Gabronthus sulcifrons (Sharp, 1889), a new addition to the fauna of Finland and Europe (Coleoptera, Staphylinidae)

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Gabronthus sulcifrons (Sharp, 1889) is reported for the first time from Europe, based on specimens collected in different parts of Finland. Record data are given for the first finds. The species is briefly characterized, and the diagnostic sexual characters are illustrated.

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Quite some time ago, a female specimen of a species of *Gabronthus* auct. Tottenham, 1955, collected in eastern Finland in 1989 by I. Rutanen, was sent to the senior author for identification by Tom Clayhills. Since it was impossible to positively identify this single female specimen, the matter was set aside pending a possible discovery of a conspecific male. This did not happen until 1999 when a male specimen was taken by the junior author, again in southern Finland. This male specimen was, surprisingly, identified as the east Palaearctic species *Gabronthus sulcifrons* (Sharp 1889) (Fig. 1). Subsequently, more female specimens were collected (see below). The development of the sclerites of both the male and female genital segments, as well as the shape of the aedoeagus of the Finnish specimens are identical to those of Japanese specimens of this species.

Gabronthus sulcifrons was originally described by Sharp from specimens from Japan. Subsequently, it was recorded from People's Republic of China (Li & Chen 1993: 40), Taiwan (Shibata 1973:60), South Korea (Cho 1996: 26), New Zealand (Kuschel 1990: 26) and from various localities in the Oriental region. It is difficult to decide at this time, whether the Finnish records are due to a natural spreading, or whether it is a result of man made introductions. Recent appearances of other east Palaearctic species, such as *Philonthus spinipes* Sharp 1874, in Europe fall in the same category.

Gabronthus sulcifrons belongs to the subfamily *Staphylininae*. Two species of the genus has so far been recorded from Europe, *G. thermarum* (Aubé 1850) and *G. maritimus* (Motschulsky 1858). Of these only *G. thermarum* occures in Fenno-Scandian countries (Freude et al. 1964).

Gabronthus sulcifrons may be easily distinguished from the two other species in Europe by the presence of a distinct, fine longitudinal medial groove on the head (Fig. 1), and by the shape of the aedoeagus which is diagnostic for the species (Fig. 2 d,e). The male sternite 8 and the sclerites of both the male and female genital segments can also be used for identification (Fig. 2 a,b,c,f). On the average *G. sulcifrons* is slightly bigger than *G. thermarum*.

The first Finnish specimen of *G. sulcifrons* was a female that was found on a burnt forest

Figure 1. ***Gabronthus sulcifrons****: habitus of female, note the medial groove on the head.*

Gabronthus sulcifrons*: habitusbild av hona, lägg märke till längsfåran på huvudet.*

patch in Patvinsuo National Park in Eastern Finland in 1989 (700:68) (I. Rutanen leg.). The impact of the fire on the Coleoptera fauna was followed during the years 1987 - 1991 with the aid of window traps (Rutanen 1994). The specimen was taken together with other so called adventive species. The second specimen, this time a male (T. Clayhills leg.), was found in a horse pasture in Ta:Ypäjä (674:29) in southern Finland by sieving a mouldy hay compost in 25.08.1999. A third one, a female, was sieved from an elephant dropping compost in Ab:Lieto (672:25) located in a small zoological garden in southern Finland in 29.08.2000 (T.Clayhills leg.), and a few months later (08.10.2000) an other female was found in N:Hyvinkää (672:37) by sieving a grain compost close to a grain field (I. Rutanen leg.). Further investigations revealed two more females taken by P. Rassi, the first one from the

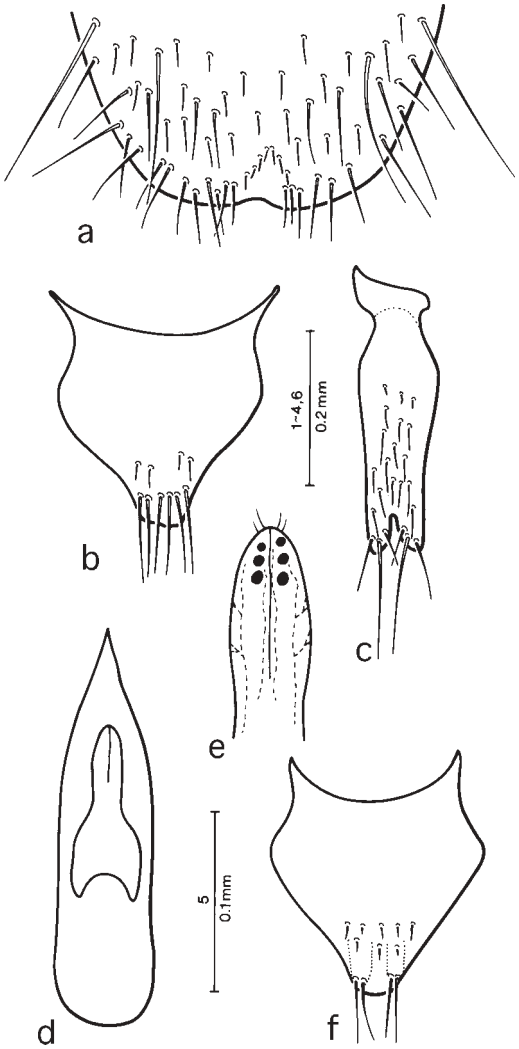

Figure 2. ***Gabronthus sulcifrons****: a) apical portion of male sternite 8, b) tergite 10 of male genital segment, c) sternite 9 of male genital segment, d) aedoeagus, ventral view, e) apical portion of ventral side of paramere with sensory peg setae, f) tergite 10 of female genital segment.*

Gabronthus sulcifrons*: a) ändstycket av hanens åttonde sternit, b) tionde tergiten av hanens genitalsegment, c) nionde sterniten av hanens genitalsegment, d) aedoeagus från ventralsidan, e) ändstycket av parameren med känselspröten från ventralsidan, f) tionde tergiten av honans genitalsegment.*

western part of central Finland, Om:Haapavesi (711:42), found in a small heap of grains and mouldy hay 13.07.1995, and another from southern Lapland, Lkw:Kolari Niesakero (749:37) taken by car net on a narrow forest road. Today there are many more finds from different parts of Finland.

Many adventive species in Europe, mostly from the Far East or even the Neotropical region, are considered to be introduced by man. However, the fact that many newcomers first appear in Finland, mostly in the eastern parts, as for instance *Oxytelus migrator* Fauv. (Helve 1977), *Baeocrara japonica* (Matthews) (Rutanen & Muona 1977) and *Typhaea decipiens* Lohse 1989, oldest record from Sa:Lemi (677:53) 21.08.1972 T. Clayhills leg. may indicate that these adventive species, adapted to hot microhabitats and with highly effective dispersal, uses the frequently appearing forest fires in the Russian taiga as stepping stones on their way (Muona & Rutanen 1994) to Finland.

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Sammanfattning

Kortvingen *Gabronthus sulcifrons* har för första gången hittats i Europa. Arten har sedan 1989 hittats på ett flertal ställen i Finland. Den kan särskiljas från de två andra kända europeiska arterna i släktet på huvudets distinkta mittfåra (Fig. 1). Adeagus (Fig. 2 d,e) särskiljer den från andra arter släktet.

Gabronthus sulcifrons är tidigare känd från Japan och Kina. Den lever i allehanda multnande organiska substrat. Om den spridit sig till Finland av egen kraft eller om den introducerats av människan på något sätt går inte att säga. Faktumet att de första europeiska fynden av ett flertal östliga arter som lever i denna typ av miljöer gjorts i Finland talar dock för att de kan ha spridit sig naturligt över Ryssland.