# First British record of *Nacerdes carniolica* (Gistel, 1834) (Oedemeridae) in Kent

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An interesting-looking beetle was found at the actinic light trap in the garden of GRB in Tonbridge, Kent (TQ599454, VC 16). This was on 13 August 2022, already late in the season for most beetles. As "beetle by-catch", it was brought into the Natural History Museum, London for MFG to look at, in the hopes it could be something new to one of the ongoing DNA-sampling projects which the NHM is involved in. It turned out to be not only new to those projects, but a new record for the country.

The specimen from the light trap (Fig. 1) was identified as a female of *Nacerdes carniolica* (Gistel), a species of Oedemeridae native to Europe, but not previously recorded from Britain. Originally described from what is now Slovenia, the known range of the nominate subspecies extends from north-west Spain (Catalonia) through France up to southern Sweden and southwards to Greece (Vázquez, 2002). Švihla (2008) specifically listed ssp. *carniolica* from the following countries: Albania, Austria, Bosnia-Herzegovina, Bulgaria, Belarus, Croatia, Czech Republic, France, Germany, Georgia, Greece, Hungary, Italy, Liechtenstein, North Macedonia, Romania, Slovakia, Slovenia, Spain, Sweden, Switzerland and Serbia. More recently, records were added for Poland (Gutowski *et al.*, 2012), Belgium (Fagot, 2020), the Netherlands (Buesink, 2022) and the European part of Russia (Egorov & Ruchin, 2021). Populations from parts of northern Spain and south-west France have been described as ssp. *atlantica* Allemand, 1993. In southern Greece (Peloponnese and Crete) and southern Italy, there is the ssp. *peloponesica* Švihla, 1991. In southern Turkey, it is represented by ssp. *foveata* (Fairmaire, 1892). These subspecies were based mostly on colour characters and their validity will not be discussed here. Based on the key given by Vázquez (2002), our British specimen belongs to ssp. *carniolica*.

*Nacerdes carniolica* is one of four European members of the subgenus *Xanthochroa* Schmidt, W., 1844, which was previously treated as a separate genus. Most of the diversity of *Xanthochroa* is found in East Asia, while the subgenus *Nacerdes* s. str. contains the almost cosmopolitan *Nacerdes melanura* (Linnaeus), the "wharf borer", a species commonly found in coastal areas of Britain.

Within the British fauna *N. carniolica* is similar to *Oedemera femoralis* Olivier, in the older literature known as *Oncomera femorata* (Fabricius). This is another large nocturnal Oedemeridae with bulging eyes, also rarely found during the day and most frequently recorded in moth traps. *Oedemera femoralis* is easily distinguished from *N. carniolica* by the lighter-coloured elytra, a distinctive pattern of elytral costae (first and second one connected to each other in the basal half of the elytra), a black or dark brown patch in the apical part of each femur, enlarged metafemora in the males, and a more elongate head shape. In *N. carniolica*, the colour of the tibiae and antennae is somewhat variable from pale orange to various degrees of infuscate, but the femora

which in a future study might help establish where in Europe the British specimen originated from.

At this moment, with only one specimen available, we can only speculate how and when this species arrived in Britain, and whether a population is firmly established. However, due to the short lifespan of the adults, we can at least assume that a population with larvae must be established in Kent, as it seems less likely that a single adult would have survived a car or train journey from the European continent and then flown into a light trap in Kent. The larvae are known to be associated with dead wood (including rotting stumps) of conifers, notably spruce *Picea abies* and pine *Pinus* spp., where they appear to be predators (Nolte & Geginat, 1998; Geiser & Geiser, 2000; Breitenmoser *et al.*, 2016). In Italy, there are records from broadleaved trees (Poloni, 2019). Adults have been observed feeding on pollen of *Saponaria officinalis* and *Wisteria* during the night but are very rarely found during the day (Nolte & Geginat, 1998). Niehuis (2006) noted that *N. carniolica*, despite being a red-listed species in Germany, has notably increased in abundance in parts of Germany and has even been causing some problems among the general population, due to the high cantharidin content of its haemolymph! He noted a few (anecdotal) occasions where beetles landing on human skin caused painful blistering after being crushed. He even recommends not leaving full wine glasses standing outside overnight in areas with high abundance of *N. carniolica*, due to the beetles being poisonous and strongly attracted to wine!

Recent citizen science data from iNaturalist (www.inaturalist.org, accessed 15 August 2022) suggest that the species has indeed become rather common in moth traps in parts of western Germany, particularly the Rhine valley. This matches with some observations by MFG from Switzerland, where the species was found in numbers at UV light traps set up in rather "unspectacular" locations in the Canton Lucerne, in the early 2000s.

Overall, based on the recent literature and citizen science data, it appears that *N. carniolica* is a species currently spreading in Europe. Formerly considered "very rare" (e.g. Kaszab, 1969), it has recently become abundant in various parts of central Europe and expanded its range into eastern Europe (Schulze, 2016; Egorov & Ruchin, 2021). It is therefore plausible that this species is now becoming established in southern England, even though further records will be needed to confirm this hypothesis. Adults of *N. carniolica* are strong flyers, but rather short-lived, so we expect it to be a recent introduction from continental Europe, most likely with ornamental conifers. Its closest British relative, *N. melanura*, is known to develop in processed wooden boards in shipyards and even inside buildings (Pitman *et al.*, 2003), which is not known to be the case in *N. carniolica*. As an uncommon saproxylic predator associated with dead wood of (mainly) conifers, we are not expecting *N. carniolica* to become invasive and cause problems within Britain, except possibly the "health & safety" implications for wine drinkers pointed out by Niehuis (2006), in the unlikely event that the species becomes extremely abundant in some locations.

are always entirely pale without dark spots, and the elytral costae parallel to each other, not connected and less conspicuous than in *O. femoralis*. Both species share the black spot on each side of the pronotum, which can be more or less extended and sometimes missing. *Nacerdes carniolica* varies in size from 9-17 mm, *O. femoralis* from 13-20 mm (Vázquez, 2002).

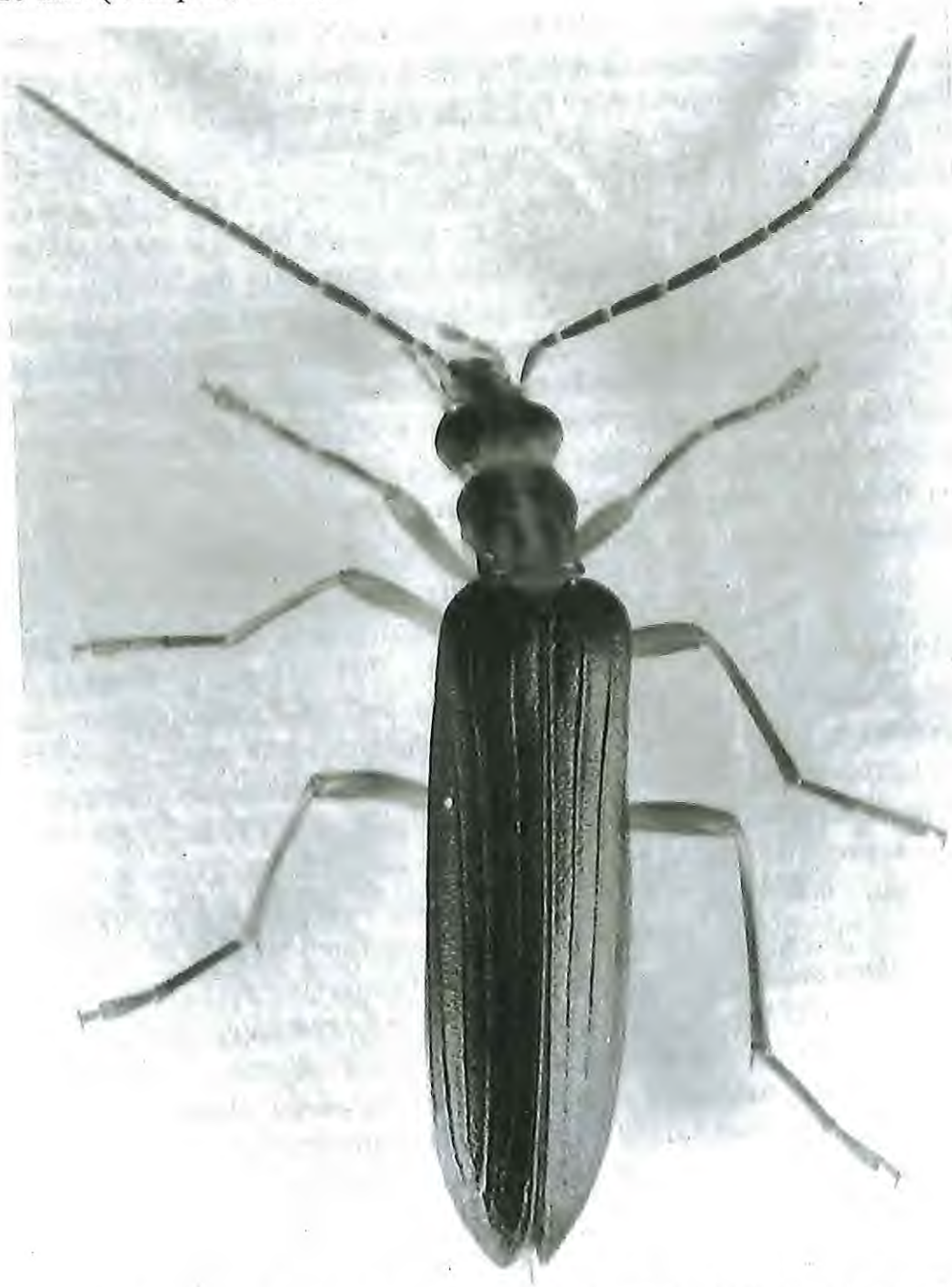

**Fig. 1** Female of *Nacerdes carniolica* (Gistel, 1834) found at Tonbridge, Kent. Photograph by Keita Matsumoto.

The specimen was deposited in the British Coleoptera collection at the Natural History Museum, London, with the individual barcode NHMUK 015073983. The right middle leg was clipped off and submitted for DNA barcoding (UK Barcode of Life),

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