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## *Echinodera samosa* sp. n. from Greece (Coleoptera, Curculionidae)

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*Echinodera samosa* sp. n. is described from the Oros Ambelos mountains on Samos Island (Greece). The new species is compared with *E. ariadnae* Bahr & Bayer, 2005 from Crete Island.

Keywords: Cryptorhynchinae, Greece, Samos Island, endemism, new species, taxonomy

### INTRODUCTION

During an excursion from 1st to 7th April 2010 the Aegean Island Samos was visited. At 22 locations 112 species of Curculionoidea were collected (Germann, in preparation). Samos is the ninth largest Greek island (478 km<sup>2</sup>), and is situated just 1.2 km west of the coast of Turkey. The highest peaks are the Oros Kerkis (1434 m a.s.l.) in the west, and the Oros Ambelos (1153 m a.s.l.) in the east. Samos Island is sparsely populated, and a big part of the landscape is still in its natural state.

Within Cryptorhynchinae, the genus *Echinodera* Wollaston, 1863 sensu Astrin & Stüben (2010) actually comprises 86 taxa according to the catalogue (Stüben 2011) within the main distribution area in the western Palaearctic. Most of them inhabit very restricted areas. The type species of *Echinodera* is *E. crenata* Wollaston, 1863 from the Canary Islands (Tenerife). *Echinodera* is divided into two subgenera, *Echinodera* s. str. and *Ruteria* (with its type species *E. hypocrita* (Boheman, 1837)). Characteristic for all representatives of the genus is their hidden lifestyle in the leaf litter in (or on) deadwood in woodlands. All species are flightless and show a comparatively similar external shape (globular to oval), and their size rarely exceeds 6 mm. The aedeagus of *Echinodera* is characterised by its loss of sclerites in the internal sac.

Below I describe a new species of *Echinodera* s. str. discovered on the Oros Ambelos on Samos Island.

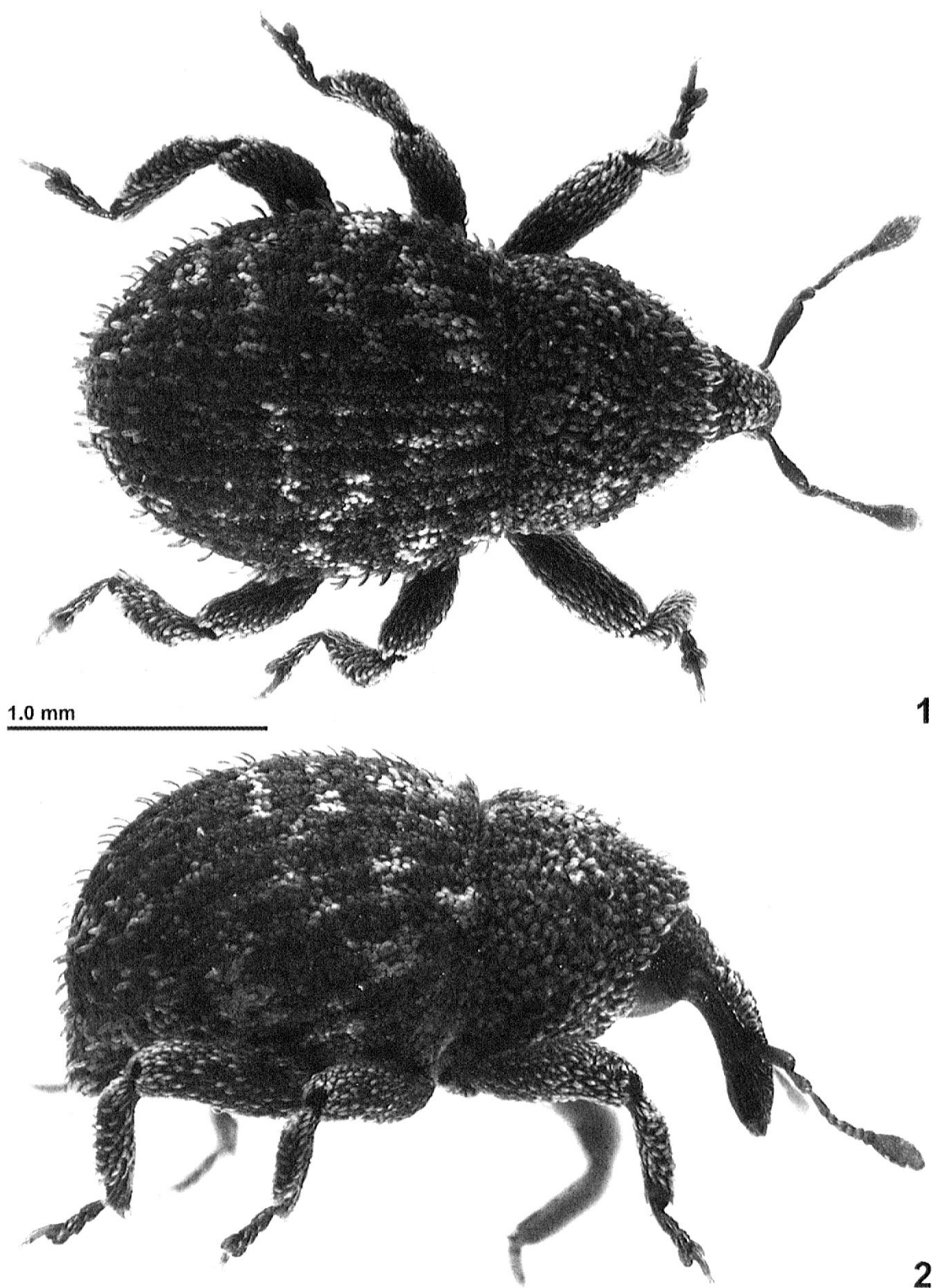
### MATERIAL AND METHODS

For sifting litter, a beetle sifter after Reitter-Winkler with grid width of 8 mm was used.

Photographs were taken with a 5-megapixel digital camera (Leica DFC 420), the aedeagus was photographed in glycerine. Series of images were captured through a binocular (Leica MZ16) and processed by an Auto-Montage software (Imagic Image Access, Version 8).

All measurements were taken digitally with the measurement-tool of the above mentioned Auto-Montage software. Body length was measured from the anterior margin of the eye to the apex of the elytra.

The holotype is deposited in the Natural History Museum of the Burgergemeinde Bern (NMBE), paratypes are in the Museum- and in the author's collection (cCG, Thun).



Figs 1–2. — 1. Habitus (dorsal view) of *Echinodera samosa* sp. n., holotype; — 2. Ditto, lateral view.

## DESCRIPTION

*Echinodera samosa* sp. n. (Figs 1–4)

Holotype: male: «099\_10.6 GREECE, Samos Isl., Oros Ambelos, Lazarou, N-Seite // Felswand, N37°45'27"/ E26°50'36", 860m, GS Moos, // Laubstreu, Polsterpflanzen, 1.4.2010, leg. Ch. Germann». Red label: «Holotype *Echinodera samosa* sp. n. Germann des. 2012» (NMBE).

Paratypes: all labelled: Paratype *Echinodera samosa* sp. n. Germann des. 2012. 6 males, 7 females: same data as holotype. 1 female: «099\_10.15 GREECE, Samos Isl., Oros Ambelos, Prof. Ilias, (SW // Lazarou), N37°44'39"/ 26°50'32", 980m, // GS Moos, Laubstreu, 3.4.2010, leg. Ch. Germann» (cCG, NMBE).

Remark: One (female) specimen is conserved in 90 % alcohol at -20 °C for potential molecular analyses.

Size (without rostrum): males: 2.8 mm (2.5–3.3 mm, N = 7); females: 2.9 mm (2.6–3.2 mm, N = 7).

Head: Eyes flattened, oval. Rostrum deeply punctate-striate; covered with small oval scales and hairs towards rostral apex. Antennae reddish brown, antennal scape: 4 to 5 x longer than wide, segments of antennal funiculus: 1st and 2nd: 2.5 to 3 x longer than wide, 3rd and 4th: slightly longer than wide, 5th to 7th: about as long as wide or transverse, club oval.

Elytra: very short oval (length/width: 1.1); widest in or just before the middle; without shoulders; base straight, elytral decline in lateral view rounded, vertical towards apex.

Integument: colour patterns variable, dark brown dominates, intermixed with spottily placed light brown scales. Consisting of roundish, almost circular, overlapping scales almost completely covering the intervals. Intervals at base densely covered with scales and therefore seemingly elevated. Striae narrow, about half the span of intervals; punctures with adjacent oval scale-like bristles. On intervals long (3 x longer than wide), scale-like and clubbed bristles rise, those are slightly bowed and inclined at an angle of about 60° from surface.

Pronotum: transverse (length/width: 0.8); maximal width just before base in the first fourth, slightly rounded towards base; regularly narrowed to front margin.

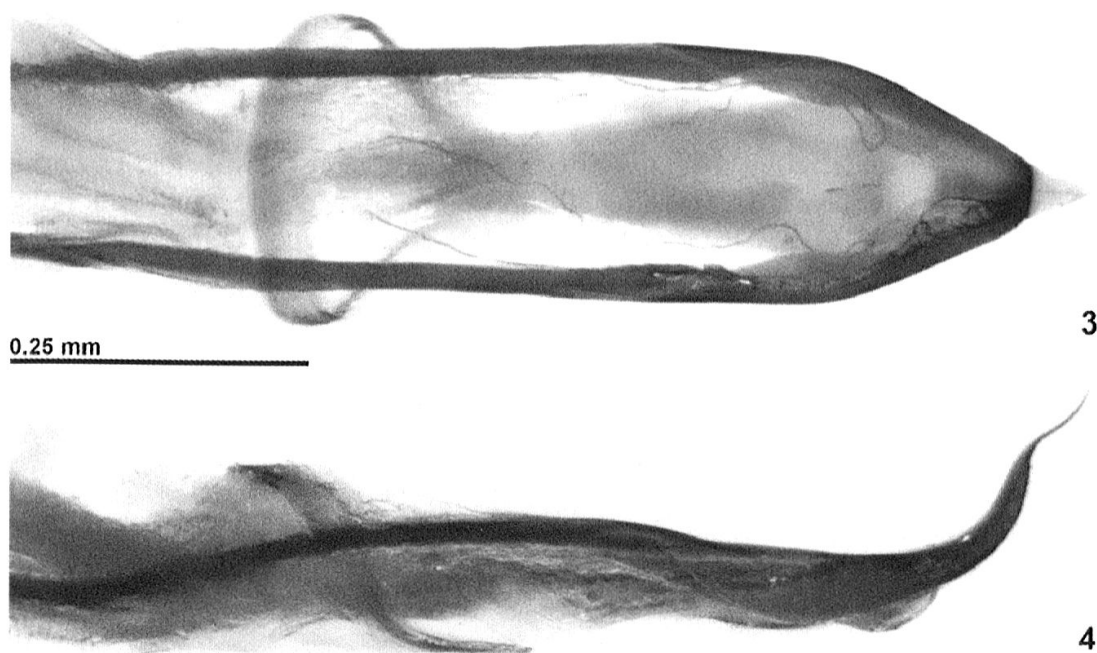
Integument: colour patterns as elytra; deeply and coarsely punctate. The integument consists of overlapping, almost circular scales. Long (2.5 to 3 x longer than wide), scale-like, clubbed and slightly bowed bristles arise from punctures.

Legs: brown, densely covered with elongated light brown scales.

Aedeagus: apex of medianlobus waved, first turn strong, with three pairs of fine, long sensillae just before second turn (tip) (Figs 3 & 4).

Ethymology: The new species is named after Samos Island, where it was discovered.

Differential diagnosis: *Echinodera samosa* sp. n. is most similar to *E. ariadnae* Bahr & Bayer, 2005 from western Crete Island (Bahr & Bayer 2005) following the identification key by Stüben (2008) based on the following traits: i) very short oval elytra, ii) pronotum with maximal width just in front of base, and iii) long scale-



Figs 3–4. — 3. Medianlobus of the aedeagus (ventral view) of *Echinodera samosa* sp. n., holotype; — 4. Ditto, lateral view.

like setae on the intervals. *E. samosa* differs from *E. ariadnae* in the following characters: i) scale-like setae on pronotum and elytra longer (up to three times longer than wide), and more strongly bowed, ii) shape of the aedeagus; first turn more strongly bent (Figs 3 & 4).

**Bionomy:** The new species was sifted together with a new *Brachysomus* (Yunakov & Germann, in preparation), an *Entomoderus* sp., *Otiorynchus* cf. *magnicollis* Stierlin, 1888, and *Omius sandneri* (Reitter, 1906) from solely two (of totally 15) litter samples taken on Samos Island. Both samples were taken from leaf litter, cushion plants and mosses under evergreen *Quercus* shrubs in *Pinus* forests near the highest peaks of the Oros Ambelos between 860 and 980 m a. s. l. (Fig. 5). *Echinodera samosa* sp. n. is supposed to be endemic on Samos Island.

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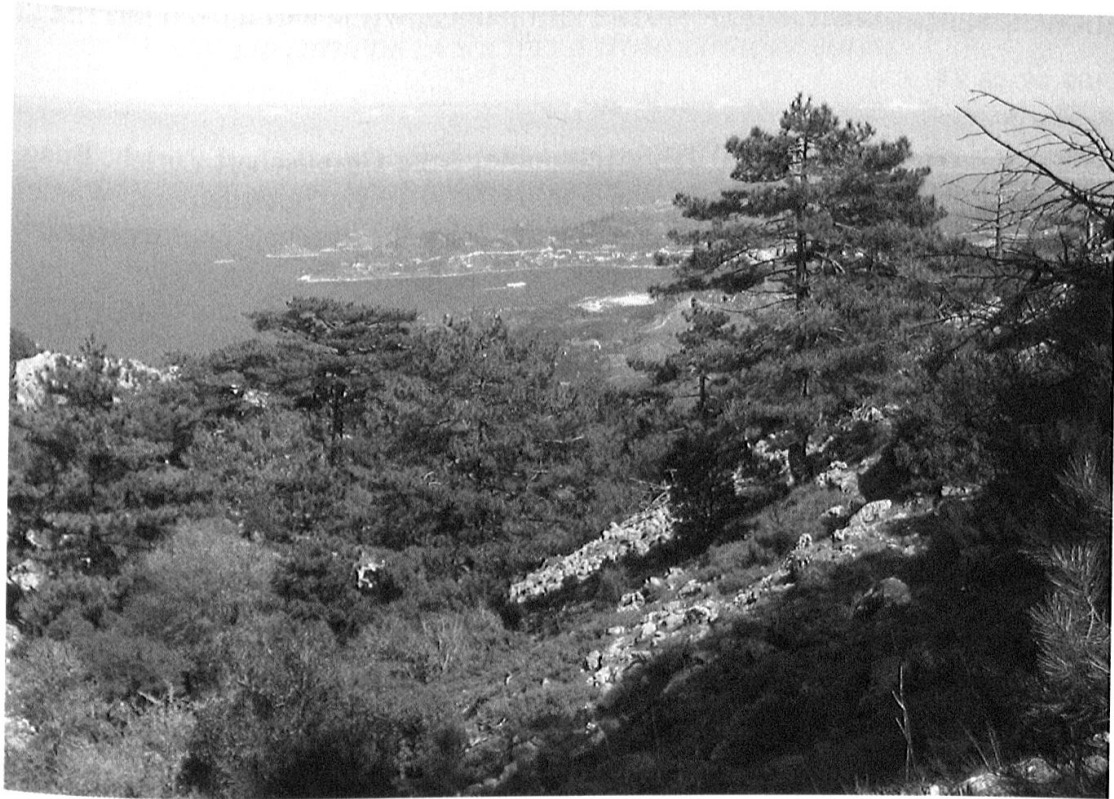


Fig. 5. Habitat on Oros Ambelos on Samos Island where *Echinodera samosa* sp. n. was discovered (photo: C. Germann).

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