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Sybra alternans (Wiedemann) (Lamiinae: Apomecynini): an Asian cerambycid established on Easter Island, Chile

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Sybra alternans (Wiedemann) (Lamiinae: Apomecynini): an Asian cerambycid established on Easter Island, Chile

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Abstract. Seven specimens of *Sybra alternans* (Wiedemann) (Cerambycidae: Lamiinae: Apomecynini) were captured with a UV light trap and by beating branches of trees in the urban area of Easter Island (Chile) during 2011–2016, representing the first record of the species in this Chilean insular territory, but not continental Chile. *Sybra alternans* is native to Southeast Asia and has been introduced accidentally to Hawaii and Florida in the United States of America. Data are presented from the literature on this species' distribution, host plants, and biological information.

Key words. Alien species, longhorned beetles, new introductions.

Resumen. Siete ejemplares de *Sybra alternans* (Wiedemann) (Cerambycidae: Lamiinae: Apomecynini) fueron capturados con una trampa de luz UV y mediante el sacudido de ramas de árboles en el área urbana de la Isla de Pascua (Chile) durante los años 2011-2016, representando el primer registro de la especie en este territorio insular chileno, no estando presente hasta ahora en el continente. A pesar de que *S. alternans* es una especie nativa del sudeste asiático, se ha introducido accidentalmente en Hawaii y Florida en los Estados Unidos. De acuerdo a lo señalado en la literatura, se entrega información sobre su distribución, plantas hospedantes y aspectos biológicos de la especie.

Palabras clave. Escarabajo de cuernos largos, especies foráneas, nuevas introducciones.

Introduction

Of the 180 species of longhorned beetles (Coleoptera: Cerambycidae) known to occur in Chile (Elgueta 2000), eight are recognized as alien species (Mondaca and Zavala 2016). Four of these species have been detected or identified for the first time in the past decade (Barriga and Cepeda 2007; Mondaca 2008; SAG 2008; Mondaca and Zavala 2016), representing new introductions far from their native geographic ranges. The eight exotic cerambycids already reported as established in Chile were summarized by Mondaca and Zavala (2016) and include six species introduced and established in the mainland of Chile: *Nathrius brevipennis* (Mulsant) [native to Europe], *Phoracantha semipunctata* Fabricius and *P. recurva* Newman [both native to Australia], *Ambeodontus tristis* (Fabricius) [native to New Zealand and Tasmania], *Xylotrechus rusticus* (Linnaeus) [native to Europe], and recently *Psapharochrus jaspideus* (Germar) [native to South America but not including Chile] (González 1989; Sandoval 2002; Barriga and Cepeda 2007; SAG 2008; Mondaca and Zavala 2016); and two species restricted to Easter Island: *Ceresium unicolor* (Linnaeus) [native to Asia] and *Lagocheirus obsoletus* (Thomson) [native to Central America] (Cerda 1991; Mondaca 2008). All of these species were likely introduced to Chile as result of

international trade or tourism, and with the exception of the two *Phoracantha* species, the remaining six species do not represent major threats to forestry or natural ecosystems in Chile.

Collections made with a static UV light trap installed by staff of the local office of the Servicio Agrícola y Ganadero of Chile (SAG) in the residential area of Hanga Roa village, Easter Island, during 2011–2015, plus a collection made in 2016 by one of the authors (FR) while shaking dry branches of *Erythrina* sp. tree (Fabaceae, "ceibo"), provided seven adult cerambycid specimens that were later identified as *Sybra alternans* (Wiedemann, 1823) (Lamiinae: Apomecynini). To our knowledge, this is the first report of this species from insular Chile. The objective of this paper is to report details on the first collections of *S. alternans* on Easter Island, which makes it the third cerambycid to be introduced and established on this remote South Pacific island.

Sybra Pascoe is the most speciose genus within the tribe Apomecynini and it is widespread throughout the eastern Palearctic, Oriental, and Australian Regions (Slipinski and Escalona 2013). The genus comprises more than 420 species, and only one of them, *S. alternans*, is known to be found outside its natural distribution area, being successfully established in Hawaii and Florida in the United States of America (Gressitt 1956; Thomas 2000; Chen et al. 2001; Haack 2006).

Materials

The generic and specific identification was completed using the key of Rondon and Breuning (1970). Photographs of the adult beetle were taken using a digital camera Nikon D300s of 12 megapixels. The specimens collected in this study are deposited in the collection of the Unidad de Entomología, Subdepartamento de Laboratorios y Estaciones Cuarentenarias, Servicio Agrícola y Ganadero (CSAG) (Santiago, Chile), and the private collection of Francisco Ramírez (Santiago, Chile).

Sybra alternans (Wiedemann, 1823)

(Fig. 1)

Material Examined. Chile, Valparaíso Region: Easter Island [Rapa Nui], UV light trap, VI-2011, III-2014, 22-XII-2014, col. C. Valdés (3 females). Valparaíso Region, Rapa Nui, UV light trap, 1-X-2014, col. S. Ríos (1 female). Valparaíso Region, Rapa Nui, UV light trap, 23-III-2015, col. S. Ríos (2 females). Chile, Valparaíso Region, Easter Island, sector Hanga Kio'e, beating *Erythrina* sp., 20-IV-2016, leg. F. Ramírez (1 female).

Host Plants. *Sybra alternans* is a polyphagous species that infests numerous host plants. It has been detected attacking some fruit trees and crops such as *Ficus carica* L. (Moraceae, "fig tree"), *Ananas comosus* (L.) Merr. (Bromeliaceae, "pineapple"), *Musa paradisiaca* L. (Musaceae, "banana"), *Phaseolus vulgaris* L. (Fabaceae, "bean"), *Ocimum basilicum* L. (Lamiaceae, "basil"), *Gossypium hirsutum* L. (Malvaceae, "cotton"), *Saccharum officinarum* L. (Poaceae, "sugar cane"), and some ornamental plants typical of the South Pacific island. For a full list of host and respective citations, see Chen et al. (2001). In Florida, it was collected from dead limbs of *Ficus aurea* Nutt. (Moraceae, "golden fig") (Thomas 2000), while on Easter Island an adult was captured by shaking the dry branches of *Erythrina* sp. trees (Fabaceae, "ceibo").

Distribution. *Sybra alternans* is an Asian species distributed in Myanmar, Thailand, Laos, Cambodia, Vietnam, Malaysia, Taiwan, Indonesia, Mariana Islands, Caroline Islands, Marshall Islands, and the Philippines (Rondon and Breuning 1970; Roguet 2016). It was introduced in the early twentieth century to Hawaii (see details in Chen et al. 2001) and more recently to Florida in the United States of America (Thomas 2000). It may have arrived in Florida via military flights from the Hawaiian Oahu military bases to those at Homestead, Florida (Samuelson and Howarth 2013). In Chile, *S. alternans* is known to occur only on to Easter Island, Valparaíso Region (**new record**) (Fig. 2).

Biology. The life cycle of *S. alternans* has been described briefly by Swezey (1950), who mentions that the life cycle can be completed in about four months. Adults are nocturnally active and seem to oviposit preferentially on host plants that are thoroughly dried. This cerambycid feeds on the inner fermenting and decaying bark and the outer sapwood. The larvae bore into the wood to pupate for their final transformation to adults.

Remarks. Repeated collections of *S. alternans* during six years in two different parts of Easter Island (Chile) provide strong evidence that a population of this cerambycid has successfully established on the island. Because the collection sites of *S. alternans* are located near the airport of Mataveri (see Fig. 2), it is likely that this species reached Easter Island via international commercial flights. Samuelson and Howarth (2013) proposed a similar hypothesis (but through military flights) to try to explain the introduction of this species from Hawaii to Florida.

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Figure 1. Female specimen of *Sybra alternans* (Wiedemann) collected on Easter Island (Chile), dorsal habitus. Scale bar = 2 mm.

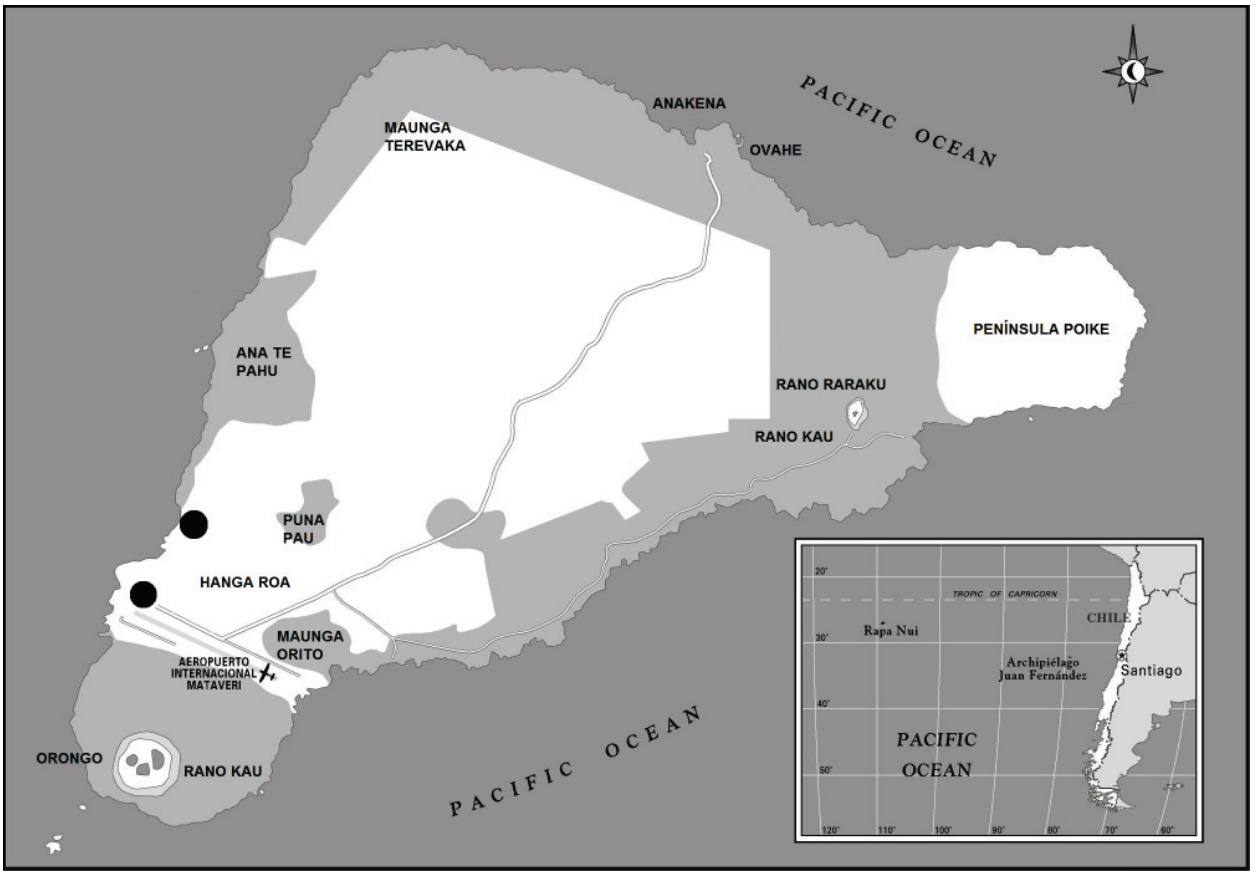

Figure 2. Collection sites for *Sybra alternans* on Easter Island, Chile (black circles). Rapa Nui National Park is indicated in light grey.