

Description of a new individual form of *Carabus (Hemicarabus) nitens* ssp. *nitens* Linnaeus (Coleoptera: Carabidae)

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Abstract. The author describes a new individual form of *Carabus (Hemicarabus) nitens* ssp. *nitens* Linnaeus, 1758 and some particularities about the nominate species and the habitat.

Samenvatting. De auteur beschrijft een nieuwe individuele vorm van *Carabus (Hemicarabus) nitens* ssp. *nitens* Linnaeus, 1758 en vermeldt enkele bijzonderheden over de nominale soort en de habitat.

Résumé. L'auteur décrit une nouvelle forme individuelle de *Carabus (Hemicarabus) nitens* ssp. *nitens* Linnaeus, 1758, ainsi que quelques particularités concernant l'espèce nominative et l'habitat.

Keywords : *Carabus – nitens – Individual form – Belgium.*

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Carabus (Hemicarabus) nitens Linnaeus, 1758 is one of the most endangered ground beetles in Europe due to the loss of suitable habitat – wet heathland areas – and the quality of the remaining heathlands (Assman & Janssen 1998). The *nitens* population has severely declined in the last decades in Belgium, The Netherlands and France, where only one relict population remains in the region of the Bassin d'Arcachon (Forel & Leplat 1995, Assman & Janssen 1998). According to Forel & Leplat, the disappearance of *C. nitens* in France was caused by the adjustments and arrangement of the sandy coastline, as well as the draining of waterways and estuaries (Forel & Leplat 1995).

In Belgium, *Carabus (Hemicarabus) nitens* Linnaeus, 1758 is limited to the heathland areas in the northern provinces Antwerp and Limburg. The species shows a peculiar 'split' habitat preference; predominantly it is a helio- and thermophile beetle, occurring in moist and

wet heathlands where *Erica cinerea* and *Drosera intermedia* thrive (most often found on acidic peat over which water continuously seeps on and off due to rainfall). Although from time to time this species can also be found at some distance from the water, on the dry sandy soils of the heathlands (Turin *et al.* 2003).

During my study of the genus *Carabus* in the wet – and also protected – heathlands of Limburg, I have found one locality where *C. nitens* shares its habitat with *C. arvensis* ssp. *sylvaticus* Dejean, 1826 and *C. clatratus* Linnaeus, 1761, two other endangered *Carabus* species. During inventories at other similar localities in the same province I have found *C. nitens* to share its grounds with respectively *C. arvensis* ssp. *sylvaticus*, and at other habitats with *C. clatratus* ssp. *multipunctatus*. This research was conducted between 2012 and 2014 (Peeters 2013).



Fig. 1: Habitat of *Carabus nitens* in Leopoldsburg/ Houthalen-Helchteren, 18–25.iv.2013, © I. Peeters.

However, these past years, the proper type of soil management by the ANB (Agentschap Natuur en Bos) such as removing the upper soil layers and chopping the vegetation, made sure that *C. nitens* not only recovered, but at certain localities became a dominant species in these specific habitats.

During one of my entomological excursions in the moist heathlands in Limburg, to be more exact on a still active military shooting and exercise range between Leopoldsburg and Houthalen-Helchteren (Fig. 1) – and with a permit and permission of the military staff – I came across a remarkable specimen of *C. nitens* in one of

the pitfalls (Fig. 2) which differs from the nominate species (Fig. 3). This female individual presented an aberrant, yet symmetrical X-shaped, elytral sculpture. To my knowledge there is no written description of this aberration of *C. nitens* to this day. Therefore, I will name this aberration *furcorinnae* **f. nov.**

Carabus (Hemicarabus) nitens ssp. *nitens* ab. *furcorinnae* **f. nov.**

Holotype: ♀, 17 mm, Belgium, Limburg, military shooting grounds Leopoldsburg / Houthalen-Helchteren, 18–25.iv.2013, leg. & coll. Peeters (fig. 2).



Fig. 2 (left). *Carabus (Hemicarabus) nitens* ssp. *nitens* ab. *furcorinnae* **f. nov.**; Holotype: ♀, Belgium, Limburg, Leopoldsburg / Houthalen-Helchteren, 18–25.iv.2013, leg. & coll. Peeters.

Fig. 3 (right). *Carabus (Hemicarabus) nitens nitens* Linnaeus, 1758, nominate form; same data. © I. Peeters.

Exactly the same aberration (bilateral X and/or Y shape) can be encountered with:

- *Carabus (Chrysocarabus) auronitens* (Fabricius, 1792) = ab. *furcillatoides* (Maguerre, 2000)
- *Carabus (Chrysocarabus) solieri* (Dejean, 1826) = ab. *furcillatus* (Bleuse, 1914)
- *Carabus (Chrysocarabus) punctatoauratus* (Germar, 1826). See Maguerre (2004).

As for the rest this female displays the same characteristics as the type : head and thorax are metallic coppery red, as well as explanate margins on the metallic green elytra. Each elytron with three very strongly raised

lines which have no punctures and which are evenly and densely punctured in between.

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