

***Lestricus secalis* (Linnaeus, 1758) (Hymenoptera, Braconidae): a species new to Spain parasitizing the Iberian endemic *Pogonocherus sturanii* (Sama & Schurmann, 1982) (Coleoptera, Cerambycidae)**

***Lestricus secalis* (Linnaeus, 1758) (Hymenoptera, Braconidae): una especie nueva para España parasitando el endemismo ibérico *Pogonocherus sturanii* (Sama & Schurmann, 1982) (Coleoptera, Cerambycidae)**

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ABSTRACT

The cenocoeliine braconid *Lestricus secalis* (Linnaeus) is recorded for the first time in Spain, being the southernmost known locality in the species' distribution. Two specimens emerged from branches of *Pinus nigra* ssp. *salzmannii* in which the Iberian endemic cerambycid *Pogonocherus sturanii* was developing, in Sierra Mágina (southern Spain). Illustrated notes on adult parasitoid and host morphology are given, with revised distribution maps.

Key words: *Lestricus secalis*, Hymenoptera, Braconidae, *Pogonocherus sturanii*, Coleoptera, Cerambycidae, Andalusia, Spain.

RESUMEN

Se cita por primera vez para España el cenocoeliino braconido *Lestricus secalis*, siendo esta la localidad más meridional de su área de distribución conocida. A partir de ramas de *Pinus nigra* ssp. *salzmannii* procedentes de Sierra Mágina (Jaén) se obtuvieron dos ejemplares del parasitoide en cuestión. Estas ramas habían sido guardadas con objeto de obtener ejemplares de *Pogonocherus sturanii*, un raro cerambycido endémico de la península ibérica.

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Además, se aportan datos e imágenes sobre la morfología del parasitoide y del hospedador, así como los mapas de distribución actual revisada para ambas especies.

Palabras clave: *Lestricus secalis*, Hymenoptera, Braconidae, *Pogonocherus sturanii*, Coleoptera, Cerambycidae, Andalucía, España.

INTRODUCTION

Species of the subfamily Cenocoeliinae are specialized solitary koinobiont parasitoids of saproxylic beetle larvae, initially endoparasitoids but with an external final feeding phase (SHAW & HUDDLESTON, 1991). There are three species in Europe, *Cenocoelius analis* (Nees, 1834), *C. aartseni* (van Achterberg, 1994) and *Lestricus secalis* (Linnaeus, 1758) (SHAW, 1999). The last one is associated with conifer forest and known to parasitize larvae of species of *Pogonocherus* Dejean, 1821 in *Pinus* L. (SHAW, 1999). It is widely distributed in the European continent: Bulgaria, Czech Republic, Slovakia, Sweden, Netherlands, Finland, French mainland, Germany, Hungary, Italian mainland, Latvia, Lithuania, Norwegian mainland, Poland, North-western Russia (faunaeur.org dataset) and recently recorded in Britain (SHAW & MENDEL, in press) (Fig.1). The forelegs of *L. secalis* have a pronounced widening of the femur which distinguishes it from European relatives (genus *Cenocoelius*) (SHAW & MENDEL, in press) (see also Fig. 1).



Fig. 1. *Lestricus secalis*, female lateral view and foreleg femur detail.

Fig. 1. *Lestricus secalis*, hembra en vista lateral y detalle del fémur del primer par de patas.

Pogonocherus sturanii (Sama & Schrumann, 1982) is a flat-faced longhorn beetle endemic to the Iberian Peninsula, sparsely distributed throughout the peninsula except the northernmost edge (Cantabrian Mountains) (GONZALEZ PEÑA *et al.*, 2007). It has been recorded in the provinces of Teruel, Ávila, Palencia, Salamanca, León, Soria, Valladolid, Zamora, Madrid, Valencia, Castellón, Albacete, Cuenca, Guadalajara, Cáceres and in the Andalusia region in Cádiz, Granada and Jaén (GONZÁLEZ PEÑA *et al.*, 2007) (Figs. 2, 3). VIVES (2001) cited this species on *Pinus halepensis* Mill. wood.



Fig. 2. The host, *Pogonocherus sturanii*. Dorsal and lateral view. Sierra Mágina, Jaén, Spain.

Fig. 2. El hospedador, *Pogonocherus sturanii*. Vista dorsal y lateral. Sierra Mágina, Jaén, Spain.

Sierra Mágina is an isolated limestone massif located in the Sierras Subbéticas (Baetic System; Andalusia, southern Spain) surrounded by a wide sea of olive groves. It is located in the centre of Jaen province (Andalusia) and Mágina peak is the highest point in the province, at 2167 m.a.s.l. Due to its rugged landscape this massif is well conserved and maintains a relict and interesting flora with some unique endemics, and a rich associated diversity of insects (OBREGÓN *et al.*, 2014). Native black pine, *Pinus nigra* Arnold (ssp. *salzmanni* (Dunal) in the Iberian Peninsula), is a circum-Mediterranean species adapted to rocky soils and to continental climates that can tolerate stronger xeric conditions than other high mountains pines (PASHO *et al.*, 2012; LÓPEZ-TIRADO & HIDALGO, 2014). It usually appears as scattered trees in peaks and highlands and as groups in troughs with steep slopes.

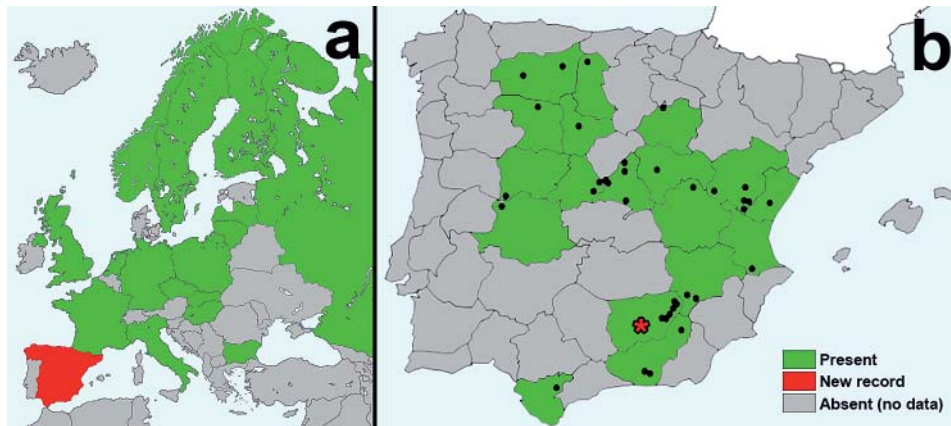


Fig. 3. a. European distribution map (at country level) of *Lestricus secalis*. Source: faunaeur.org.; **b.** Distribution map of *Pogonocherus sturanii* in Iberian Peninsula.

Fig. 3. a. Mapa de distribución europea de *Lestricus secalis*. Recurso: faunaeur.org.; **b.** Mapa de distribución de *Pogonocherus sturanii* en la península ibérica.



Fig. 4. *Lestricus secalis* and *Pogonocherus sturanii* habitat: dense and well preserved *Pinus nigra* ssp. *salzmannii* forest in Sierra Mágina, at 1700 m.a.s.l.

Fig. 4. Hábitat de *Lestricus secalis* y *Pogonocherus sturanii*: pinar denso y bien conservado de *Pinus nigra* ssp. *salzmannii* en Sierra Mágina, a 1700 m.s.n.m.

STUDIED MATERIAL

From a batch of *P. nigra* ssp. *salzmannii* dead wood (branches between 3-4 cm diameter in cross-section) collected in March 2014, five specimens of *P. sturanii* emerged in September 2014. This species of Cerambycidae is very rare and scarce in the southern Iberian Peninsula. In addition, six months later (24/03/2015), a year after the wood had been collected, two female specimens of *L. secalis* emerged from the same branches. There is no real room for doubt that *P. sturanii* had been the host.

Locality: Puerto de las Alegas, Sierra Mágina, Jaén, Andalusia, Spain.

Habitat description: Dense *P. nigra* ssp. *salzmannii* forest in a north-facing trough with dispersed *P. pinaster* (Fig. 4). Range of altitude: 1550-1760 m.a.s.l.

The specimens of *L. secalis* are deposited in National Museums of Scotland, Edinburgh (NMSE) and those of *P. sturanii* in the private collections of R. Obregón and A. Verdugo.

DISCUSSION

The discovery of *L. secalis* in Spain may suggest that it will be found to have a wider distribution in Europe than is currently known, as it is an insect seldom seen except through rearing. So far, its distribution suggests a Eurosiberian origin of a taxon which may appear in southern Europe in post-glacial refuges where well preserved native pine forests persist and potential hosts occur.

In the Iberian peninsula, its host genus *Pogonocherus* is represented by 9 valid species, widely distributed throughout the territory, although only the species *P. sturanii*, *P. decoratus* Fairmaire, *P. fasciculatus* (De Geer), *P. caroli* Mulsant and *P. perroudi* Mulsant are associated with *Pinus* (GONZÁLEZ PEÑA *et al.*, 2007; VIVES, 2001). If, as is thought, *L. secalis* is a specific parasitoid of several *Pogonocherus* species dependant on *Pinus* habitat in Europe, its distribution might overlap with the natural distribution of its *Pinus*-dependant hosts taken in total.

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