

# Two exotic dynastines collected in Sweden (Coleoptera: Scarabaeidae: Dynastinae)

MATTIAS FORSHAGE & FRANK-THORSTEN KRELL

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Swedish records of two exotic rhinoceros beetles (Scarabaeidae, Dynastinae) are reported, namely the Mediterranean *Temnorhynchus baal* Reiche & Saulcy, 1856 from a sawdust pile in Hölö, Södertälje, and the South American *Tomarus villosus* (Burmeister, 1847) from grapes in a supermarket in Karlskoga. A few other examples are briefly discussed, as are the conditions for successful colonisation of imported scarab beetles.

*Mattias Forshage, Swedish Museum of Natural History, Box 50007, 104 05 Stockholm, E-mail: generelle.morphologie@gmail.com*

*Frank-Thorsten Krell, Department of Zoology, Denver Museum of Nature & Science, 2001 Colorado Blvd, Denver, Colorado 80205, U.S.A, E-mail: frank.krell@dmns.org*

Scarab species are frequently transported around the world by human travelling and trade, and may turn up far from their natural distribution area. Transports between warm places in different parts of the world might lead to the establishment of populations in new areas. In the temperate regions, it may also be a mechanism of faster dispersal polewards than active flight, supported and accelerated by a warming climate (Bebber et al. 2013).

There are several examples of smaller scarab species encountered in northern Europe obviously imported with flowers or potted plants. The Göteborg museum has three Swedish specimens of *Oxythyrea funesta* (Poda, 1761). One old with labels that are difficult to interpret but two are explicitly arrivals with imported carnations in Göteborg in 1966 and 1978. One specimen of *Tropinota hirta* (Poda, 1761) was collected in 1972 from an Öland village (Vickleby) with nurseries and a gardening school. In a recent

study of insects imported with potted plants into Norway, a specimen of *Pleurophorus caesus* (Creutzer, 1799) was intercepted (Westergaard et al. 2015). All these three species are currently occurring in countries just outside Scandinavia. These are single interceptions, but chance or sufficient propagule pressure by repeated introductions may lead to local establishment.

Several other examples come from the British Isles, climatically somewhat more favourable than Scandinavia, where five different exotic scarab beetles are currently known to be established (*Saprosites natalensis* (Peringuey, 1901), *S. mendax* (Blackburn, 1892), *Tesarius caelatus* (LeConte, 1857), *T. mcclayi* (Cartwright, 1955), *Oxythyrea funesta*). If larger species from warm countries are transported to cold temperate regions, the probabilities that the beetles will be able to complete their development (if immature) or to survive more than briefly as an adult, are limited.



Figure 1. *Temnorhynchus baal*, an exotic dynastine collected at a disused sawmill in Hölö, Södertälje in 1988, clearly different from the common *Oryctes nasicornis* that could be expected at such a site. Scale bar = 10 mm.

*Temnorhynchus baal*, en exotisk noshornsbagge som hittades vid en nedlagd såg i Hölö, Södertälje 1988. Detta var något annat än den vanliga *Oryctes nasicornis* som man kunde vänta sig på en sådan lokal. Skalstrecket är ca 10 mm.

At a small old sawmill outside Södertälje just south of Stockholm (Kvarntorp, Hölö s:n, Södermanland) (59.0450, 17.5255), back in summer 1988, local entomologist Mark Toneby collected an unusual rhinoceros beetle that looked different from *Oryctes nasicornis* (Linnaeus, 1758), the only native dynastine in Sweden, which indeed is often found at such sites. MF recognised it as a *Temnorhynchus* species and sent it to FTK, who identified it as *Temnorhynchus baal* Reiche & Saulcy, 1856 (Fig. 1). This is the only species of the genus occurring in Europe, but nowhere nearer than northern Greece at the Macedonian

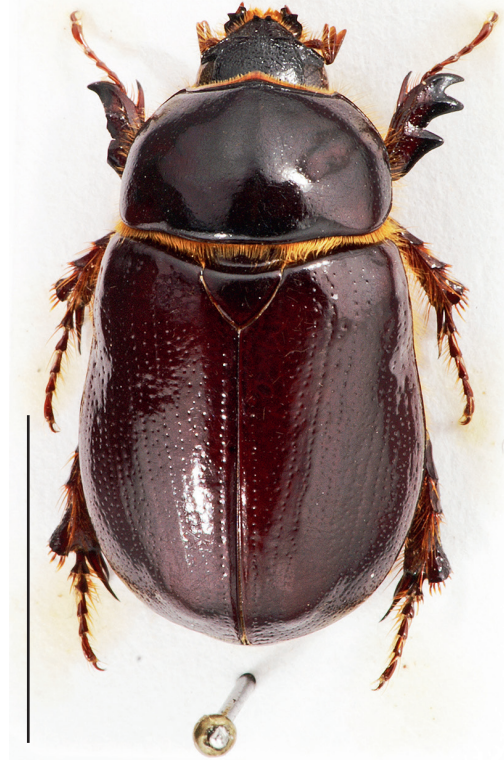


Figure 2. *Tomarus villosus*, a dynastine from South America found on grapes in a supermarket in Karlskoga in 2000. Scale bar = 10 mm.

*Tomarus villosus*, en sydamerikansk noshornsbagge som hittades på vindruvor i en mataffär i Karlskoga 2000. Skalstrecket är ca 10 mm.

border (Krell 1993). It is also widespread in the Levant and northeast Africa southward to Ethiopia. In its natural range, it mainly feeds on roots of large grasses (sugar cane, reeds). Another species of the genus, *T. retusus* (Fabricius, 1781), was introduced and became successfully established in eastern Australia (Krell & Hangay 1998) and was recently recorded from Hawaii (Jameson et al. 2009). Since the sawmill where the Swedish *T. baal* was found, was disused, and had been a small family business with no significant exotic import, and is not in the immediate vicinity of any larger harbor or railway station

the origin of the beetle remains mysterious.

Another exotic dynastine collected in Sweden has been furthered to us: A specimen of *Tomarus villosus* (Burmeister, 1847), a common species in parts of South America, was found on 10.iii.2000 by Gunilla Sjöberg on grapes inside a grocery store (ICA Kronhallen in Karlskoga, Värmland) (59.32958, 14.56292) (Fig. 2). Not only in the winter, grapes and other exotic fruit are often imported to Sweden from far away areas including South America. The beetle is associated with commercial fruit-growing operations in South America as it has been reported attacking foliage and roots of fruit trees in Chile (Pizarro-Araya et al. 2009), and the larvae are considered an occasional pest of blueberries in the same country (Cisternas 2013).

The two specimens are deposited in the Stockholm Museum of Natural History.

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## Sammanfattning

Svenska fynd av två exotiska noshornsbaggar (Scarabaeidae: Dynastinae) rapporteras. Det rör sig först om *Temnorhynchus baal* Reiche & Saulcy, 1856, en art som närmast förekommer i Grekland, som hittades i en sågspånshög i Hölö, Södertälje, utan några ledtrådar som tyder på hur den importerats. Därtill meddelas ett fynd av den sydamerikanska *Tomarus villosus* (Burmeister, 1847) på vindruvor i en mataffär i Karlskoga. Andra exempel, samt förutsättningar för lyckad kolonisering av införda bladhorningar, diskuteras kortfattat.