

In the Netherlands, *Carabus nitens* (Coleoptera: Carabidae) is a characteristic species for large open heathlands. As result from reclamations, fragmentation and the excessive use of fertilizers *C. nitens* became almost extinct in the last half of the previous century. At the end of that century several measures were taken to restore the large heathlands in the province of Drenthe. For instance in one of the last remaining large heathlands, the Dwingelderveld, the poor soil conditions were brought back by sod-cutting and removal of those sods. In another area, the Mantingerveld, the small heathland remnants, scattered throughout the area, were reunited by removing the nutrient-rich furrow of the arable fields in between, restoring the poor sandy character of the soil. In the Dwingelderveld the species was not caught anymore in the period 1970-1990, but it probably survived somewhere in low numbers at the 1670 ha of heathland. 5-8 years after sod-cuttings were executed it was caught in high numbers (up to 250 individuals in one trap) at those areas. At the Mantingerveld it probably did not survive. Last catches at Hullenzand, a remnant of heathland in the Mantingerveld area, were recorded from 1969. Top-soil removals were done in 1994 but up till 2007-2008 no catches of *C. nitens* were made, despite the heathy character of this area. After 2008 an increasing number of catches were recorded with numbers of more than 300 in 2011 at the top-soil removal area. In 2003 75 exemplars were released at the Hullenzand at the border of the top-soil removal area. It is concluded that *C. nitens* profits from both measures, sod-cutting and top-soil removal. Sod-cuttings should be executed every 20-25 years to maintain a high level of individuals. *C. nitens* might be a good indicator for nature managers to determine the moment of taking measures.

Geographical variation in thermal constants for development of carabid beetles

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Thermal constants are important descriptors of thermal requirements of species and their adaptations to local conditions. Geographical variation in the thermal constants of egg development was studied in 11 populations of 10 species of carabid beetles originating from the Czech Republic and Russian Federation. The data were obtained based on development times at 4-6 temperatures ranging from 9 to 29 °C, depending on species. Thermal constants – lower development threshold (LDT) and sum of effective temperatures (SET) – were calculated using three different linear equations (Lopatina et al. 2012, Honěk 1996, Ikemoto & Takai 2000) in the range of ecologically relevant temperatures. The obtained data were also compared with the literature data. In most cases the three methods provided similar estimates, but the method of Ikemoto & Takai (2000) seemed to be the most precise. In case of *Amara eurynota*, we found that the population from Russian Federation had higher SET with identical LDT, and thus developed longer, compared to the Czech population. In other cases there was no variation in thermal constants among populations or ecological significance of the observed