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SYSTEMATIC PROBLEMS OF THE FAMILY TETRAONCHIDAE (MONOGENOIDEA)

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Abstract. The author accepts *Tetraonchus* Diesing, 1858 as the only genus received in the family Tetraonchidae, but does not accept the systematic independence of the subgenera *T. (Tetraonchus)* and *T. (Salmonchus)*.

Byhkovskiy (1957) recognized a single genus only to represent the family Tetraonchidae Bychowsky, 1937, — *Tetraonchus* Diesing, 1858 (syn.: *Dactylodiscus* Olsson, 1893, *Ankyrocotyle* Vlassenko, 1928, *Aviella* Sproston, 1946). The members of this genus, parasitize the gills of fishes of the family Salmonidae, Esocidae and Thymallidae. Spasskiy and Roytman (1958) concluded on the grounds of ecological and morphological criteria that the individual species of the genus *Tetraonchus* should be divided into two groups representing, in fact, two taxons of generic status. These authors accepted the generic validity of *Tetraonchus* which received three species (*T. monenteron* Wagener, 1875, *T. borealis* (Olsson, 1893) and *T. rauschi* Mizelle et Webb, 1953) parasitizing Esocidae and Thymallidae and created a new genus — *Salmonchus* Spasskiy et Roytman, 1958 — to receive species parasitizing Salmonidae (*T. huchonis* Bauer, 1948, *T. alaskensis* Price, 1937, *T. lenoki* Achmerow, 1952, *T. variabilis* Mizelle et Webb, 1953 and the new species *Salmonchus skrjabini*). We are giving their formulation of the diagnosis of the genus *Salmonchus*: "Tetraonchidae with the general characters of the family. Copulatory organ consists of a grooved supporting apparatus and a chitinoid copulatory tube. Supporting apparatus not encircling copulatory tube. Connecting bar almost straight or curved like a horse-shoe; not butterfly-shaped. The base of the copulatory tube is mostly supported by a bar. Attaching apparatus with rudimentary remnants of flabellate (fan-shaped) bar. Parasitic on the gills of Asian and North American fishes of the family Salmonidae."

By contrast, the formulation given by Spasskiy and Roytman for the diagnosis of the genus *Tetraonchus* is: "Tetraonchidae with a copulatory organ consisting of a thin, straight supporting apparatus and of a chitinoid copulatory tube. The bar of the supporting apparatus encircles the copulatory tube. Supporting bar absent at the proximal end of the copulatory tube. Connecting bar of the attaching apparatus butterfly-shaped. Rudimentary remnants of flabellate (fan-shaped) bar absent. Parasitizing fishes of the family Esocidae and Thymallidae occurring in the waters of western Europe, the U. S. S. R. and North America".

Leaving aside the unusual terminology used by Spasskiy and Roytman in both generic diagnoses (supporting apparatus of the copulatory organ, bar of the supporting apparatus etc.) there soon arose some doubts about the advantage of dividing the genus *Tetraonchus* into two independent genera. The first to study this problem in detail was Yu. A. Strelkow (1963). He proved on an extensive material that the basic generic characters of the members of the genus *Tetraonchus* and *Salmonchus* are absolutely conform mainly in their morphology and in the numbers of haptor hooks. He suggested to place the genus *Salmonchus* in synonymy with the genus *Tetraonchus*. In his opinion the presence or absence of the so-called flabellates (fan-shaped bars) in the chitinoid complex of the haptor and the choice of hosts are only of subgeneric value.

I agree with Strelkow in that the genus *Salmonchus* should be placed in synonymy with the genus *Tetraonchus* but I cannot recognize the validity of the subgenera under consideration because I found in systematic studies of most of the species described until now that the so-called fan-shaped bars are present not only in members of *T.* (*Salmonchus*) but also in members of *T.* (*Tetraonchus*).

This indicates that, nowadays, the family Tetraonchidae is represented by a solitary and systematically uniform genus, the genus *Tetraonchus*.

Another point that deserves attention is the fact that Gvozdev (1950) and Spasskiy and Roytman (1958) considered the fan-shaped bars to be rudimentary remnants of the second connecting bar of the anchors. In my opinion which I consulted with Professor B. E. Bykhovskiy and Dr. A. V. Gussev, these bars seem to be only the tendinous terminations of the muscle cords reinforced by a substance similar or perhaps even analogous to the substance participating in the formation of the complex of hooks on the attaching disk.

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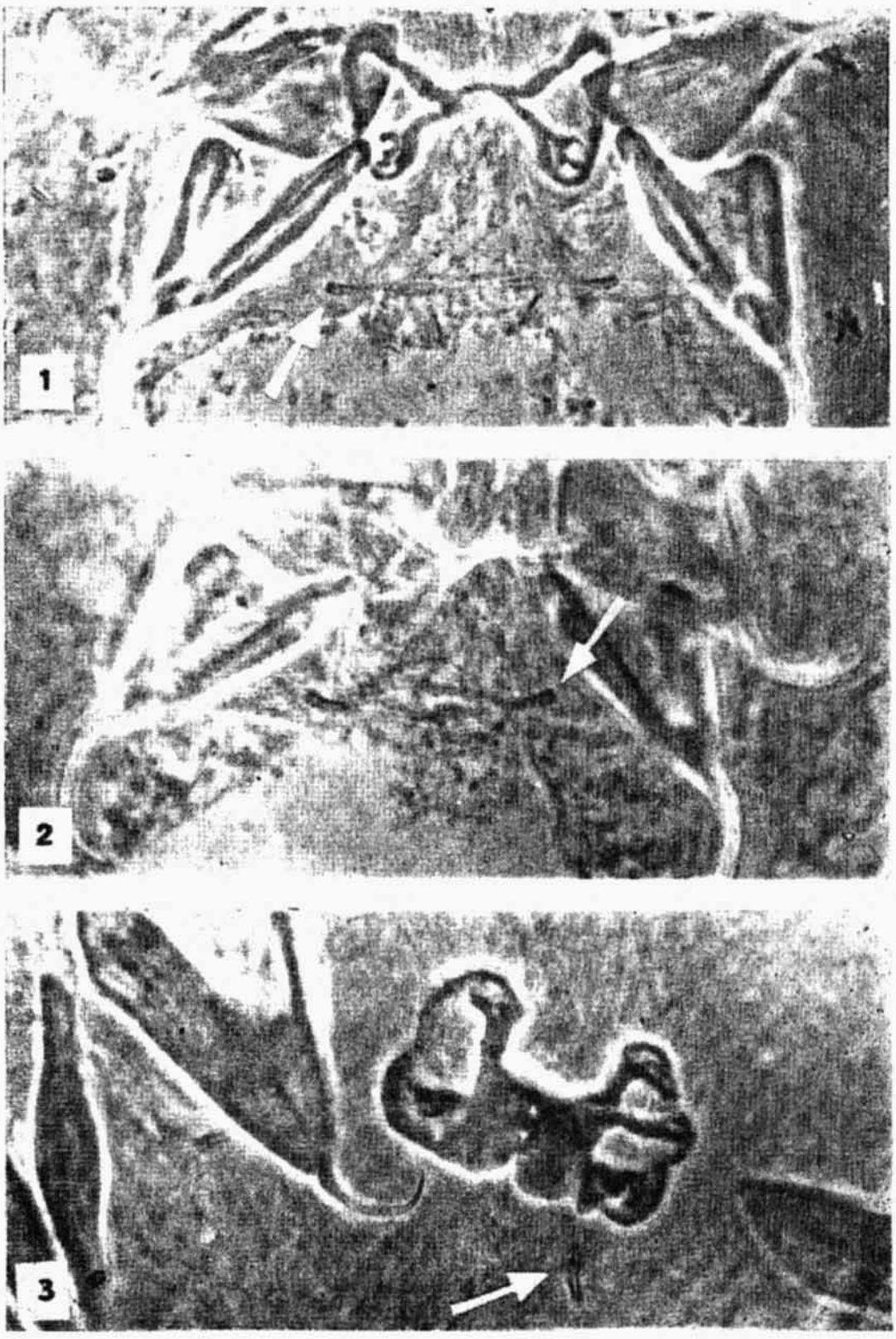

Plate I. Figs. 1 2. "Fan-shaped bars" of *Tetraonchus monenteron* (Wagener, 1857). Fig. 3. "Fan-shaped bar" of *T. borealis* (Olsson, 1893).

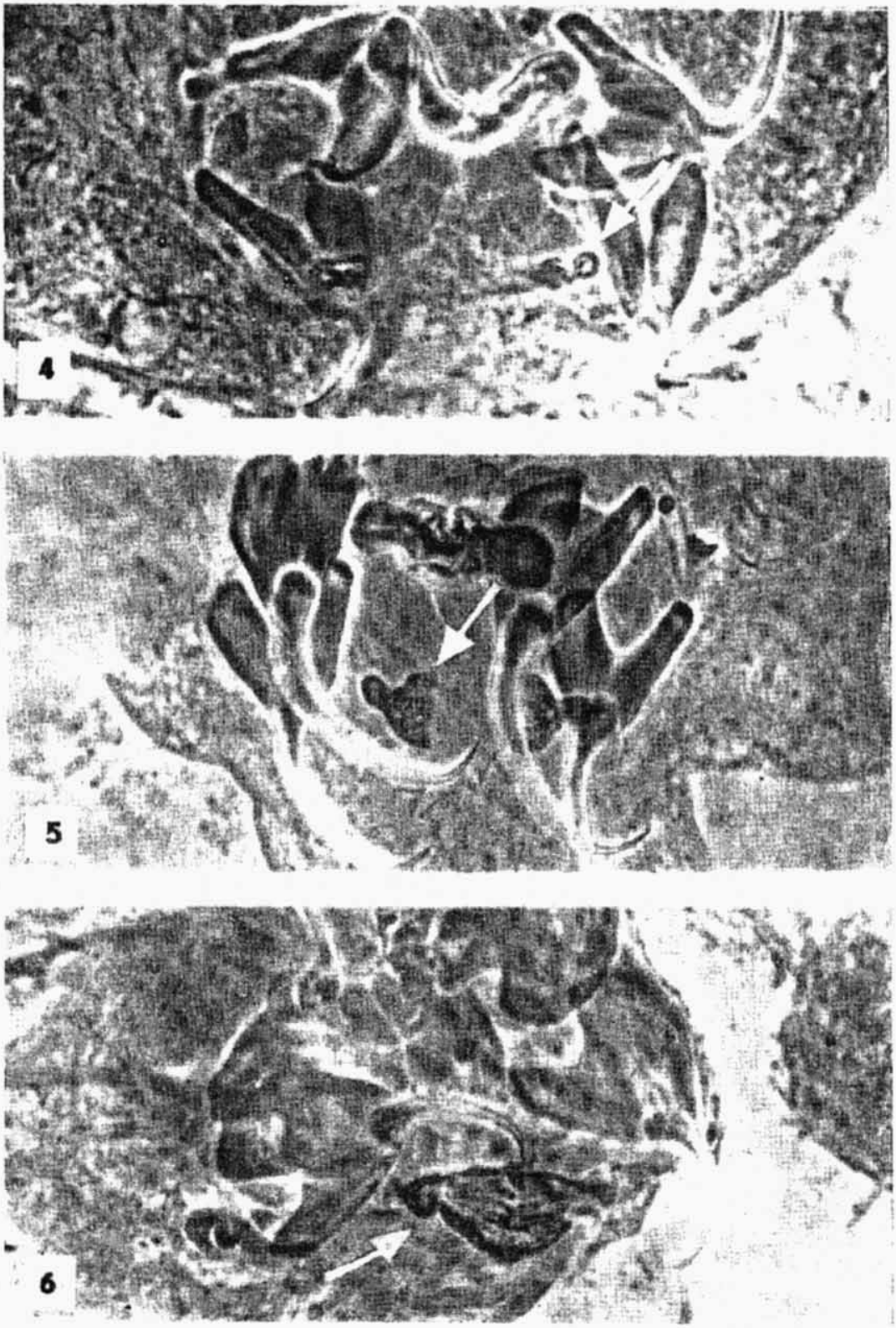

Plate II. Fig. 4. "Fan-shaped bar" of *Tetranchus coetmani* Strelkow, 1963. Fig. 5. "Fan-shaped bar" of *T. skrjabini* (Spasskiy et Roytman, 1958). Fig. 6. "Fan-shaped bar" of *T. gvosdevi* (Spasskiy et Roytman, 1960).