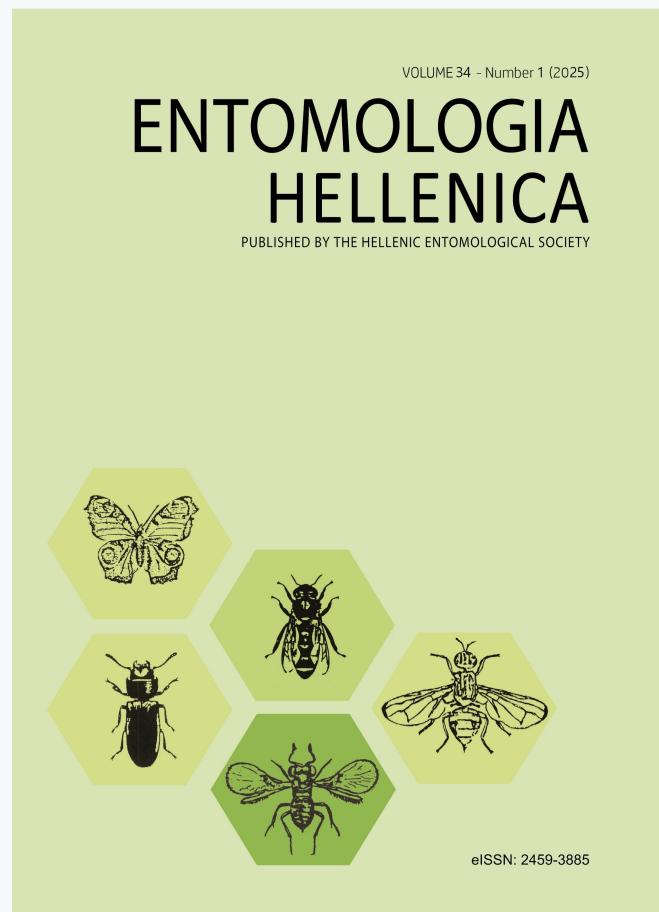


ENTOMOLOGIA HELLENICA

Vol 34, No 1 (2025)

Entomologia hellenica 34(1)



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

Maxim Nabozhemko

doi: [10.12681/eh.39821](https://doi.org/10.12681/eh.39821)

Copyright © 2025, Maxim Nabozhemko



This work is licensed under a [Creative Commons Attribution-NonCommercial-ShareAlike 4.0](https://creativecommons.org/licenses/by-nc-sa/4.0/).

To cite this article:

Nabozhemko, M. (2025). Taxonomic position of *Odocnemis steindachneri* in the tribe Helopini (Coleoptera: Tenebrionidae). *ENTOMOLOGIA HELLENICA*, 34(1), 32–37. <https://doi.org/10.12681/eh.39821>

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

MAXIM V. NABOZHENKO^{1,2*}

¹Precaspian Institute of Biological Resources of the Daghestan Federal Research Centre of the Russian Academy of Sciences, Makhachkala / Russia

²Dagestan State University, Institute of Ecology and Sustainable Development, Makhachkala / Russia

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.

*Corresponding author: nalassus@mail.ru

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 Shëit, 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. Cansonero (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 Ardoïn (1959)); apical piece of the aedeagus is flattened dorso-ventrally (rounded in cross section in *Pystelops* spp.; see examples in Ardoïn (1959) and Cansonero (1959)). Thus, the following new combination is proposed: *Nalassus (Horistelops) steindachneri* (Apfelbeck, 1907), **comb. n.**

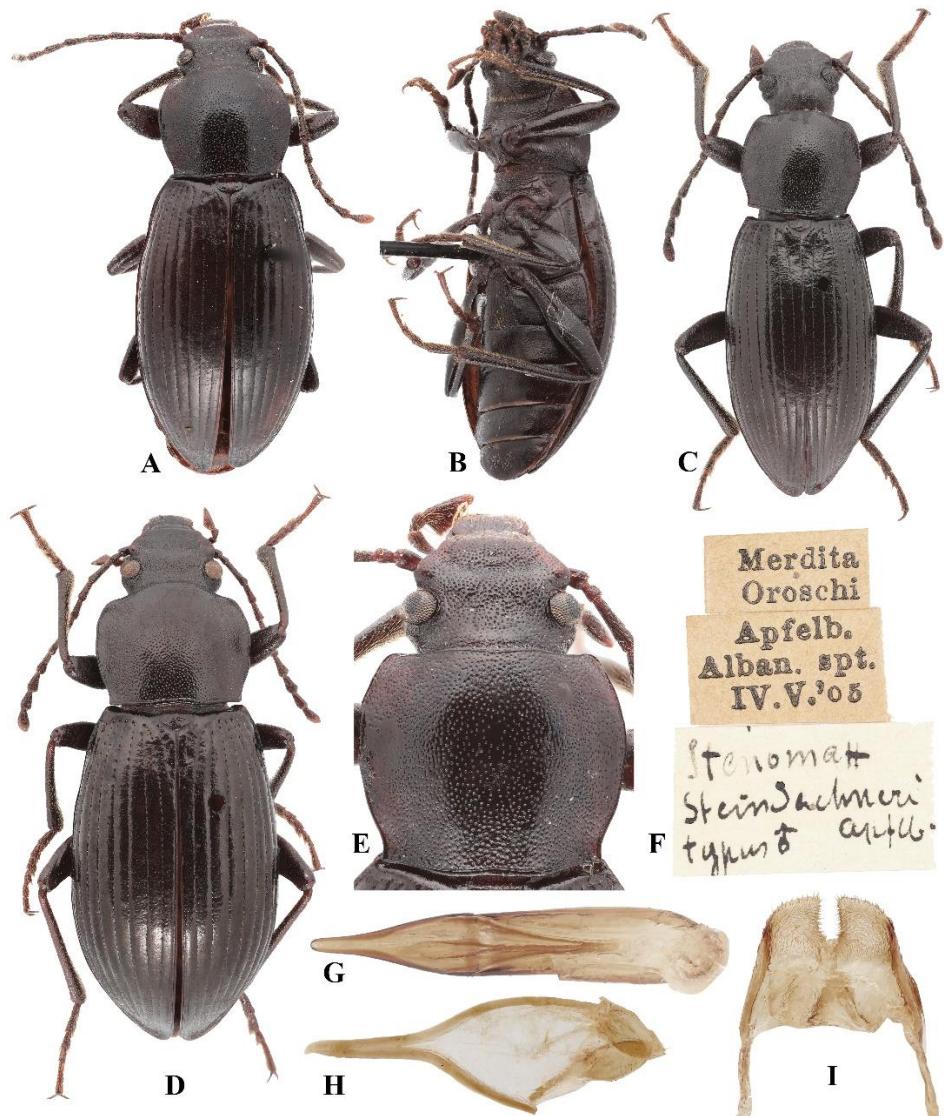


FIG. 1: *Nalassus (Horistelops) steindachneri*, type specimens, habitus, details, labels. A. male dorsally, lectotype; B. ditto, ventro-laterally; C. male, paralectotype, dorsally; D. female, paralectotype, dorsally; E. head and pronotum, male, lectotype; F. labels of the lectotype; G. aedeagus ventrally;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

punctuation 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 (Ardoïn, 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.

Acknowledgements

I would like to express my deep gratitude to Harald Schillhammer (Naturhistorisches Museum Wien) for the loan material and his comprehensive assistance during my visit to the museum. I also thank to Patrice Bouchard (Canadian National Collection of Insects, Arachnids and Nematodes, Agriculture and Agri-Food Canada) and anonymous reviewer for their valuable comments and corrections. The study was supported by the state project of Precaspian Institute of Biological Resources of the Daghestan Federal Research Centre of the Russian Academy of Sciences AAAA-A17-117081640018-5.

References

Apfelbeck, V. 1907. Neue Koleopteren, gesammelt während einer im Jahre 1905. mit Subvention der kaiserlichen Akademie der Wissenschaften in Wien durchgeführten zoologischen Forschungsreise nach Albanien und Montenegro (I serie). Sitzungsber. Kaiserl. Akad. Wiss., Math.-Naturwiss. Cl. 115(1) [1906]: 1661–1674.

Ardoïn, P. 1959. Contribution à l'étude des Helopinae de France (Col. Tenebrionidae). Ann. Soc. Entomol. Fr. 127 [1958]: 9–49.

Bouchard, P., Bousquet, Y., Aalbu, R.L., Alonso-Zarazaga, M.A., Merkl, O. and A.E. Davies. 2021. Review of genus-group names in the family Tenebrionidae (Insecta, Coleoptera). ZooKeys. 1050: 1–633. <https://doi.org/10.3897/zookeys.1050.64217>

Canzoneri, S. 1959. Contributo ad una migliore conoscenza del genere Stenomax Allard (Col. Tenebrionidae). Boll. Soc. Entomol. Ital. 89: 148–149.

Kaszab, Z. 1967. Ergebnisse der Albanien-Expedition 1961 des Deutschen Entomologischen Institutes. Beitr. Ent. 17(3/4): 537–546.

Nabozhenko, M.V. 2008. Tenebrionidae: Helopini. New nomenclatural and taxonomic acts, and comments. In: Catalogue of Palaearctic Coleoptera. Vol. 5. Tenebrionoidea (Löbl I. & A. Smetana (Eds.). Apollo books, Stenstrup. pp. 36–38.

Nabozhenko, M.V. 2020. Tribe Helopini Latreille, 1802. In: Catalogue of Palaearctic Coleoptera, Volume 5. Tenebrionoidea (Iwan, D. and I. Löbl (Eds). Brill, Leiden. pp. 314–339. https://doi.org/10.1163/9789004434998_004

Nabozhenko, M.V. and K.S. Artokhin. 2017. Description of the larva of *Nalassus (Helopondrus) sareptanus* (Allard, 1876) and a position of the subgenus *Helopondrus* Reitter, 1922 in the system of the tribe Helopini (Coleoptera: Tenebrionidae). Proceedings of the Russian Entomological Society. 88(1): 72–79 (in Russian).

Nabozhenko, M.V., Gagarina, L.V. and I.A. Chigray. 2022. A new *Nalassus* Mulsant, 1854 (Coleoptera: Tenebrionidae) from Transcaucasia with a key to species from the Greater Caucasus and notes on the taxonomy, distribution, bionomics and trophic relations. Acta Zool. Acad. Sci. Hung. 68(2): 119–158. <https://doi.org/10.17109/AZH.68.2.119.2022>

Nabozhenko, M.V., Gagarina, L.V., Chigray, I.A. and S.V. Nabozhenko. 2022. Trophic relations and ecological niches of darkling beetles of the genus *Nalassus* Mulsant, 1854 (Coleoptera: Tenebrionidae) in the Caucasus and description of a new species from Abkhazia. South of Russia: ecology, development. 17(3): 16–34. (in Russian) <https://doi.org/10.18470/1992-1098-2022-3-16-34>

Nabozhenko, M.V. and R. Grimm. 2019. New species and new records of darkling beetles of the tribe Helopini (Coleoptera: Tenebrionidae) from the Western Palaearctic. Cauc. entomol. bull. 15(1): 107–116. <https://doi.org/10.23885/181433262019151-107116>

Picka, J. 1983. Beitrag zur kenntnis der Familie Tenebrionidae Bulgariens (Coleoptera). Acta Entomol. Mus. Natl. Pragae. 41: 297–312.

Reitter, E. 1922. Bestimmungstabelle der palaearktischen Helopinae (Col. Tenebrionidae). Wien. Entomol. Ztg. 39: 1–44, 113–171.

Viñolas, A., Caballero-López, B. and G. Masó. 2023. The collection of type specimens belonging to the families Archeocrypticidae, Pythidae and Tenebrionidae III (Coleoptera) deposited in the Natural Sciences Museum of Barcelona, Spain. Arxiu de Miscel·lània Zoològica. 21: 151–252.

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

MAXIM V. NABOZHENKO^{1,2*}

¹Precaspian Institute of Biological Resources of the Daghestan Federal Research Centre of the Russian Academy of Sciences, Makhachkala / Russia

²Dagestan State University, Institute of Ecology and Sustainable Development, Makhachkala / Russia

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 συντομίᾳ.