

***Callicera fagesii* Guérin-Méneville, 1844 (Diptera, Syrphidae) – new to Germany and a recent record from France**

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Based on recent observations, *Callicera fagesii* is reported from Northern Germany (Niedersachsen) and western France (17 Charente-Maritime). This sapro-xylic species seems to be threatened in most of its range.

Zusammenfassung

Callicera fagesii konnte rezent in Niedersachsen (Erstnachweis für Deutschland) und Westfrankreich nachgewiesen werden. Diese saproxylophage Art ist wahrscheinlich im größten Teil ihres Verbreitungsgebietes im Bestand gefährdet.

Introduction

Hoverflies of the genus *Callicera* are among the most beautiful but also the rarest members of the family Syrphidae. In general, they are inhabitants of ancient forests and have been used as bioindicators in the assessment of sites important for nature protection (Speight 1989, Ssymanck 1994). *Callicera* larvae live in standing-water rot-holes of overmature trees as saprophages. Their development probably takes several years (Speight 1998, Coe 1953). The rareness of the adults may be due to their arboreal lifestyle. As data from the British Isles indicates, larvae are often much easier to find than adults, if search for larvae is carried out systematically (Rotheray & MacGowan 1990, Rotheray 1993).

Only recently the status of the European species has been clarified (Zimina 1987, Speight 1991). Speight (1991) recognises six species as occurring in Europe and provides a determination key. Up to now, all European species except *C. fagesii* were known from Germany (although the record of *Callicera spinolae* Rondani, 1844 requires confirmation) (Ssymanck et al. 1999). In France, all European *Callicera* species have been recorded, although recently *C. fagesii* is only known from one specimen from the "Fôret de la Massane" in the French Pyrenees (Sarhou & Speight 1997). This paper reports the first record of *Callicera fagesii* from Germany, made in course of a project

at the University of Paderborn (Höxter)¹ and a recent record of *Callicera fagesii* from Western France.

New records

Germany: Niedersachsen, Solling, Amelith 10 km SO Höxter, Reiherbachtal, 300m o.s.l., TK 25: 4322 NO, 4 May 1999: 1♂ flying fast near to the ground in shaded vegetation with small open water patches inside a wet *Alnus-Populus* forest with surrounding *Quercus* forest, leg. & det. Frank Dziocck, vid. Martin C.D. Speight, deposited in the private collection of the author. – France: 17 Charente-Maritime, 50 km S Saintes, St. Fort s/Gironde, 40 m o.s.l., 8 April 1998: 1♀ sunbathing on leaves in a clearing of a damp *Alnus-Fraxinus-Populus* forest with not too old trees, *Quercus* is not present there, leg. & det. Frank Dziocck, vid. Martin C.D. Speight, deposited in the private collection of the author.

Range

Until 1991, *Callicera fagesii* had been confused with *Callicera rufa* Schummel, 1842. Therefore old records of *Callicera rufa* could in fact be *Callicera fagesii*. The presence of the latter can be confirmed from Turkey, Israel (?), the former Yugoslavia, Italy (and Sardinia), Spain (Cadiz), Morocco, France (Paris Basin south to the Mediterranean and the Pyrenees), Belgium, the Netherlands and Germany (Speight 1991, Dirickx 1994, Kassebeer 1998, Speight 1998, Belcari et al. 1995, NJN 1998). The German record presented in this paper seems to mark the northern edge of the range of *Callicera fagesii*.

Habitat

As with the other species of *Callicera*, *C. fagesii* is probably associated with ancient forests where old, overmature trees with suitable rotholes are available as larval habitats. The recent findings in Germany and Western France seem to indicate that this species is associated with waterside trees like *Alnus*, *Fraxinus* or *Populus*, although it has also been recorded in ancient *Fagus/Quercus* forest and alluvial hardwood forest (Speight 1998). Both sites are inhabited by other remarkable saproxylic hoverflies (German site: *Callicera aenea* (Fabricius, 1781); French site: *Criorhina pachymera* Egger, 1858 and *Volucella inflata* (Fabricius, 1794)).

Threat status

Following Speight (1989), all European species of *Callicera* are useful in identifying forests of international importance to nature conservation. Several *Callicera* species have been used as indicators for primary woodlands (Stubbs 1982,

¹Project at the University of Paderborn, Abt. Höxter, Lehrgebiet Tierökologie: "Hutelandschaftspflege und Artenschutz mit großen Weidetieren im wesernahen Bergland des Sollings". This project investigates the effect of extensive grazing on a forest ecosystem (theoretical background in Gerken & Meyer

Ssymank 1994). All species of *Callicera* seem to be threatened in at least part of their range. Although the behaviour (fast flight, mainly arboreal life) of the adults is supposed to militate against capture, a decline of the *Callicera* species can be estimated from the comparison of museum collections and published recent records. This is reflected by all regional red data books in Germany and other countries which assign threat status to all *Callicera* species (tab. 1).

Although the larva of *Callicera fagesii* is undescribed and its habitat unknown, I would assign threat status G in Germany (certainly threatened, but status unclear) for the reasons stated above.

Table 1: Threat status of *Callicera* species in national and regional red lists of Central Europe.

Categories of the red data books (IUCN-categories in brackets): 0: ausgestorben (conform to IUCN-category EW: extinct in the wild) – 1: vom Aussterben bedroht (CR: critical) – 2: stark gefährdet (EN: endangered) – 3: gefährdet (VU: vulnerable) – G: Gefährdung anzunehmen, aber Status unbekannt (threatened, but status unclear for some reason) – m: menacée (threatened) – (m): probablement menacée (probably threatened)

<i>Callicera</i> species & threat status	Region	Reference
<i>macquartii</i> 0, <i>aenea</i> 3, <i>aurata</i> G, <i>rufa</i> G	Germany	Ssymank & Doczkal 1998
<i>aenea</i> , <i>spinolae</i> (Red data book species)	Great Britain	Stubbs 1982
<i>aenea</i> m, <i>fagesii</i> m, <i>macquartii</i> (m), <i>rufa</i> (m)	France	Speight 1994
<i>aenea</i> 3, <i>rufa</i> 2	Niedersachsen	Stuke et al. 1998
<i>aenea</i> 2	Sachsen	Pellmann & Scholz 1996
<i>aenea</i> 3, <i>macquartii</i> 1, <i>rufa</i> ?	Baden-Württemberg	Doczkal et al. 1993
<i>aenea</i> 2, <i>rufa</i> 1?	Bayern	Röder 1998
<i>rufa</i> 0	Sachsen-Anhalt	Jentzsch 1998

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