SOMATOCHLORA ARCTICA (ZETT.) AND *LEUCORRHINIA DUBIA* (VANDER L.) NEW FOR THE FAUNA OF BULGARIA (ANISOPTERA: CORDULIIDAE, LIBELLULIDAE)

During the "Rapid Ecological Assessment 2001", carried out as part of the preparatory work for the Rila Monastery Natural Park management plan, one of us (NS) conducted some investigations at a peatbog in "Ticha Rila", where he discovered the two species.

Ticha Rila is situated at an altitude of 1994 m in the Rila Massif, SW Bulgaria; 42°07'N, 23°28'E (Fig. 1) and has a surface of ca 2.0 ha. It is drained by a stream, coming from a higher up situated group of ca 10 "lakes" ("Ribni ezera"), i.e. small ponds of a diameter up to 8-10 m, and up to 0.5 m deep.

The plant community along the stream is characterised by the *Nardus stricta-Rumex alpinus-Salix walsteinii* stands, while the nearest tree vegetation consists of *Picea abies*, *Pinus peuce* and *P. mugo*. The small ponds have muddy bottom. Some of them support dense vegetation, represented by *Ajuga pyramidalis* L., *Barbarea balcana Pancic*, *Bartsia alpina* L., *Caltha laeta* Schott., Nyman et Kotschy, *Cardamine rivularis* Schur., *Carex atrata* L., *Geum bulgaricum* Panc., *G. coccineum* Sibth. et Sm., *Homogyne alpina* (L.) Cass., *Jasione laevis* Lam. ssp. *orbiculata* (Griseb. ec Velen.) Tutin., *Juncus alpinus* Vll., *Ligusticum mutellina* (L.) Crantz, *Pedicularis orthantha* Griseb., *P. verticillata* L., *Phleum alpinum* L., *Pinguicula balcanica* Casper, *Plantago gentianoides* S. et S., *Primula deorum* Velen., *P. farinosa* L. ssp. exigua (Velen.) O. Spach., *Pseudorchis albida* (L.) A. et D. Love, *Saxifraga rotundifolia* L., *S. stellaris* L. Water surface of some of the pools is partly overgrown by mosses like: *Sphagnum centrale* C. Jens.; *S. girgensohnii* Russ.; *S. warnstorfii* Russ., *S. lescurii* Sull., *S. squarrosum* Crome, *Drepanocladus exannulatus* (B., S. & G.) Warnst., *Brachythecium rivulare* B., S. & G., *Climacium dendroides* (Hedw.) Web. & Mohr.

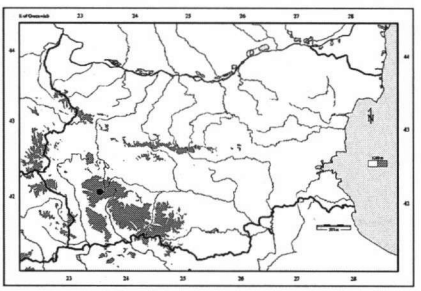

Fig. 1. *Somatochlora arctica* (Zett.) and *Leucorrhinia dubia* (Vander L.) locality in Bulgaria.

The place was visited twice, and mostly larvae were collected, viz.

– 4-VII-2001: 1 *Aeshna juncea*, 1 *Leucorrhinia dubia*;

– 22-VIII-2001: 15 *A. juncea*, 10 *L. dubia*, and an adult ♂ *Somatochlora arctica*. More *Somatochlora*-like individuals were seen on wing.

Leucorrhinia larvae were found only in the vegetated pools (see above). The weather was warm, mainly sunshine.

L. dubia is restricted to peatbogs (E. SCHMIDT, 1982, *Drosera* 82: 85-90). *S. arctica* is also a stenotopic species, but its habitats are more diverse (H. WILDERMUTH, 1986, *Odonatologica* 15: 185-202) and almost always associated with *Sphagnum* (SCHMIDT, *ibidem*).

For both species, the Rila locality is by far the southernmost site known. The possibility they represent true glacial relicts there should be seriously considered.

The present records are also rising the question of the occurrence of *Aeshna subarctica* in Bulgaria. A single female was reported by V. BESHOVSKI (1960, *Bull. Inst. Mus. Zool. Sofia* 9: 451-453) from a locality ca 10 km SE from the peatbog described above.

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