E. Styczyńska-Jurewicz (ed.), 2000, Crustacea – relict and rare species,
Crangon – Issues of the Marine Biology Centre in Gdynia, no 4, p. 39-42

Short note

RELICT CRUSTACEA OF NORTHERN POLAND AS INTERMEDIATE HOSTS OF PARASITES

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ABSTRACT

Glacial relict Malacostraca which were noted as intermediate hosts of parasites in the Baltic Sea and the countries situated around that sea are mentioned. These are: *Mysis relicta, Monoporeia affinis, Pallasiola quadrispinosa* and *Pontoporeia femorata.* The parasites found are exclusively Acanthocephala:

KEY WORDS: glacial relicts, Crustacea Malacostraca, parasites, Acanthocephala

NOTE

A number of species of Crustacea Malacostraca which occur in the Baltic, in postglacial lakes and other water bodies situated around that sea are considered to be glacial relicts (Särkkä and al. 1990; Żmudziński 1990; also Żmudziński in this volume). Several of them are also the intermediate hosts of some parasites. The relict species known as intermediate hosts are included in Table 1.

Valtonen (1981) has demonstrated that the seasonal occurrence of the acanthocephalan *Echinorhynchus salmonis* (in his paper mentioned under the genus name: *Metechinorhynchus*) in the whitefish *Coregonus nasus* in the Bay of Bothnia depended on feeding with the intermediate crustacean host *Monoporeia affinis* which in this area was most commonly available in the deeper waters. The periods of maximum *E. salmonis* occurrence in fish coincident with the seasons of the fish stay in deep, i.e. rather cold waters.

Table 1

Relict Crustacea as intermediate hosts of parasites

Host	Parasite	References
Pontoporeia femorata Krøyer	*Echinorhynchus gadi*	Nybelin 1923, 1924 Petročenko 1956 Aura et al. 1990
Monoporeia affinis Lindström	*Corynosoma semerme* *Echinorhynchus salmonis* *Echinorhynchus borealis*	Nybelin 1924 Nybelin 1924 Aura et al. 1990 Bauer 1953
Pontoporeia sp.	*Corynosoma strumosum*	Nybelin 1924
Pallasiola quadrispinosa Sars	*Cystidicola sp.* *Echinorhynchus borealis*	Hill 1988 Štejn 1959

In Poland a relatively small number of postglacial relict crustaceans can play a role as intermediate hosts of parasites (Table 1). *Monoporeia affinis, Pallasiola quadrispinosa, Pontoporeia femorata, and Pontoporeia sp.* have been mentioned in the respective parasitological papers. The parasites found in the above mentioned intermediate hosts, except one larval cestode?, represented the class of Acanthocephala.

Popiel (1951) suggested that the occurrence of *Echinorhynchus gadi* in the herring caught in the Gulf of Gdańsk was connected with *Pontoporeia femorata* as herrings food item.

The Arctic origin of *Echinorhynchus borealis* is evidenced not only by its present geographical distribution but also by the origin and biology of its hosts (Grabda-Kazubska et al. 1969). As intermediate hosts for *E. borealis* are mentioned: *Pallasiola quadrispinosa* (Štejn 1959), *Monoporeia affinis* (Bauer 1953), and *Gammarus pulex* (Nybelin 1923). In the lakes of Mazurian and Pomeranian Lakelands of northern Poland, *P. quadrisponosa* is still relatively common species while *M. affinis* disappeared (Żmudziński 1990; also Żmudziński in this volume). Thus high prevalence of *E. borealis* and high intensity of infection observed in fishes from that part of Poland (Grabda-Kazubska et al. 1969) has been linked probably with the common occurrence of two species, *P. quadrispinosa* and *Gammarus pulex*, intermediate hosts of this parasite.

At the coast of Finland, Aura et al. (1990) noted strong host specificity in acathocephalans: *Echinorhynchus salmonis* towards *Monoporeia affinis*, and in *E. gadi* towards *P. femorata* and *Mysis relicta*.

Concluding:

The relict Crustacea enter into the following relations: *Pontoporeia affinis* and *Pontoporeia* sp. with four species of Acanthocephala (Table 1) distrib-

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uted in the North Palearctic region. These parasites, except of *Echinorhynchus borealis* in *Gammarus pulex* (Nybelin 1923), are not know in other relations than those with relict Crustacea (Table 1).

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