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## A new synonym of *Leptogaster subtilis* Loew, 1847 (Diptera, Asilidae)

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The synonyms of the nominal species *Leptogaster subtilis* Loew, 1847 are reviewed. *Leptogaster fragilissima* Frey, 1954 is established as a new synonym of *Leptogaster subtilis* Loew, 1847.

Keywords: Asilidae, *Leptogaster subtilis*, *Leptogaster fragilissima*, new synonym

### INTRODUCTION

In the genus *Leptogaster*, more than 120 species have been described from almost all biogeographic regions. The Palearctic fauna contains 49 species, the majority of them recorded from the Asian part (Lehr 1988). In Europe, 12 species are known; three of them, *L. cylindrica* (De Geer, 1776), *L. guttiventris* Zetterstedt, 1842 and *L. pubicornis* Loew, 1847 are widespread, whereas most other species are found predominantly in the Mediterranean area.

As the descriptions are insufficient for many species and illustrations of terminalia are partly inadequate or missing, their identification is often difficult. In addition, the range of variation is very large. No wonder that many species were described under different names which were synonymized afterwards (Oldroyd 1972). A revision of the genus is badly needed.

### SYSTEMATICS

*Leptogaster subtilis* was described by Loew (1847) based on a single female collected near Naples (Schumann 1973). A first key entry and redescription was given by Engel (1930) who also mentioned its distribution in Austria.

*L. subtilis* was next recorded by Tsacas (1960) who had captured one female on 9 September 1958 at Valldemosa, Mallorca Island. While trying to identify it, he found in the collections of the Paris Museum two males from Spain, previously wrongly determined as *L. pumila* (Macquart, 1834): one from Panticosa (Huesca), 24.09.1934 and one from Ribera, 25.07.1929 (Spanish Pyrenees). He cleared up the correct identity of these three specimens as *L. subtilis*, described the male and illustrated the hypopygium in lateral view, the wing and the antenna.

The drawing given by Tsacas (1960) shows that the hypopygium of *L. subtilis* is very characteristic and clearly different from other *Leptogaster* species. Theodor (1976) also mentioned that the hypopygium of many *Leptogaster* species is markedly modified. We want to emphasize here that such illustrations of details of

the hypopygium are mandatory for the identification of *L. subtilis*, because the specimens are subject to variability, particularly regarding the coloration of the basis of the third antennal joint (the shape remaining the same), the spots on the femora, and the pilosity of the hypopygium.

The next redescription of *L. subtilis* was made by Straka (1979), based on a male collected in 1978 at Lamač near Bratislava (Slovakia). He included a drawing of the hypopygium in lateral view which corresponds with that of Tsacas (1960). This record was marked as very rare in the checklist of the Slovak Diptera (Straka 1985) and was also mentioned by Bosák (1997).

Additional German records are given by Miksch *et al.* (1993) for Baden-Württemberg and by Geller-Grimm (1996) for Hessen.

Data for the distribution of 10 specimens in Switzerland were published by Weinberg & Bächli (1994, 1995, 1998) and Weinberg *et al.* (1995, 1996). In addition, the following four Swiss specimens were found in the collection of the second author, labelled: 1 ♂, CH: Pfynwald VS, 19.7.-7.8.1993/C [= canopy trap], leg. G. Bächli; 1 ♀, CH: Leuk VS, 27.-29.7.1993, leg. G. Bächli; 1 ♀, CH: Ronco s/Ascona, 1997 / 480-860 m, leg. M. Moretti; 1 ♂, CH: Locarno TI, 1997 / 460-920 m, leg. M. Moretti. The latter two specimens were collected during a study of the effects of forest fires on the local fauna.

These new Swiss records prompted us to analyze the data published in the Palearctic Catalogue of Lehr (1988) regarding the Palearctic distribution of *L. subtilis*, adding the presence in Switzerland which was not given in this Catalogue.

Lehr (1961) reported on the distribution of the Leptogastrinae species in the USSR; he mentioned *L. subtilis* from Tadshikistan, including a drawing of its hypopygium. Hradsky & Hüttinger (1983) made a comparison between this “*L. subtilis*” from Tadshikistan (Lehr 1961) and *L. subtilis* from Slovakia (Straka 1979). They found that Lehr’s specimen is not *L. subtilis*, but is identical to a species from Afghanistan. For this species they proposed the new name *L. lehri* and provided a clear description with several aspects of the hypopygium, which is far different from that of *L. subtilis*. Unfortunately, this publication was overlooked by Lehr (1988).

The individual variability mentioned above had lead Frey (1936) to describe, in comparison with *L. subtilis* Loew, *L. helvola* Loew and *L. calceata* Engel, a new species *L. fragilissima*, known from three localities of the Canary Islands. Baez (1987) provided a redescription in Spanish, including illustrations of the hypopygium in ventral, dorsal and lateral views. He considered this species as being endemic to the Canary Islands.

In 1957 Janssens described *L. gallica* from a male specimen collected near Paris, of which he figured the hypopygium in lateral and dorsal views. This nominal species was overlooked by Lehr (1988). Tomasovic (1995) reported it as new to Belgium, but later on compared his specimens with those of *L. subtilis* from Slovenia stored in the Amsterdam Museum as well as with the type specimen of *L. subtilis* kept in the Berlin Museum. He decided that *L. gallica* is a synonym of *L. subtilis* (Tomasovic 1996). Additional data on its distribution in France, including a short history of the research regarding *L. subtilis* and also some morphological data, are given by Tomasovic (1999). He also refers to specimens captured with Malaise traps in two forests where chestnut trees predominate, and gave some comments regarding their number.

The illustrations of the hypopygium published by Tsacas (1960) and Straka (1979) for *L. subtilis*, by Baez (1979) for *L. fragilissima* and by Janssens (1957) for *L. gallica* as well as the data we have from the Swiss specimens do not show any important differences. This enables us to establish that *L. fragilissima* is a new synonym of *L. subtilis*.

In addition to the former descriptions, we want to mention that females exhibit, laterally on the 7th tergite, one round spot on each side thinly covered with white setulae; also, in most specimens the legs of the females are darker than those of the male.

#### CONCLUSIONS

Based on the facts mentioned above, we establish here the following synonymy:

- Leptogaster subtilis* Loew, 1847: 401  
 = *Leptogaster fragilissima* Frey, 1936: 58 (new synonymy)  
 = *Leptogaster gallica* Janssens, 1957: 11 (Tomasovic 1996)

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