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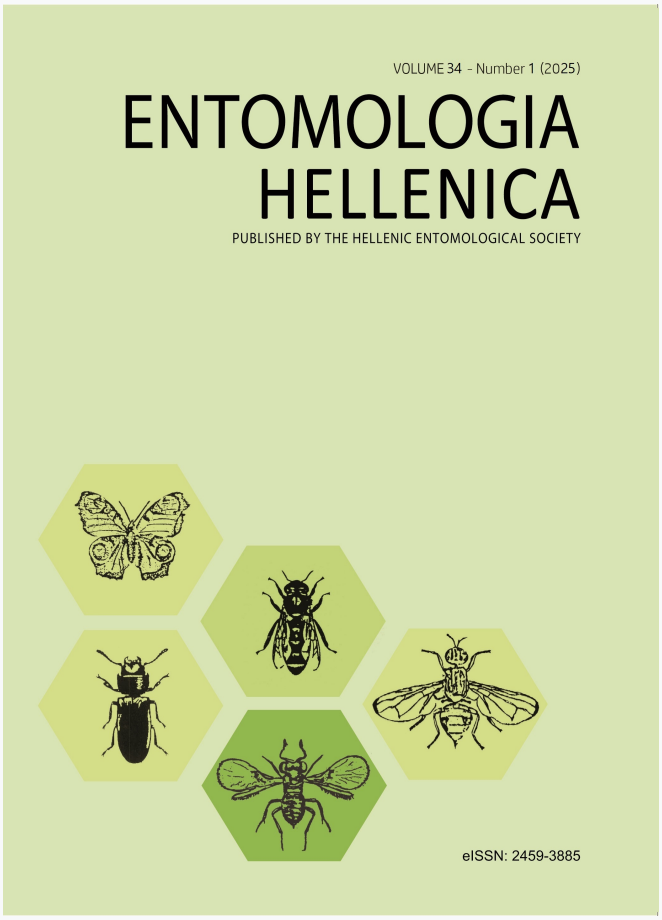

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Taxonomic position of *Odocnemis steindachneri* in the tribe Helopini (Coleoptera: Tenebrionidae)

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ABSTRACT

A little-known Balkan species from Albania is transferred from the genus *Odocnemis* Allard, 1876 to the genus *Nalassus* Mulsant, 1854: *Nalassus steindachneri* (Apfelbeck, 1907), comb. n. The lectotype of this species is designated. External characters and features of male genitalia are shown and prove that this taxon belongs to the subgenus *Horistelops* Gozis, 1910. The distribution of *Horistelops* spp. in Europe is briefly discussed.

KEY WORDS: Albania, Balkans, Cylindrinotina, *Horistelops*, lectotype, new combination.

Introduction

The little-known species *Odocnemis steindachneri* was described by Apfelbeck (1907) from Albania and no one has collected it since that time (at least only specimens from the type series have been reported in later literature). Picka (1983) listed this taxon from central and eastern Bulgaria, but these are very dubious records that require verification. The species was originally described in the genus *Helops* Fabricius, 1775 and later, repeatedly transferred to different genera. Thus, its position remained unclear to this day, because no one examined it after the original description, except Kaszab (1967), and the male genitalia were also unknown.

The present paper reports on the study of type specimens of *O. steindachneri* and proposes a new combination for this species.

Materials and Methods

The examined material is deposited in the Natural History Museum Vienna (Naturhistorisches Museum Wien). Photographs of beetles were taken with a Canon EOS 5D Mark IV Body, lens Canon MPE65MM F2.8 Macro, flush bulb Canon Macro Twin Lite MT-26X-RT, while stacking was made using Stack-shot 3X with enlarged macro rails s/n 3734; the photosystem is installed on a reproduction machine Kaiser Copy Stand RS 1. Images were stacked in Helicon Focus 7.7.4 Pro.

Genitalia were dissected, boiled for a few seconds in alkali solution and kept for 24 hours in the same solution. Then, temporary preparations for imaging were prepared: genitalia were placed on a microscope slide in a drop of glycerin and covered with a cover glass. After imaging, genitalia were removed, washed in water or ethanol and mounted onto transparent plates.

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Nalassus (*Horistelops*) *steindachneri* (Apfelbeck, 1907), **comb. n.** (Fig. 1)

Type material (Naturhistorisches Museum Wien). Lectotype, ♂, designated here: "Merdita Oroschi" (printed), "Apfelb. Alban. spt. IV.V.'05" (printed), "*Stenomax steindachneri* Apfel. typus ♂" (handwritten); Paralectotypes. 1♂: "Merdita Oroschi" (printed), "*Steindachneri* Apfel."; 1♀: "Merdita Oroschi" (printed); 1♀: "Merdita Oroschi" (printed), "Apfelb. Alban. spt. IV.V.'05", "*Stenomax steindachneri* Apfel. typ ♀" (handwritten).

A female specimen that is currently the paralectotype is deposited in the Natural Sciences Museum of Barcelona, Spain (Viñolas et al. 2023). The specimen mentioned by Kaszab (1967) and deposited in the Hungarian Natural History museum was collected by V. Apfelbeck together with syntype series, and also included here as paralectotype.

Taxonomic history. Apfelbeck (1907) described the species in the genus *Helops* Fabricius, 1775, subgenus *Stenomax* Allard, 1876 from Albania (mountains near "… Mal i Shêit, Munela, Zebia") and compared it with *Stenomax foudrasii* Mulsant, 1854 and several Balkan species of *Odocnemis* Allard, 1876. Reitter (1922) proposed the combination *Cylindrinotus* (*Stenomax*) *steindachneri* (misspelled as *Cylindronotus*, see Bouchard et al. (2021)) within the framework of the concept of a broad understanding of the genus *Cylindrinotus* Faldermann, 1837. Cansoneri (1959) returned the original combination, but didn't include *Stenomax steindachneri* to any subgenus of *Stenomax* due to the lack of specimens for examination. Kaszab (1967) listed one specimen under the name "*Cylindronotus steindachneri*" from "Merdita, Oroši", collected by V. Apfelbeck. Nabozhenko (2008) proposed a new combination and transferred the species to the genus *Odocnemis* Allard, 1876 without examination of type specimens.

Notes on morphology. The species is characterized by a set of external features typical for the genus *Nalassus* Mulsant, 1854: elytra without tubercles or granules bearing coeloconic sensilla; eighth elytral interstria convex and merged with elytral margin apically, epipleura not reaching sutural angle; male abdomen with dense hairbrush on the first and last ventrites; male tibiae simple, without teeth or granules on inner side.

The aedeagus of *O. steindachneri* is typical for the subgenus *Horistelops* Gozis, 1910: apical piece sclerotized, flattened dorso-ventrally, without laterally compressed keel at apex. Representatives of the other subgenera of *Nalassus* have the aedeagus with compressed laterally keel at apex. The species is indeed superficially similar to the subgenus *Pystelops* Gozis, 1910 (genus *Stenomax*), so differences from this subgenus are given here. The following characters differentiate *O. steindachneri* from *Stenomax foudrasii* Mulsant, 1854 and other representatives of the subgenus *Pystelops*: male protarsi are slightly wider than in female as in the majority of *Nalassus* spp., and mesotarsi are not widened (protarsi are strongly, and mesotarsi are moderately widened in *Pystelops* spp.); the male inner sternite VIII is without additional strongly sclerotized processes on the inner side (the sternite has strong sclerotized processes in *Pystelops* spp.; see examples in Ardoin (1959)); apical piece of the aedeagus is flattened dorso-ventrally (rounded in cross section in *Pystelops* spp.; see examples in Ardoin (1959) and Cansoneri (1959)). Thus, the following new combination is proposed: *Nalassus* (*Horistelops*) *steindachneri* (Apfelbeck, 1907), **comb. n.**

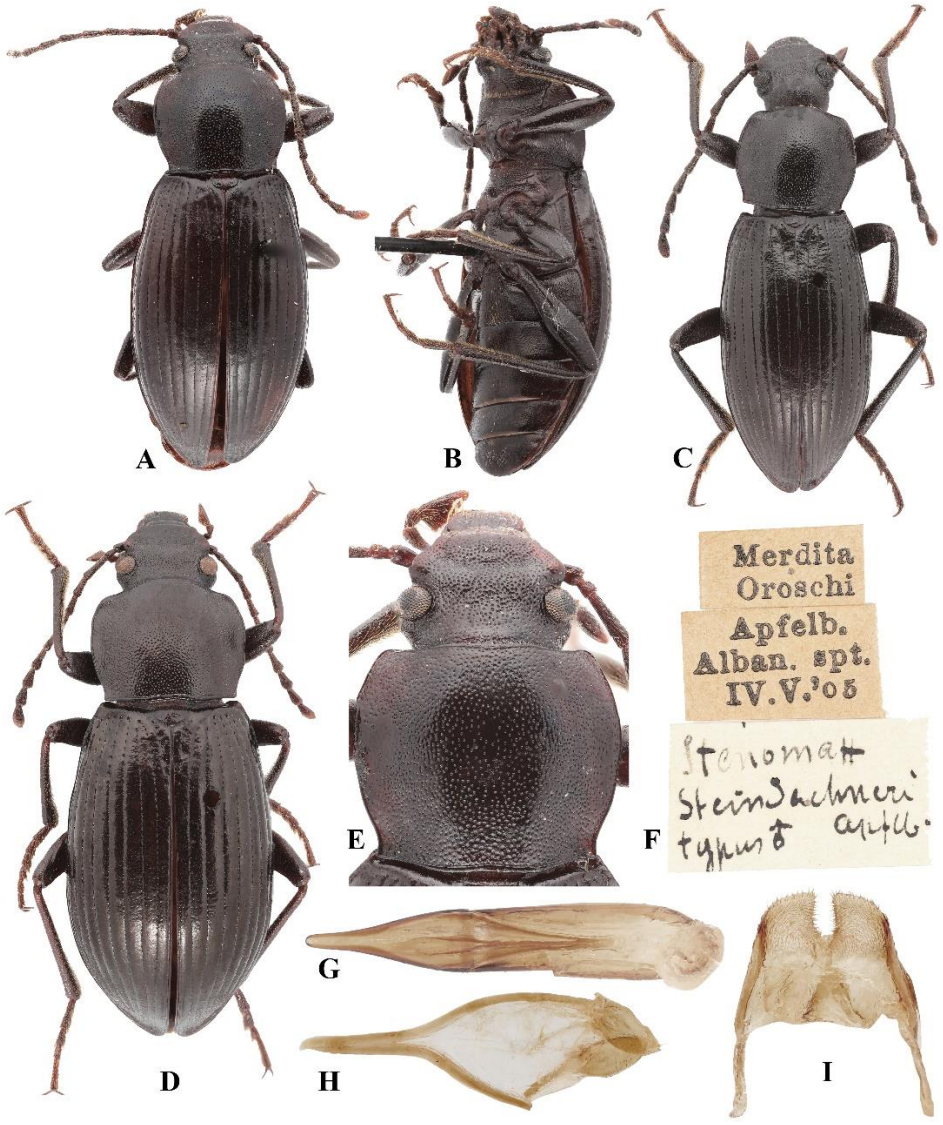

FIG. 1: *Nalassus* (*Horistelops*) *steindachneri*, type specimens, habitus, details, labels. A. male dorsally, lectotype; B. ditto, ventro-laterally; C. male, paralectotype, dorsally; D. female, paralectotype, dorsally; E. head and pronotum, male, lectotype; F. labels of the lectotype; G. aedeagus ventrally; H. spiculum gastrale; I. male inner sternite VIII.

Discussion

Representatives of *Horistelops* (*Helopondrus* Reitter, 1922 before the work of Bouchard et al. (2021)) are the most diverse in Anatolia, the Caucasus and Iran (Nabozhenko 2020). The species belonging to this subgenus differ from other *Nalassus* spp. at the dorso-ventrally flattened aedeagus and usually slightly elongate

puncturation on lateral sides of the pronotum. Despite the 'cylindrinotoid' structure of the aedeagus and female genital tubes, the larvae have typical 'nalassoid' characters (Nabozhenko and Artokhin 2017). Species of *Horistelops* inhabit different landscapes from humid subtropical forests to dry steppes and alpine highlands, feeding on foliose lichens and sometimes green algae on tree trunks (Nabozhenko et al. 2022a, b).

In Europe, two species of this subgenus are known: *Nalassus assimilis* (Küster, 1850), distributed in France, Italy and Spain (Ardoin, 1959) and *N. sareptanus* (Allard, 1876) occurring from Eastern Europe to NW Kazakhstan (Nabozhenko, 2020) with the western border of the range in eastern Bulgaria (Nabozhenko and Artokhin 2017; Nabozhenko and Grimm 2019). Until recently, the range of the subgenus *Horistelops* appeared disjunctive, with one Western European species, many Western Asian taxa and the Eastern European *N. sareptanus*. The presence of another representative of *Horistelops* in the Western Balkans eliminates the gap in the range of the subgenus. It is possible that some Western European species, such as *N. aemulus* (Küster, 1850), *N. calpensis* (Champion, 1891) and *N. estrellensis* (Kraatz, 1870), also belong to this subgenus. Unfortunately, there is not enough material available to confirm this, and there are no images of the genitalia of the mentioned species in the literature.

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Ταξινομική θέση του *Odocnemis steindachneri* στη φυλή Helopini (Coleoptera: Tenebrionidae)

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ΠΕΡΙΛΗΨΗ

Ένα ελάχιστα γνωστό βαλκανικό είδος από την Αλβανία μεταφέρεται από το γένος *Odocnemis* Allard, 1876 στο γένος *Nalassus* Mulsant, 1854: *Nalassus steindachneri* (Apfelbeck, 1907), comb. n. Ο λεκτότυπος αυτού του είδους ορίζεται. Οι εξωτερικοί χαρακτήρες και τα χαρακτηριστικά των γεννητικών οργάνων των αρρένων ακμαίων αποδεικνύουν ότι με αυτή την ταξινόμηση το είδος κατατάσσεται στο υπογένος *Horistelops* Gozis, 1910. Η κατανομή του *Horistelops* spp. στην Ευρώπη συζητείται εν συντομία.

