschemini, *Keiferia*.

Resumen. *Keiferia dalibori* sp. nov. se describe de material procedente de Chile central-sur, siendo a la vez la primera especie que se documenta del género *Keiferia* BUSCK, 1939 en este país andino. Los datos se recopilan a partir de material del macho, la hembra aún no se conoce.

Palabras claves: Lepidoptera, región Neotropical, Chile, Gelechiidae, Gnorimoschemini, *Keiferia*.

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I. INTRODUCTION

Moths of the Gelechiid genus *Keiferia* BUSCK, 1939 are generally 'small' and of inconspicuous habitus, greyish, brownish or have otherwise cryptic hues with an indistinct wing pattern (POVOLNÝ 1973). HUEMER & KARSHOLT (2010) indicate the presence of a pencil of long hairs from the hind-wing costal base considered autapomorphic for the genus. In addition, POVOLNÝ (1967) emphasises that in the male genitalia the genus *Keiferia* is characterised by a unique thorn-like process bearing above the uncus; the valvae are slender with the distal two-thirds being 's' or 'swan-necked' shaped; the saccus is characteristically long and slender; the aedaegus is also very long and slender with short spherically-shaped caecum.

The genus *Keiferia* belonging to the Tribe Gnorimoschemini POVOLNÝ, 1964 enjoys a focus on the Neotropical Region (including the West Indies: POVOLNÝ, 1970) with thirteen species (POVOLNÝ 1994) radiating out in to the Nearctic Region, which is represented by seven species (LEE et al. 2009), some of which maintain an interesting association with endemic solanaceous plants in the California Channel Islands (POWELL & POVOLNÝ 2001; POVOLNÝ 2004). One species: *K. lycopersicella* (WALSINGHAM, 1897) was recently introduced into Europe (Liguria, Italy), presumably with imported tomato produce (SANNINO & ESPINOSA 2009), this species being a notorious pest in the New World (HUEMER & KARSHOLT 2010).

The larvae of *Keiferia*, as far as is known, are early instar miners of Solanaceous plants, for example, *K. colombiana* POVOLNÝ, 1975 in *Solanum saponaceum* DUNAL (POVOLNÝ 1975a), *K. educata* POVOLNÝ, 2004 in *Solanum santi* GRAY and *K. powelli* POVOLNÝ, 2004 in *Physalis crassiflora* (POVOLNÝ 2004).

II. STUDY AREA

The Hualpén Peninsula (36°45'-36°49' S, 73°9'73°13' W) (Región de Biobío; south-central Chile) can be regarded as being part of a transitional zone between the sclerophyllic vegetation appropriate to a Mediterranean climatic regime and the hygrophyllic vegetation dominant in the more humid climate of the South Cone (Argentina, Chile). Characteristic vegetation includes: *Drimys winteri* (J. R. et G. FORSTER) (Winteraceae), *Eucryphia cordifolia* CAV. (Eucryphiaceae), *Laurelia sempervirens* (RUIZ et PAVÓN) TUL. (Monimiaceae), as well as Myrtales (ARMESTO et al. 1995; POLYMÉRIS 1995). Material for the present study was collected alongside a body of fresh water in a reduced area of ruderal vegetation.

III. MATERIAL AND METHODS

Imagines were collected using a standard butterfly net in the hours of early dusk the first week of November 2010. Once in the laboratory, specimens were set according to standard procedures with preparations being made of the reproductive apparatus according to procedures detailed in ROBINSON (1976). Taxonomic terms are those used by POVOLNÝ (1967), as well as HUEMER & KARSHOLT (1999; 2010).

IV. RESULTS

Two Gelechiid moths in the tribe Gnorimoschemini (*Keiferia* according to Vitor BECKER), in addition to two females of *Eliachna digitana* BROWN & MCPHERSON, 2002 (Tortricidae: Tortricinae) were collected.

V. SYSTEMATIC PART

Family: **Gelechidae** STANTON, 1854

Subfamily: **Gelechiinae** STANTON, 1854

Keiferia dalibori sp. nov.

Figs 1-4

D i a g n o s i s. Imago (Figs 1-3): head, thorax and tegula scales various shades of tannish-ochre, these self-same scales on the head form a distinctive ‘tuft’ (Fig. 3); scales on tegula blackish-ochre; antennae filiform light ochre, base shows ‘elbow-style’ thickening with a barely perceptible ‘ring’ of almost whitish scales (Fig. 3); labial palp strongly re-curved, segment 3 whitish-grey interspersed with ochre scales; segment 2 carries darker ochre scales, similar pattern on segment 1 (Fig. 2); eyes show perceptible greyish mottling (Fig. 3). Fore-wing length 5.00 mm (n=2) (Fig. 1); overall ochre with darker scaling especially in basal zone, slightly darker anterior costal margin; there are two maculae which are dark ochre; posterior maculae somewhat arrow-shaped, anterior maculae slightly oval-shaped; apex margin shows diagonally pointing scaling; ciliae whitish grey with darker colouring medially; hind-wings are overall rather paler; ciliae whitish-grey becoming paler towards basal zone.

D e r i v a t i o n o m i n i s . We wish to dedicate this new species to the late Dalibor POVOLNÝ (1924-2004) who worked tirelessly on the Tribe Gnorimoschemini contributing in an enormous way to a greater understanding of the Neotropical fauna.

M a t e r i a l e x a m i n e d. Holotype: ♂ 6.XI.10, Hualpén, 12 m (Región de Biobío), Chile; (genitalia preparation no: 3780) G. E. KING leg. Paratype: same data as holotype: genitalia preparation no: 3781 G. E. KING leg. Holotype and paratype deposited in Museo Nacional de Ciencias Naturales (MNCN), Madrid (Spain).

D e s c r i p t i o n. Male genitalia: the thorn-shaped distal process arising from the uncus, characteristically for this genus (POVOLNÝ, 1967), is long, about two-thirds the length of the valvae being beak-shaped slightly thickened medially curved downwards distally; bilobe-shaped at base; tegumen relatively broad bell-shaped; valvae are broader basally, the last third being strongly angled narrowing distally bending a second time to give the appearance of being an elongated ‘S’ shape, spinules absent; saccus short; aedaeus long, but relatively thick, in sharp contrast to other species in this genus (POVOLNÝ, 1967), caecum is rounded in form, but not so much that it is ‘spherical-shaped’ (POVOLNÝ, 1967); distal tooth absent (HUEMER & KARSHOLT, 1999) (Fig. 4).

Female unknown.

B i o l o g y. The two specimens, both males, were captured flying at dusk amongst low vegetation (grasses, *Echium* (Boraginaceae), *Rumex* (Polygonaceae) alongside a large body of fresh water, which was at the same time, separated from the littoral by coastal

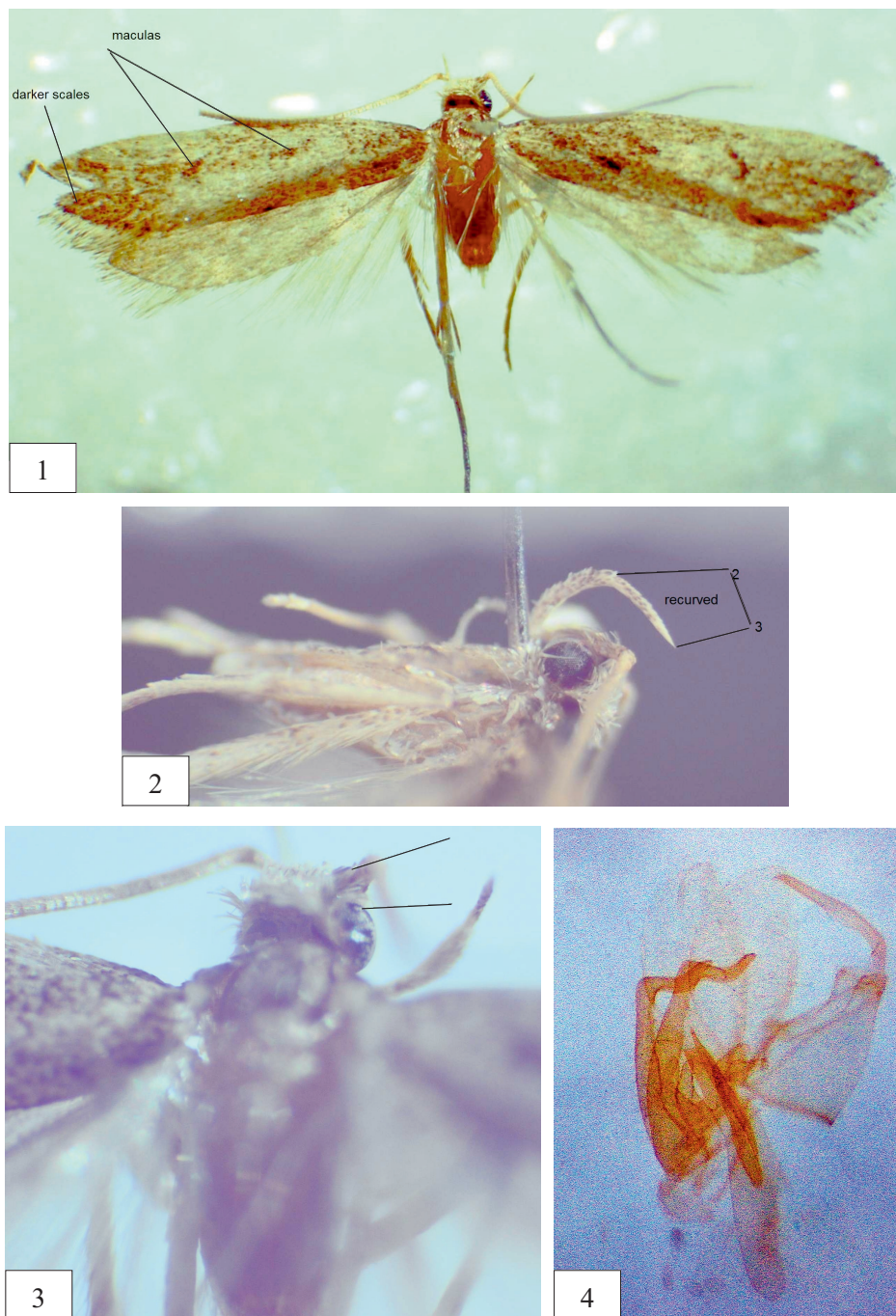


Fig. 1. Holotype: *Keiferia dalibori* sp. nov.: ♂ 6.XI.10, Hualpén (Región de Biobío) (code genitalia preparation: 3780), Chile, G. E. KING leg. **Fig. 2.** Holotype. Diagnosis Palpi: *Keiferia dalibori*, sp. nov.: ♂ 6.XI.10, Hualpén (Región de Biobío) (code genitalia preparation: 3780), Chile, G. E. KING leg. **Fig. 3.** Holotype. Diagnosis antennae, eyes: *Keiferia dalibori* sp. nova: ♂ 6.XI.10, Hualpén (Región de Biobío) (code genitalia preparation: 3780), Chile, G. E. KING leg. **Fig. 4.** Holotype, male genitalia lateral view: *Keiferia dalibori*, sp. nov., ♂ 6.XI.10, Hualpén (Región de Biobío) (code genitalia preparation: 3780), Chile, G. E. KING leg.

woodland (CAVIERES et al. 2005). Early November corresponds to the Austral Spring season, so possibly these imagines were examples of a first generation. Host plant not known.

VI. DISCUSSION AND CONCLUSIONS

Keiferia dalibori sp. nov. is the first species of *Keiferia* documented from Chile. According to POVOLNÝ (1994), the only species recorded in neighbouring Argentina is *K. keiferioides* (POVOLNÝ, 1987) described from the province of Chubut (POVOLNÝ, 1987). Interestingly, *Keiferia dalibori* sp. nov. appears to occupy a relatively isolated place in amongst the *Keiferia* for the following reasons: aedeagus is relatively 'short' and 'thick' in sharp contrast to other species whose 'pin-shaped' organ gives the impression of tapering strongly distally when compared to the 'spherical-shaped' caecum (POVOLNÝ, 1967); saccus is also relatively 'short', when in other species, e. g. *K. lycopersicella*, it is one-third longer than the 'mesic thorn' (POVOLNÝ, 1967); valvae are relatively slender and without spinules distally in strong contrast with the Peruvian species *K. propia* (POVOLNÝ, 1990), for example, whose valvae are 'spoon-shaped' distally with prominent spinules, although this species does indeed have a correspondingly shorter saccus (POVOLNÝ, 1990). In addition, in common with *Keiferia dalibori* sp. nov., *K. propia*, does have a relatively similar aedeagus, it being half the length of the genitalia capsule with a moderately inflated sub-ovate caecum and corpus parallel-sided (Fig. 70; p. 204; POVOLNÝ, 1990). Very significantly, POVOLNÝ's description does emphasise the fact that this species would appear to be 'the most specialised species within this genus' (POVOLNÝ, 1990). The presence of a pencil of long hairs from the hind-wing costal base (HUEMER & KARSHOLT, 2010) was not found in *Keiferia dalibori* sp. nov. it should be added, that *Keiferia dalibori* sp. nov. could be the representative of a new, as yet to be described genus, close to *Keiferia*, this question being answered once further material be obtained.

A c k n o w l e d g e m e n t s. Most grateful thanks for the concession of a grant from the Research Section of the Universidad Autónoma Madrid in 2010, the importance of which meant the possibility to travel to Chile in the first instance (Proyectos 541D708 and 541D731 (November 2010-January 2011)). We would also like to thank Luis PARRA of the Zoology Department, Universidad de Concepción, Chile for having organised the initial field trip to Hualpén. Also to Vitor BECKER who indirectly identified the moth to genus level via communications with Sangmi LEE of the Department of Entomology and Plant Pathology, Mississippi State University, USA who has continued to be most helpful.

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