

Contribution to the knowledge of *Nebria* (s. str.) *storkani* Mařan, 1939, with the description of a new species (Coleoptera, Carabidae)

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A new species, *Nebria* (s. str.) *fageticola*, similar to *N. storkani* Mařan, 1939 is described from the Pindos Mts. of Greece. The distribution areas of the two species are given.

Keywords: Coleoptera, Carabidae, *Nebria*, *storkani*, taxonomy, new species, Greece.

INTRODUCTION

*Nebria* (s. str.) *storkani* Mařan, 1939 is known as a local endemic species of the Northern Pindos Mts. of the Greek mainland. The present distribution area of this rarely collected species covers only the two type localities given by Mařan (1939) and the nearby Katara Pass (Ledoux & Roux 2005). The study of large material of *N. storkani* resulted in differentiated knowledge on the faunistics of the species, and a necessary separation of a new species, which is described herewith.

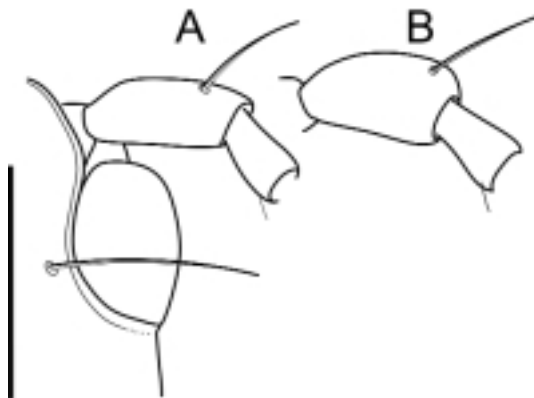


Fig. 1: 1<sup>st</sup> antennomere of the right antenna. – A: *Nebria fageticola* n. sp. – B: *Nebria storkani* Mařan, 1939. Scale bar: 1 mm.

## MATERIAL AND METHODS

71 specimens of *N. storkani* from different localities of the Pindos Mountain range were studied (Fig. 5).

## Abbreviations of collections:

cDW	collection David Wrase, Berlin, Germany
cPJ	collection P. Jerum, Aarhus, Denmark
cPMG	collection Pier Mauro Giachino, San Martino Canavese, Italy
cWM	collection Werner Marggi, Thun, Switzerland
NHMW	Naturhistorisches Museum Wien, Austria
NMBE	Naturhistorisches Museum Bern, Switzerland

The photographs were made with a 4-megapixel digital camera (JVC KY-F70B), with a Leica MZ 16A binocular and with the Auto-Montage system (Synoptics).

## SYSTEMATICS

***Nebria* (s. str.) *storkani* Mařan, 1939**

*Material examined*: 2 ♂♂, 2 ♀♀ Griechenland, Katara-Pass/Metsovo, N 39° 47,2', E 21° 13,7', 1700 m, 3. 6. 2000, leg. Huber & Marggi (NMBE); 2 ♂♂, 3 ♀♀ Katara-Pass, Strasse nach Chaliki/Metsovo, N 39° 44,3', E 21° 13,9', 1700 m, 3. 6. 2000, leg. Huber (NMBE); 3 ♂♂, 1 ♀ Katara-Pass, Strasse nach Chaliki, N 39° 44,3', E 21° 13,9', 1700 m, 3. 6. 2000, leg. Marggi (cWM); 1 ♂ Grecia centrale, Epuro, Passo Katara, 1700 m, 3. 7. 1997, leg. B. G. Osella (cPMG); 15 ♂♂, 2 ♀♀ Griechenland, Smólikas Mt. (Ostseite), Grevena, N 40° 08', E 20° 59', 1800–2000m, 31. 5. 2000, leg. Huber (NMBE); 19 ♂♂, 2 ♀♀ Griechenland, Smólikas Mt. (Ostseite), Grevena, N 40° 08', E 20° 59', 1800–2000m, 31. 5. 2000, leg. Marggi (cWM); 3 ♂♂, 1 ♀ Griechenland, Smólikas, Fourka, Grevena, 2000 m, 17. 6. 2003, leg. J. Riha (cDW); 1 ♂, 1 ♀ Greece, Smólikas, Samarina, Grevena, 1500–1600 m, 13. 7. 1996, leg. P. Jerum (cPJ); 2 ♀♀ Grecia, nom. Ioánina, Oros Smólikas, strada Agia Paraskevi–Samarina, colle doppio il bivio per Foúrka, 1570 m, 19. 6. 1993, leg. P. M. Giachino & D. Vailati (cPMG); 1 ♂ Grecia, nom. Ioánina, Oros Smólikas, bivio Foúrka, 1550 m, 19. 6. 1994, leg. Giachino & Vailati (cPMG); 1 ♂ Graecia, Smólikas, 2000 m, 1.–10. 8. 1981, leg. Mühle (NHMW); 1 ♂, 1 ♀ Griechenland, Kastoriá, Gramos Mt. (Nordseite), N 40° 22,3', E 21° 13,9', 1850–2000 m, 27. 5. 2000, leg. Huber & Marggi (NMBE).

*Morphometry*: Ratio width/length of the pronotum =  $1.53 \pm 0.034$  (1.47–1.63) (N = 23). Mařan (1939) indicates a ratio of 1.58, and Ledoux & Roux (2005) one of 1.55.

*Natural history*: *N. storkani* is restricted to the subalpine and the lower alpine zone (1500–2000 m), where it lives high up in the beech tree forest zone.

*Distribution*: *N. storkani* is restricted to the Northern Pindos Mts. from the Peristeri Mt. range (loci typici) to the Albanian border (Gramos Mt.) (Fig. 5) including the Smólikas Mt.

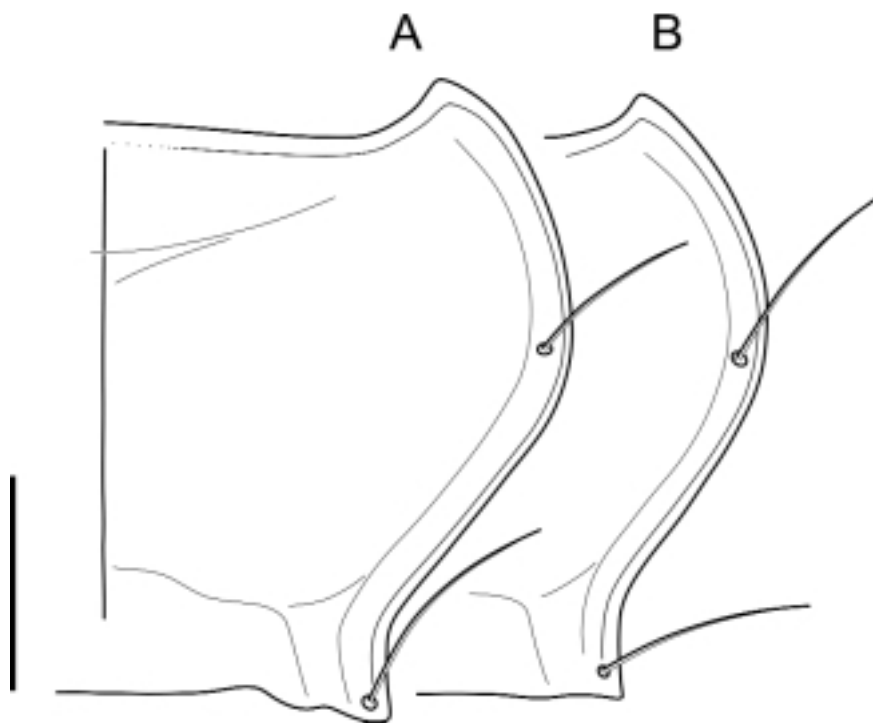


Fig. 2: Right half of the pronotum. – A: *Nebria fageticola* n. sp. – B: *Nebria storkani* Mařan, 1939. Scale bar: 1 mm.

***Nebria* (s. str.) *fageticola* n. sp.**

*Holotype* ♂: Grecia, nom. Karditsa, O. Karáva, faggeta, 1650 m, 18. 6. 1993, P. M. Giachino & D. Vailati leg. (cPMG).

*Paratypes*: 2 ♀ same data as holotype (cPMG); 1 ♂ same data as holotype, 1550 m (NMBE); 1 ♀ Grecia, nom. Karditsa, O. Karáva, strada Pefkófito–Vlássio, sopra Pefkófito, 1400 m, 14. 6. 1994, Giachino & Vailati leg. (cPMG); 1 ♀ Grecia, nom. Karditsa, Oros Karáva, Fagetum, 1650 m, 8. 6. 1998, Giachino & Vailati leg. (cPMG).

*Additional material examined*: 1 ♀ nom. Fthiótida, Oros Vardousia, strada fra Gardíki e Gramméni Oxia, circa 1500 m, 10. 6. 1995, M. Daccordi leg. (cPMG).

*Body length*: 12.5–13.5 mm. Colour black, mandibulae and appendages of the head dark brown to black. Antennae brown to dark brown; 1<sup>st</sup>, 3<sup>rd</sup> and 4<sup>th</sup> antennomere medially blackened. 2<sup>nd</sup> antennomere brownish, not darkened. Head without lightened spots on the vertex. Legs black.

Head (Fig. 1): Head wide. Labrum with anterior margin sinuate, bearing 6 setae. Apical margin of clypeus straight. Vertex smoothly punctate. Eyes not prominent. 1 supraorbital seta. Antennae short, extending to the fourth or to the third of

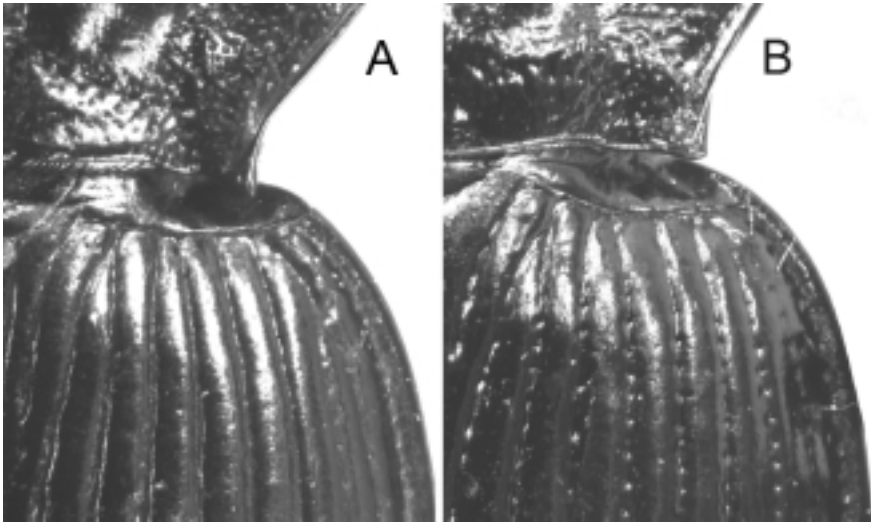


Fig. 3: Basal part of the right elytra. – A: *Nebria fageticola* n. sp. – B: *Nebria storkani* Mařan, 1939.

the elytra. 1<sup>st</sup> antennomere elongate, cylindrical, basally narrowed, not stout as in *N. storkani*, with 1 dorsal seta. Dorsal seta of the 1<sup>st</sup> antennomere inserted far from the apical margin at a distance longer than the diameter of the 2<sup>nd</sup> antennomere. Penultimate labial palpomere with 4 setae. 1<sup>st</sup> mandibular palpomere not darkened as in *N. storkani*. Submentum with 3 setae bilaterally. Microsculpture of the head isodiametric.

*Pronotum* (Fig. 2): Pronotum cordate, transverse, widest at apical third; ratio width/length of the pronotum =  $1.60 \pm 0.02$  (1.57–1.63) (N = 7). Lateral margin convex, strongly and evenly rounded to the anterior and posterior angles, distinctly concave before the posterior angles. Posterior angles slightly narrower than the anterior (0.97 times). Anterior angles rounded, distinctly protruding. Posterior angles acute, protruding outwards and backwards. Basal margin bisinuate near the basal fovea (Fig. 2A). Pronotal disc convex. Lateral groove large. Basal fovea deep, anterior and posterior transverse impressions distinct, median longitudinal impression distinct. Basal fovea, the anterior and the posterior transverse impressions and the large lateral groove tightly and coarsely punctate. Punctuation of the lateral groove decreasing towards the pronotal disc. Pronotum impunctate on disc. Apical margination complete except for a narrow median part; basal margination absent. Basolateral seta present. 1 midlateral seta in the apical half of the pronotum. Microsculpture of the pronotum isodiametric, Proepisternum punctate. Prosternal process laterally marginate, margination at the apex faint. Prosternal process at the apex with a faint median bulge.

*Elytra*: Elytral outline moderately convex, elongate, widest behind the middle. Shoulder large, more pronounced than in *N. storkani*. Lateral margin straight at one fourth of the elytra, subapically faintly sinuate. Elytral apex rounded. Basal margin

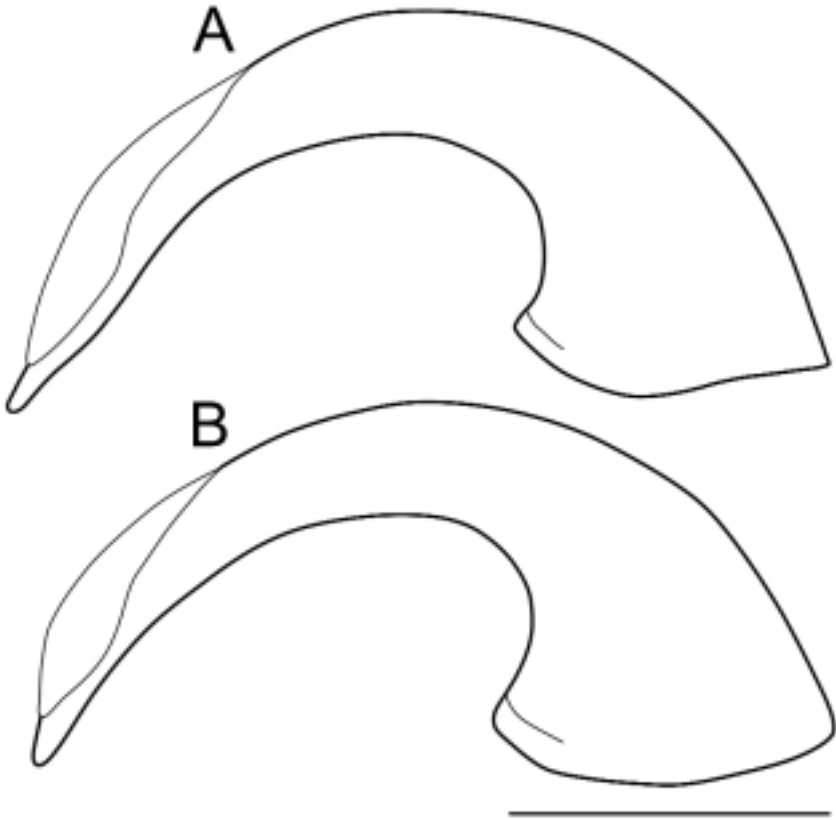


Fig. 4: Aedeagi. – A: *Nebria fageticola* n. sp. – B: *Nebria storkani* Mařan, 1939. Scale bar: 1 mm.

rounded, joined at an acute angle with the lateral margination (Fig. 3A). Humeral carina present as a well-defined edge. Striae deep, reaching the apex; striae impunctate or only faintly punctate (Fig. 3A). Intervals convex, interval 3 with (2)3–4(5) setae. Scutellar seta mostly present. Apical carina distinct. Microsculpture transversely meshed. Hind wings present as a short strap-like vestige extending to the third of the elytral length.

*Sternit*: Mesepisterna coarsely and tightly punctate. Metepisterna one and a half times longer than wide, coarsely and tightly punctate. Metacoxa with 1 basal seta, rarely bisetose. 1<sup>st</sup> sternum (= 2<sup>nd</sup> sternum sensu Ledoux & Roux 2005) laterally rough, coarsely punctate. 2<sup>nd</sup> abdominal sternum medially asetose. Third to fifth visible abdominal sterna (sterna 4–6 sensu Ledoux & Roux 2005) each with 1 posterior paramedial seta. Anal sternum with 1 paramedial seta in the male and 2(–3) in the female.



Fig. 5: Map of localities of *Nebria fageticola* n. sp. (triangles) and *Nebria storkani* Mařan, 1939 (dots, stars) in Greece. Stars = type localities of *N. storkani* near Malakassion (\*1) and Chaliki (\*2). Mountains higher than 1600 m above sea level are in grey.

*Legs*: 4<sup>th</sup> metatarsomere without a ventroapical tooth.

*Aedeagus* (Fig. 4A): Basal part of the median lobe large. Mid-shaft strongly curved at base. Apex deflected to the left and faintly concave at left side.

*Diagnosis*: *N. fageticola* n. sp. differs from *N. storkani* by its cylindrical 1<sup>st</sup> antennomere (Fig. 1), which is shorter and stout in *N. storkani*. The dorsal seta of the 1<sup>st</sup> antennomere inserted from the apical margin at a distance longer than the diameter of the 2<sup>nd</sup> antennomere, whereas in *N. storkani* the insertion distance is half the diameter of the 2<sup>nd</sup> antennomere. Mandibular palpus brownish, whereas in *N. storkani* the 1<sup>st</sup> mandibular palpomere is often darkened. No lightened spot on the vertex, whereas in *N. storkani* the head is distinctly reddish lightened on the ver-

tex. The basal margin of the pronotum is bisinuate near the basal groove, whereas in *N. storkani* it is only faintly sinuate (Fig. 2). The hind wings are less reduced (in width) than in *N. storkani*, which results in more pronounced shoulders of the elytra. The elytral striae are impunctate, in contrast to the distinctly punctate striae in *N. storkani* (Fig. 3B). Legs black, whereas in *N. storkani* the tarsi are brownish brightened.

*Natural history*: All specimens of the type series were found in the beech tree area at 1400–1550 m.

*Distribution*: *N. fageticola* n. sp. is restricted to the subalpine zone of the Southern Pindos Mts. from the Karáva Mt. range (locus typicus) to the Vardousia Mt. (Fig. 5).

*Etymology*: The epithet of the species refers to its preferred habitat, the beech tree area (*Fagetum*).

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