

***Cynaesus opacus* Champion, a new tenebrionid beetle in Finland (Coleoptera, Tenebrionidae)**

Ipo Mannerkoski & Julio Ferrer

Mannerkoski, I. & Ferrer, J.: *Cynaesus opacus* Champion, a new tenebrionid beetle in Finland (Coleoptera, Tenebrionidae). — Entomol. Fennica 3:95–97.

From 1989 on *Cynaesus opacus* Champion has been found in waste heaps and similar localities in southern Finland together with other synanthropic beetles. *Cynaesus* is an American genus spreading with man; another species, *C. angustus* (LeConte), has recently been recorded from Sweden.

Ipo Mannerkoski, Department of Applied Zoology, University of Helsinki, SF-00710 Helsinki, Finland

Julio Ferrer, Stora Hundens gata 631, S-126 64 Haninge, Sweden

While sieving a heap of old pre-cleaner waste (mostly barley and oats) outside a dryer building on a south Finnish farm (*Ab*:Nummi-Pusula, Grid 27°E 6698:338) on 17.09.1989, the author IM found among other beetles one strange-looking tenebrionid beetle, later identified by JF as *Cynaesus opacus* Champion, a species not previously recorded from Europe.

The beetle fauna of the waste heap was mostly of typically synanthropic character, e.g. *Phacophallus parumpunctatus* (Gyllenhal) (Staphylinidae), *Acritus nigricornis* (Hoffmann) and *Carcinops pumilio* (Erichson) (Histeridae), *Carpophilus marginellus* Motschulsky (Nitidulidae) and *Myrmechixenus vaporariorum* Guérin-Méneville (Tenebrionidae). *C. marginellus* was first recorded from Finland by Rutanen (1983) and is now distributed throughout southern Finland. In the waste heap it was abundant.

While sieving a heap of old hay and other vegetable material in *N*:Helsinki (6678:390) on 3.10.1990, IM found another specimen of *C. opacus*. The associated beetle fauna was typical for this kind of compost-heap: *Perigona nigriceps* (Dejean) (Carabidae), *Rugilus orbiculatus* (Pay-

kull), *Astenus pulchellus* (Heer) (Staphylinidae) and *Typhaea stercorea* (Linnaeus) (Mycetophagidae) being the most abundant species.

On 29 and 30 August 1990 Martti Koponen collected 3 specimens of *C. opacus* from a local dumping area in *N*:Nurmijärvi (6711:378). IM visited this locality on 8.8.1991. Initially, some single specimens of *C. opacus* were found in different parts of the dump. Later in the evening (a little before sunset) some specimens were captured in flight, and numerous specimens were found crawling on old plastic sacks and on stones around the sacks. The inside of the sacks was swarming with thousands of beetles, together with numerous German cockroaches, *Blattella germanica* (Linnaeus) (Dictyoptera, Blattellidae) and specimens of *Typhaea stercorea*. The contents of the sacks comprised some unidentified dry material, perhaps dried waste sludge. *C. opacus* was later collected from the same place by other coleopterologists.

Cynaesus opacus resembles *Tribolium destructor* Uyttenboogart, but is larger, flatter and more reddish brown. *Cynaesus*-species are easily distinguished from all *Tribolium* species by their

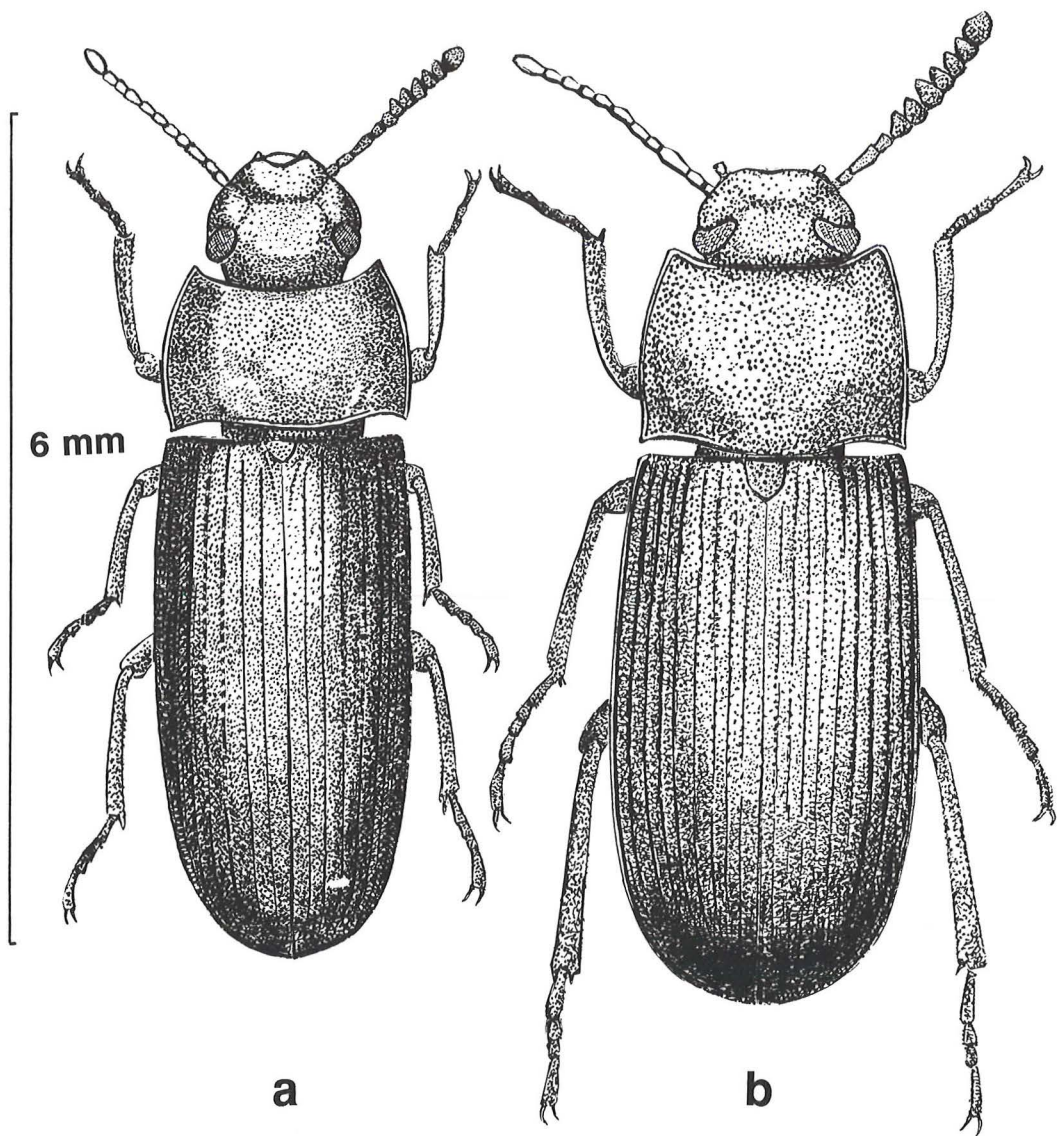


Fig. 1. Habitus. — a. *Cynaenus opacus* Champion. — b. *C. angustus* (LeConte).

larger size and the lack of sharply elevated ridges in the outer elytral intervals. *C. opacus* closely resembles *C. angustus* (LeConte), recently recorded from Sweden (Andersson & Ferrer 1989, erroneously as *angustatus*), but the shape of the pronotum differs, and in *C. opacus* the elytral intervals are slightly elevated (Fig. 1). The male genitalia of the two species are also quite different (Fig. 2). A key for the identification of

Cynaenus species is given in Andersson & Ferrer (1989). The larva of *C. angustus* is described and illustrated by Spillman (1986).

The genus *Cynaenus* is of American origin. *C. opacus* is known from Mexico (Champion 1886, Dunkel & al. 1982), *C. angustus* originally from Mexico and California (Andersson & Ferrer 1979, Dunkel & al. 1982). Under natural conditions the *Cynaenus* species mostly live on decaying Aga-

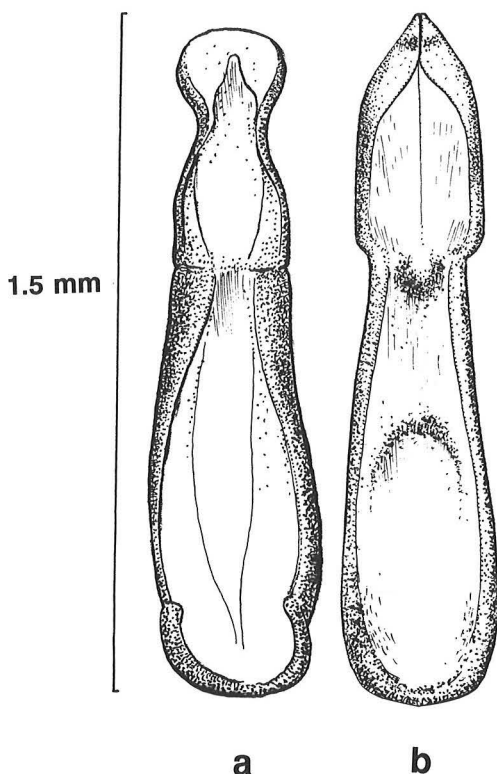


Fig. 2. Aedeagus in ventral view. — a. *Cynaesus opacus* Champion. — b. *C. angustus* (LeConte).

vaceae and other desert plants. *C. angustus* (the larger black flour beetle) is known as a stored-product pest in North America and has after 1924 spread throughout the continental USA and to southern Canada (Barak & al. 1980, Dunkel & al. 1982). It was first found in Europe in Ireland in 1964 in a shipment of tobacco from the USA (Dunkel & al. 1982). We have found no further information on the distribution of *C. opacus*, which is often considered a synonym of *C. angustus*.

Finding two different species of *Cynaesus* in Sweden and Finland within a short time indicates that they have a tendency to spread and

become cosmopolites. It will be interesting to see if these *Cynaesus* species can establish themselves permanently in the Nordic countries. *C. opacus* seems already established in Finland. A related cosmopolitan species, *Martianus dermestoides* (Chevrolat), was found in Sweden in 1976 (Ferrer 1988), but no later records from Sweden or adjacent countries exist. *Martianus* was found indoors, but both the *Cynaesus* species outdoors, which may indicate their better adaptation. The observed tendency for *C. opacus* to fly indicates good facility to spread with or without human aid.

References

- Andersson, B. & Ferrer, J. 1989: Svartbaggen *Cynaesus angustatus* funnen i Sverige. — *Entomol. Tidskrift* 110:116–117.
- Barak, A. V., Dunkel, F. V. & Harein, P. K. 1981: Emergence of the larger black flour beetle as a major pest of farm-stored grain in Minnesota. — *J. Econ. Entomol.* 74:726–729.
- Champion, G. C. 1886: *Biologia Centrali-Americana. Insecta, Coleoptera.* 4(1). Heteromera. — London.
- Doyen, J. T. 1984: Reconstitution of the Diaperini of North America, with new species of *Adelina* and *Sitophagus* (Coleoptera: Tenebrionidae). — *Proc. Entomol. Soc. Washington* 86:777–789.
- Dunkel, F. V., Barak, A. V. & Harein, P. K. 1982: Geographical distribution of *Cynaesus angustus* (LeConte) (Coleoptera: Tenebrionidae) and its association with stored products. — *J. Biogeography* 9:345–352.
- Ferrer, J. 1988: Svartbaggen *Martianus dermestoides* (Chevrolat, 1878) funnen i Skåne. — *Entomol. Tidskrift* 109:48–49.
- Rutanen, I. 1983: *Carpophilus marginellus* Motsch. (Nitidulidae) löydetty Suomesta [*C. marginellus* Motsch. found in Finland]. — *Notulae Entomol.* 63:213.
- Spilman, T. J. 1986: Identification of larvae and pupae of the larger grain borer, *Prostephanus truncatus* (Coleoptera, Bostrychidae) and the larger black flour beetle, *Cynaesus angustus* (Coleoptera, Tenebrionidae). — *Proc. Third Int. Working Conf. Stored-Product Entomol.*, Oct. 23–28, 1983, Kansas State Univ., Manhattan, Kansas, USA: 44–53.

Received 25.X.1991