

## ON THE ODONATE FAUNA OF THE SZAMOS (SOMEȘ) RIVER AND ITS SURROUNDINGS IN ROMANIA

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**Abstract** – A commented checklist is presented of 26 spp. (adults and larvae), evidenced in Aug. 1996.

### Introduction

The Szamos (Someș) is a tributary of the river Tisza, which is the second largest river of Hungary. All of its branches have their source in Romania. Upstream the town of Gilău, the Cold Szamos (Someșul Rece) and the Warm Szamos (Someșul Cald) join into the Small Szamos (Someșul Mic). At the town Dej, the latter and the Great Szamos (Someșul Mare) form the "United" Szamos (Someș).

As part of a detailed examination of the Szamos ecological conditions, an odonate survey was carried out in its Romanian section in August 1996. The faunistic results are summarised in this paper.

No literature was found on the odonate fauna of the Romanian section of the river. In the Hungarian section, AMBRUS et al. (1995, 1998) collected 7 species as larvae and 7 species as imagoes. In addition, DÉVAI et al. (1993) listed 3 common species.

### Material and methods

The adults and larvae were collected and preserved in 70% ethyl alcohol. For identification I used the keys and descriptions of ASKEW (1988), BENEDEK (1965), CARCHINI (1983), DREYER & FRANKE (1987), JÖDICKE (1993), LAISTER (1991) and STEINMANN (1984).

Larvae were collected mainly from the river itself and the adult insects at its surroundings. Specimens were also collected at a spring and at some still waters near the river (sampling sites Nos 3, 4, 11, 14).

### Sampling sites

(1) Someșul Cald gorges (Ic Ponor); – (2) Someșul Cald, 2 km downstream Ic Ponor; – (3) Lake Tarnița; – (4) Spring near Lake Tarnița; – (5) Someșul Rece (Blăjjoaia); – (6) Someșul Rece, 10 km downstream Blăjjoaia; – (7) Someșul Mic (Cluj); – (8) Someșul Mic (Someșeni); – (9) Someșul Mic (Gherla); – (10) Someșul Mare (Șant); – (11) Lake near Someșul Mare (Șant); – (12) Someșul Mare (Sângeorz-Bai(i)); – (13) Someșul Mare (Năsăud); – (14) Backwater of Someșul Mare (Salva); – (15) Someșul Mare (Piatra); – (16) Someșul Mare (Beclean); – (17) United Someș (Dej); – (18)

United Someș (Letca); – (19) United Someș (Someș-Odorhei); – (20) United Someș (Țicău); – (21) United Someș (Sâlsig); – (22) United Someș (Pomi); – (23) Channel near United Someș (Pomi); – (24) United Someș (Păulești); – (25) United Someș (Vetiș).

The Someșul Rece and the Someșul Cald are small, rapid streams, typically with bouldery substrate. Sampling site (6) is a little branch of the Someșul Rece, with stagnant water and rich aquatic vegetation (mainly *Callitriche* spp.). The damming up of the Someșul Cald resulted into two big lakes. One of these is Lake Târnița, a huge open water surface with very few macrophytes and marsh vegetation. The Someșul Mic is also characterised by bouldery substrate, but since its flow is slower the bed is silty in some places. The upper reaches of the Someșul Mare are similar to the Someșul Cald and Rece, high velocity, with stony bed, but in some places like at sampling site (10), it has marshy branches, with almost standing water. Reaching the lowland, the Someșul Mare becomes slower and slower and in some places its substrate is silty rather than bouldery. The “United” Szamos (Someș) is characterised by an alternating occurrence of bouldery, sandy and gravelly substrate.

Sampling site (11) is a little artificial lake near the Someșul Mare, with silty bed and without macrovegetation. The backwater of the Someșul Mare, at Salva (14), is shallow and narrow, with dense macrovegetation (mainly *Ceratophyllum demersum*). At sampling site (23), the marsh vegetation includes *Butomus umbellatus* and *Iris pseudacorus*.

#### Species recorded

During the survey, 26 species were collected in the Someș and in the nearby waters, 16 as larvae and 20 as adults. The below checklist presents the information on the number of individuals or frequency of each species. The information on sexes is given where available.

– *Calopteryx splendens* (Harr.): (7) imagoes: 7-VIII, 1 ♂, 1 ♀.; – (8) imagoes: 7-VIII, 1 ♂; – (9) imagoes: 7-VIII, 1 ♂; – (12) imagoes: 10-VIII, frequent; – (13) imagoes: 11-VIII, frequent; – (16) larvae: 12-VIII, frequent; imagoes: 12-VIII, 2 ♀.; – (18) imagoes: 14-VIII, 1 ♂; – (19) larvae: 14-VIII,

frequent; – (21) larvae: 15-VIII, 3 specimens; – (22) larvae: 15-VIII, 2 specimens; imagoes: 15-VIII, frequent; – (25) larvae: 17-VIII, 1 specimen.

– *Lestes dryas* Kirby: (23) imagoes: 15-VIII, 1 ♂, 1 ♀.

– *Lestes virens vestalis* Ramb.: (23) imagoes: 15-VIII, 2 ♂.

– *Lestes barbarus* (Fabr.): (14) imagoes: 12-VIII, 1 ♀.

– *Sympecma fusca* (Vander L.): (14) larvae: 12-VIII, 1 specimen.

– *Platycnemis pennipes* (Pall.): (3) imagoes: 8-VIII, 1 ♂; – (7) imagoes: 7-VIII, 1 ♂; – (8) imagoes: 7-VIII, 1 ♂; – (9) imagoes: 7-VIII, 1 ♀; – (11) imagoes: 10-VIII, 1 ♂; – (12) imagoes: 10-VIII, frequent; – (13) imagoes: 11-VIII, frequent; – (14) imagoes: 12-VIII, 1 ♂; – (16) larvae: 12-VIII, 1 specimen; imagoes: 12-VIII, 1 ♂; – (18) imagoes: 12-VIII, 1 ♂; – (19) larvae: 14-VIII, 1 specimen; – (20) larvae: 16-VIII, 2 specimens; – (21) larvae: 15-VIII, 2 specimens; – (22) larvae: 15-VIII, 1 specimen; – (24) larvae: 17-VIII, 1 specimen.

– *Ischnura elegans* (Vander L.): (7) imagoes: 7-VIII, 1 ♀; – (14) imagoes: 12-VIII, 1 ♂; – (16) larvae: 12-VIII, 2 specimens; imagoes: 12-VIII, 1 ♂; – (22) imagoes: 15-VIII, 1 ♂.

– *Ischnura pumilio* (Charp.): (14) imagoes: 12-VIII, 1 ♂, 1 ♀.

– *Coenagrion puella* (L.): (6) imagoes: 6-VIII, 1 ♂; – (23) larvae: 15-VIII, 1 specimen.

– *Erythromma viridulum* (Charp.): (14) imagoes: 12-VIII, 1 ♂.

– *Aeshna cyanea* (Müll.): (1) imagoes: 2-VIII, 1 ♂; – (3) imagoes: 08-VIII, 1 ♂; – (4) larvae: 8-VIII, frequent; – (6) larvae: 6-VIII, 1 ♂; – imagoes: 6-VIII, 2 ♂; – (10) larvae: 10-VIII, 1 ♂, 1 ♀; – (11) larvae: 10-VIII, frequent; imagoes: 10-VIII, 1 ♂.

– *Aeshna juncea* (L.): (6) larvae: 6-VIII, 1 ♂, 2 ♀; imagoes: 6-VIII, 3 ♂.

– *Anaciaeschna isosceles* (Müll.): (23) larvae: 15-VIII, 1 ♂, 2 ♀.

– *Gomphus vulgatissimus* (L.): (16) larvae: 12-VIII, frequent; – (18) larvae: 14-VIII, 1 specimen; – (19) larvae: 14-VIII, frequent; – (22) larvae: 15-VIII, 2 specimens; – (24)

- larvae: 17-VIII, 1 specimen; – (25) larvae: 17-VIII, frequent.
- *Stylurus flavipes* (Charp.): (22) larvae: 15-VIII, 2 specimens; – (24) larvae: 17-VIII, 1 specimen; – (25) larvae: 17-VIII, frequent.
  - *Onychogomphus forcipatus* (L.): (15) larvae: 12-VIII, 1 specimen; – (19) larvae: 14-VIII, 1 specimen; – (21) imagoes: 15-VIII, 1 ♀; – (22) larvae: 15-VIII, 1 specimen; – (24) larvae: 17-VIII, 1 specimen.
  - *Ophiogomphus cecilia* (Fourcroy): (19) larvae: 14-VIII, 1 specimen; – (25) larvae: 17-VIII, 2 specimens.
  - *Cordulegaster bidentata* Sel.: (10) imagoes: 10-VIII, 1 ♂.
  - *Cordulia aenea* (L.): (14) larvae: 12-VIII, 2 specimens.
  - *Somatochlora metallica* (Vander L.): (6) imagoes: 6-VIII, 1 ♂; – (23) larvae: 15-VIII, 3 specimens.
  - *Somatochlora flavomaculata* (Vander L.): (6) imagoes: 6-VIII, 1 ♂.
  - *Libellula depressa* L.: (6) imagoes: 6-VIII, 1 ♂; – (7) imagoes: 7-VIII, 1 ♀; – (23) larvae: 15-VIII, 7 specimens.
  - *Orthetrum albistylum* (Sel.): (7) imagoes: 7-VIII, 1 ♂; – (16) imagoes: 12-VIII, 1 ♀; – (20) larvae: 15-VIII, 1 specimen; – (22) imagoes: 15-VIII, 1 ♂.
  - *Orthetrum cancellatum* (L.): (16) imagoes: 12-VIII, 1 ♂.
  - *Sympetrum meridionale* (Sel.): (2) imagoes: 03-VIII, 1 ♂.
  - *Sympetrum sanguineum* (Müll.): (7) imagoes: 7-VIII, 1 ♂, 1 ♀; – (9) imagoes: 7-VIII, 1 ♂; – (14) imagoes: 12-VIII, 1 ♂; – (16) imagoes: 7-VIII, 2 ♀; – (19) imagoes: 14-VIII, 2 ♀; – (23) imagoes: 15-VIII, 1 ♂.

### Discussion

Eight out of the 16 species collected as larvae were found in the river itself (*Calopteryx splendens*, *Platycnemis pennipes*, *Ischnura elegans*, *Gomphus vulgatissimus*, *Stylurus flavipes*, *Onychogomphus forcipatus*, *Ophiogomphus cecilia*, *Orthetrum albistylum*). Beside these, *Aeshna cyanea* and *A. juncea* larvae were found in the upper reaches of the Szamos, in marshy

sections or near the river in little ponds. The remaining 6 species (*Sympetma fusca*, *Coenagrion puella*, *Anaciaeschna isosceles*, *Cordulia aenea*, *Somatochlora metallica*, *Libellula depressa*) are typical of still waters and they were collected at sampling sites (14) and (23). AMBRUS et al. (1995) found also *Sympetrum sanguineum* larvae in the river, but they do not mention the larval occurrence of *Ischnura elegans* and *Orthetrum albistylum*. In addition, they found adult *Calopteryx splendens*, *Platycnemis pennipes*, *Ischnura elegans* and *Orthetrum albistylum* in the Hungarian section of the river, as well as *Lestes dryas*, *Anax imperator* and *Stylurus flavipes*. During our survey the latter three species were not found in the Romanian section of the river.

The occurrence of *Cordulegaster bidentata* is remarkable; its larvae are expected in the upper reaches of the Somesul Mare.

**Acknowledgements** – I would like to thank Dr ENDRE SÁRKÁNY-KISS and Dr JÓZSEF HAMAR for offering the opportunity of participating in the Szamos expedition in 1996.

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Received June 15, 2000