

AN ISOLATED LOCALITY OF *SOMATOCHLORA ARCTICA* (ZETT.) IN LIMBURG, BELGIUM (ANISOPTERA: COR-DULIIDAE)

On 28-VII-1978, a male *S. arctica* was captured in a Sphagnum bog near Koersel by G. Lejeune and J. Burny. The specimen was photographed but released. A female was also observed. On 1 Aug. a male was captured and collected by A. Anselin. A female ovipositing and a third one (sex unknown) were seen. These records were the first since 1964, the end of the most important observation period of this species in our

country. Some more recent data from G. Jannis (July 1982) and G. Jannis and N. Michiels (July and August 1983) prove that the population is still present.

The Sphagnum bog is situated some 10 km NE of Koersel, in the western part of the province of Limburg, Belgium, at an altitude of 60 m. It is surrounded by a mixed forest (*Betula-Quercus* and *Pinus*) in the valley of the "Zwarte Beek", a brook which takes its source on the Campine plateau and discharges into the River Demer (Scheldt-basin) The region consists of large heather fields with *Calluna vulgaris*, open

sand dunes and pine forests, with several water bodies (natural and artificial), mostly mesotrophic. A more detailed description is given by R. NIJS (1978, *De inbreng van de landschapsekologie in de ruimtelijke planning met een facetstruatuurschets voor het beekdallandschap "De Zwarte Beek" (West-Limburg) als type studie*, Thesis HISROO, Gent). The bog has a surface of some 0.30 ha and consists of two different parts: the shallower *Sphagnum*-part, which is mesotrophic and has a typical vegetation of *Drosera intermedia*, *D. rotundifolia*, *Rhynchospora fusca*, *R. alba*, *Narthecium ossifragum*, *Eriophorum angustifolium*, *Oxycoccus palustris* and *Erica tetralix*, and a more eutrophic and deeper part with *Potamogeton polygonifolius*, *Typha latifolia* and on the borders some willow shrubs and *Molinia coerulea*. The insects were flying mostly over the *Sphagnum*-part, where the damselflies *Ceriatrigon tenellum* (De Vill.) and *Lestes sponsa* (Hans.) were very abundant. *Aeshna juncea* (L.) and *Sympetrum danae* (Sulz.) were also observed.

Prior to 1950, only a few records of *S. arctica* were known from Belgium, all but one from the Hautes Fagnes (eastern Belgium), and all concerning single males (E. DE SELYS LONGCHAMPS, 1888, *Ann. Soc. ent. Belg.* 32: 103-203; E. BARVAUX, 1956, *Hautes Fagnes* 1956: 1-11). The most important records have been collected by E. BARVAUX (1954, *Revue Hist. nat.* 11: 106-114; — 1955, loc. cit. 12: 30-38, 46-51, 78-83, 91-94; — 1956, *Hautes Fagnes* 1956: 1-11; 1964, loc. cit., 1964: 39-44) in the surroundings of Spa-Malchamps (Hautes-Fagnes, alt. 570 m). Until 1964, regular observations were made on a small local population, but from 1965 onwards, no further records were available.

Since *S. arctica* has mostly a north-palaeartic distribution (B. KIAUTA, 1964, *Ent. Ber. Amst.* 24: 235-238), ecological conditions in the Sphagnum bogs of the Hautes Fagnes (a "boreal island", alt. 600-700 m, with a climate comparable to that at 1200 m) are probably most favourable. Moreover, populations could be increased by individuals migrating from the adjacent German regions (cf. R. KIKILLUS & M. WEITZEL, 1981, *Grundlagenstudien zur Ökologie und Faunistik der Libellen des Rheinlandes*, Polichia, Bad Durkheim).

The site at Koersel is rather isolated from this distribution area in the Hautes Fagnes, as well as from the nearest observation sites in the Netherlands. Together with recent data in other countries (H. BEUTLER, 1982, *Faun. Abh. st. Mus. Tierk. Dresden* 19: 205-209; — J.-L. DOMMANGET, 1984, *Notul. odonatol.* 2: 46-48; — J. MUSIAŁ, 1979, *Notul. odonatol.* 1: 42-44), such point distributions could perhaps indicate that the southern and western post-glacial redistribution of the species is still continuing (BEUTLER, 1982, cf. above). As the species shows a considerable tolerance towards various kinds of mesotrophic Sphagnum bogs as well as towards lowland bogs (cf. R. RUDOLPH, 1980, *Notul. odonatol.* 1: 92; — S. ZIEBELL & P. KLINKER, 1980, *Drosera* 80: 17-24) (although cold microclimatic conditions must be present), we may presume that, despite the degradation of many bogs, *S. arctica* can still survive in a number of other biotopes and is probably more abundant than we think. Its inconspicuous behaviour is perhaps an important cause of its not being noticed. The complete lack of observations in the Hautes Fagnes for so many years after Barvaux shows to what extent data may be dependent on chance. Recent investigations in the eastern part of the country, in the Hautes Fagnes (E. SCHMIDT, 1983, *Libellula* 3: 49-70) and on the Plateau des Tailles (P. GOFFART, 1983, *Contribution à l'étude des Odonates des tourbières du plateau des Tailles*, Thèse de Licence, Univ. Louvain-la-Neuve) prove that *S. arctica* is still present there. Systematic investigation of suitable biotopes in Limburg and in the southern part of the country could probably result in new records of this species.

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