Description of *Sphaericus selvagensis* n. sp. from the Salvage Islands, and new data on *Sphaericus bicolor* Bellés (Coleoptera, Ptinidae)

X. Bellés


Abstract

Description of *Sphaericus selvagensis* n. sp. from the Salvage Islands, and new data on *Sphaericus bicolor* Bellés (Coleoptera, Ptinidae). — *Sphaericus (Sphaericus) selvagensis* n. sp. is described from the Salvage islands. With *Sphaericus (Sphaericus) bicolor* Bellés, this new species is only the second ptinid beetle reported from these islands. *S. selvagensis* belongs to the *Sphaericus pilula* group, which also includes *S. bicolor*. However, the transverse shape of the pronotum (with its maximal breadth near the base) and the peculiar morphology of the aedeagus, distinguish *S. selvagensis* from all other members of the *S. pilula* group. *S. selvagensis* lives in all the major islands of the Selvagens archipelago: Selvagem Grande, Selvagem Pequena and Ilhéu de Fora.

Key words: Coleoptera, Ptinidae, *Sphaericus*, Salvage Islands.

Resumen

Descripción de *Sphaericus selvagensis* sp. n. del archipiélago de las Salvajes, y nuevos datos sobre *Sphaericus bicolor* Bellés (Coleoptera, Ptinidae). — Se describe *Sphaericus (Sphaericus) selvagensis* sp. n. del archipiélag de las Salvajes. Junto a *Sphaericus (Sphaericus) bicolor* Bellés, esta nueva especie es el segundo coleóptero ptinídeo registrado en esas islas. *S. selvagensis* pertenece al grupo de *Sphaericus pilula*, que también incluye *S. bicolor*, aunque la forma transversal del pronoto (con anchura máxima cerca de la base) y la peculiar morfología del edeago distinguen a *S. selvagensis* de los restantes miembros de grupo de *S. pilula*. *S. selvagensis* vive en todas las islas principales del archipiélag de las Salvajes: Selvaje Grande, Salvaje Pequeña (o Pitón Grande) y La Salvajita (Ilhéu de Fora).

Palabras clave: Coleoptera, Ptinidae, *Sphaericus*, Islas Salvajes.

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Introduction

The Salvage Islands lie in the Atlantic Ocean between the well-known archipelagos of Madeira and Canaries (BRAVO & COELLO, 1978). Up to now, the only ptinid beetle reported from the Selvagens is Sphaericus (Sphaericus) bicolor Bellès, described from Selvagem Pequena (= Pitão Island) (BELLES, 1992) and later recorded by ERBER & WHEATER (1987) from Selvagem Grande and Ilhéu de Fora. However, the study of the ptinid beetles collected during a campaign carried out in the Salvages in May 1999, in the context of the Project “Macaronesia 2000” of the Museo de Ciencias Naturales de Tenerife, has lead to the discovery of a new species of Sphaericus, which is described in the present paper. The data on the arthropods collected during this expedition of 1999 have been reported by ARECHAVALETA et al. (2001).

The genus Sphaericus was proposed by Wollaston as early as 1854, but has been the subject of a relatively recent synopsis by BELLÉS (1994), who divided it into three subgenera: Sphaericus, the members of which are characterized by having 11–segmented antennae, 5–segmented male metatarsi, the base of the pronotum simple and the parameres of the aedeagus slender and pubescent only at the apex; Nitpus Jacquelin du Val, whose two species have 9–segmented antennae and 4–segmented male metatarsi; and Doramasus Bellès, described in the same synopsis (BELLES, 1994) as similar to Sphaericus s. str. but showing the base of the pronotum protuberant and the parameres of the aedeagus robust and evenly pubescent.

With the exception of Sphaericus (Sphaericus) gibboides (Boieldieu), which is anthropophilous and nearly cosmopolitan (HINTON, 1941), and Sphaericus (Sphaericus) niveus (Boieldieu), Sphaericus (Sphaericus) exiguus (Boieldieu) and Sphaericus (Nitpus) ptinoides (Boieldieu), which are known from sparse localities in the Mediterranean area (BOIELDIEU, 1856; PIC, 1912; BELLES, 1994), all the other species of these three subgenera are endemic to islands of Atlantic archipelagos.

The island groups include the Canaries (10 species), Madeira (nine species), Cape Verde (two species), Salvages (two species, including that described herein), and Açores (one species) (BELLES, 1994). More recently, the new subgenus Leasphaericus Bellès (1998) (BELLES, 1998) has been proposed for two Australian species. These taxa, in contrast with the Palaeartic Sphaericus, have a triangular scutellum easily visible from above.

Due to the morphology of the aedeagus and the pronotum, the number of the segments in the antennae and tarsi, and the hidden scutellum, the new species described below falls into the subgenus Sphaericus Wollaston.

Distribution and habitat

S. selvagensis is known from the three major islands of the Salvage Islands: Selvagem Grande,

S. selvagensis n. sp.

Types


Paratypes: 84 specimens of both sexes with the same label as the holotype; 6 specimens of both sexes with the label “Islas Salvajes, Selvagem Pequena, 25–V–1999, M. Arechavaleta leg.”; 1{ labelled “Selvagem Pequena, Pico Veado, 21–8–70, Maul leg.”; 18 specimens of both sexes with the label “I. Selvagens, Pitão, 5–VI–1970, Maul leg.”; 1{ labelled “Islas Salvajes, Ilhéu de Fora, 25–V–1999, M. Arechavaleta leg.” (Museo de Ciencias Naturales, Santa Cruz de Tenerife; Departamento de Biologia Animal, Universidad de La Laguna; Museo Nacional de Ciencias Naturales, Madrid; Museu de Zoologia, Barcelona; colls. Oromí, Bellés, Arechavaleta and García Becerra).

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Description of the male (fig. 1)

Length: 1.2–1.8 mm (n = 12)

- Broadly oval; pronotum black, elytra dark brownish–red; appendages and sternal part of body testaceous. Head clothed with short, recumbent, golden hairs; eyes moderately convex, round, about two–thirds as broad as first antennal segment; space between antennal fossae narrow and acute; antennae 11–segmented, short (about half as long as body) and robust, segments 3 to 10 oval, slightly longer than width. Pronotum evenly convex, transverse, sides feebly arcuate, maximal breadth near base; surface with very dense to contiguous granules each about twice as large as eye facets; covered with flat, obovate, recumbent yellowish scales (easily abraded), each about same size as granules, also sparse, short and suberect dark rufo–piceous hairs; legs evenly convex, transverse, sides feebly arcuate, maximal breadth near base; surface shiny, with moderately dense, irregularly distributed punctures slightly narrower than pronotal granules; covered with scales like those of pronotum (also easily abraded), but ellipoidal in shape, also with sparse, short and recumbent yellowish irregularly distributed hairs. Scutellum much reduced, hidden from above. Aedeagus (figs. 2–3) symmetrical, with the median lobe slender, in dorsal view slightly shorter than parameres; parameres elongate, slightly broader than median lobe, with sparse, short and erect setae at apex.

Description of the female

The female is externally similar to the male.

Distribution and habitat

S. selvagensis is known from the three major islands of the Salvage Islands: Selvagem Grande,
Selvagem Pequena (= Pitão Island) and Ilhéu de Fora. Specimens from the campaign of May 1999 were collected with pitfall traps and sifting leafmould from different plant species. Moreover, the label of the female collected by Maul at Pico Veado, in Selvagem Pequena, in August 1970, indicates that it was collected “from sifted dry foliage and leafmould under Bassia tomentosa”.

In the Salvages, B. tomentosa (Lowe) (Chenopodiaceae) is a relatively rare species observed in the Selvagem Pequena, and localized only in two spots, one on the West slope of the Pico Veado and the other one in the Eastern part of the island (PÉREZ DE PAZ & ACEBES, 1978).

Comparative notes
Within the subgenus Sphaericus, the general shape and the typical scaliform pubescence of S. selvagensis reminds one of the species belonging to the Sphaericus gibbicollis and Sphaericus dawsoni groups (sensu BELLÉS, 1994). However, the narrow interantennal space distinguishes S. selvagensis from the species of these groups. Moreover, the pronotum evenly convex and the morphology of the aedeagus, especially that of the basis of the median lobe, easily separates S. selvagensis from the species of the Sphaericus gibbicollis group (sensu BELLÉS, 1994). The new species appears to belong to the Sphaericus pilula group (sensu BELLÉS, 1994), which includes S. bicolor, previously known from the Salvage Islands. The members of this group have the interantennal space narrow, the pronotum evenly convex and the elytra irregularly punctuated. In the case of S. selvagensis, the transverse shape of the pronotum (with its maximal breadth near the base) and the peculiar morphology of the aedeagus, distinguish it from all other members of the S. pilula group. The differences are well apparent between S. selvagensis and S. bicolor, as shown by the key shown below.

**New data on Sphaericus bicolor Bellés, 1982**

Up to now, S. bicolor was the only known ptinid species from the Salvage Islands. It was described from Selvagem Pequena (= Pitão Island), on the basis of abundant material collected in February 1976 by P. Oromí (BELLÉS, 1982). The specimens were found in leaf mould under Suaeda vera Gmelin (Chenopodiaceae) (OROMÍ et al., 1978),...
which is one of the most abundant and typical plants of the Salvages, either in the Selvagem Grande or in the Selvagem Pequena (PÉREZ DE PAZ & ACEBES, 1978). Interestingly, no specimens of S. selvagensis were collected during this 1976 campaign. Almost simultaneously, SERRANO (1983) recorded an undetermined species of Sphaericus from the Selvagem Grande (1 specimen) and Selvagem Pequena (549 specimens). Seventy-two specimens were examined by the author from this large series and all were S. bicolor. The specimen from Selvagem Grande was collected on S. vera and those from Selvagem Pequena on Elytrigia junciforme A. et D. Löve (Poaceae) (SERRANO, 1983). A. junciforme is relatively rare in Selvagem Pequena, being found in a single locality on the Eastern part of the island. More recently, ERBER & WHEATER (1987) have reported the identification of 89 specimens of S. bicolor from Selvagem Pequena; SG. Salvagem Grande. (* From a total sample of 549 specimens identified by SERRANO, 1983 as Sphaericus sp., 72 were studied by the author and identified as a S. bicolor.)

Table 1. Number of specimens of Sphaericus bicolor and Sphaericus selvagensis collected in the Salvage Islands and studied by the author: M. Maul, 5 VI 1970; O. Oromí, 26/29 II 1976; S. Serrano, 20 IV–15 V 1980; A. Arechavaleta 21/26 V 1999; SP. Selvagem Pequena; SG. Selvagem Grande. (* From a total sample of 549 specimens identified by SERRANO, 1983 as Sphaericus sp., 72 were studied by the author and identified as a S. bicolor.)

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Table 1. Número de ejemplares de Sphaericus bicolor y Sphaericus selvagensis recogidos en las Islas Salvajes, estudiados por el autor: M. Maul, 5 VI 1970; O. Oromí, 26/29 II 1976; S. Serrano, 20 IV–15 V 1980; A. Arechavaleta 21/26 V 1999; SP. Salvaje Pequeña; SG. Salvaje Grande. (* De un total de 549 ejemplares identificados por SERRANO, 1983 como Sphaericus sp., 72 fueron estudiados por el autor e identificados como S. bicolor.)
depending on the time and eventually on the precise site of collection. All data (Belles, 1982; Erber & Wheater, 1987; present results) indicate that both S. bicolor and S. selvagensis are widespread in the three main islands of the archipelago: Selvagem Grande, Selvagem Pequena (= Pitão Island) and Ilhéu de Fora.

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References