THE SYSTEMATICAL COMPOSITION OF THE FAMILY HETERAXINIDAE AND OTHER ALLIED FAMILIES OF MONOGENEA

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Abstract. This paper briefly presents a system of Heteraxinidae and other allied small monogenetic families of suborder Microcotylina Lebedev, 1972 with the indication of specific composition of all taxa and diagnoses of some taxa; new families Megamicrotylidae, Paramonoxinidae and Monoxinidae are proposed.

In a previous paper (Mamaev 1986), the systematical composition of the family Microcotylidae was analysed. The present paper proceeds and follows the same pattern. (The reader is referred to the above-quoted paper for introductory material, which also applies to this paper.)

Heteraxinidae (Unnithan, 1957) Price, 1962

Mazoeraeidea, Microcotylinae. Haptor greatly asymmetric, seldom unilateral due to a reduction of clamps on the opposite side. Clamps are microcotyloid type but with supplementary process trident or bident. Anchors frequently present and situated on the posterior end of haptor on the lappet. Buccal suckers usually aseptate. Intestinal limbs unfused, with lateral branches. Testes numerous, postovarial. Copulative apparatus is various. Ovary usually in form of interrogation mark. Vagina dorsal (double or single) or absent. True seminal receptacle present, rarely absent. Parasites of marine Perciformes (with few exceptions), mainly of Carangidae.

1. Heteraxininae Unnithan, 1957

Heteraxinidae with bilateral haptor on one side of which the clamps are more numerous and a little larger than on the other. Clamps skeleton is usually symmetric, consisting (as in Microcotylidae) of 5 sclerites but with trident or, rarely, bident processus medio-supplementarius. Anchors in adult absent, as a rule. Buccal suckers aseptate. Genital atrium armed or unarmed, seldom inconspicuous. Vagina usually mediodorsal, single but with two ducts; rarely there are two dorsolateral vaginæ or completely absent. Parasites of marine Perciformes, mainly of Carangidae.


* The species marked with asterisks were studied on the basis of collection materials.


Heteraxonidae with bilateral haptor, with clamps asymmetric, as a rule and symmetric, slightly different in size and structure. Anchors usually present. Buccal suckers aseptate. Genital atrium has two lateral muscular pockets with hooks or spines (in this case copulative organ is armed with some rows of short hooks), or has single muscular atrial bulbus resembling the sucker (in this case copulative organ is armed with stylet), or else genital atrium has not any muscular structures (in this case copulative organ is armed with conical bunch of spines). Parasites od Carangidac.


5. The new genus with single species from Carangoides praeustus (in press)*.

111. Gonoplaeinae Price, 1962

Heteraxonidae with bilateral asymmetric haptor, the skeleton of clamps is symmetric, anchors present. Buccal suckers septate. Genital atrium has large muscular structure that is inversely trapeziform or inversely pyriform, with numerous various spines. Vagina mediadorsal, sometimes with two groups of hollows behind it. Parasites of Carangidac.


2. The new genus not previously described, from Caranx denter, the Canary Islands. (We learned of it from Thesis of Armas Hernandez (1987) and expect its publication with the genus description.)
IV. Lintaxininae Price, 1962

Heteraxiniidae with long bilateral subsymmetric haptor, the sides of which are nearly equal but differ in number, shape and size of clamps. Anchors absent. Buccal suckers asperate. Copulative organ and genital atrium armed. Vagina mediocentral (We retain this subfamily of Price (1962) though it is no doubt artificial.)


V. Monaxininae Unnithan, 1957

Heteraxiniidae with unilateral haptor and, accordingly, with single row of clamps (however the rudiments of some clamps sometimes occur on the other side). Anchors absent in adult. Vagina present or absent. Parasites of Carangidae.


Megamicrocotylidae Mamaev, fam. nov.

Microcotyline with ribbonlike body and well-defined asymmetric long haptor; clamps closed, microcotyloid type on the whole but considerably modified, three different forms. Anchors absent. Buccal suckers asperate. Genital atrium and copulative organ armed. Large ventral vagina far displaced posteriorly and situated next to the ovary, behind its ripe end. Parasites of dorads (Chirocentrus).

Megamicrocotyle Tripathi, 1956. Type species: M. chirocentrus Tripathi, 1956* (syn. M. johnstoni Gupta et Krishna, 1978; M. stunkardi Gupta et Krishna, 1978. — For the latter a Pampus argenteus is erroneously registered as a host.). Other species: M. microcotyla (Manter et Prince, 1953) Yamaguti, 1963*; M. umnithani Mamaev, sp. nov.* (pro M. chirocentrus sensu Unnithan, 1961, a genital atrium of this species armed with a single large hook resembling to miner’s hack but not with 2—3 plates in contrast to two other species).


** Another species of this genus, B. lucknowensis Agrawal et Sharma, 1990, is described in this number of Folia parasitologica.
Microcotylinea with symmetric haptor, laterally flattened and ventrally directed, with two rows of similar massive clamps, the skeleton of which consists of six sclerites: two pairs of lateral, medio-basal and large medio-supplementarium with aperture or canal. Anchors present or absent. Buccal suckers septate. Copulative organ very complicated or simple cirrus, armed or unarmed. Vagina mediadorsal with highly sclerotized chamber. Parasites of Carangidae and other Perciformes.


Pyragrophoridae Yamaguti, 1963

Microcotylinea with bilateral symmetric haptor, laterally flattened and ventrally directed, with clamps of two forms: anterior, on both sides, a narrow pedunculated "fire-tongs"-shaped clamp and on distal half of haptor a simple microcotyloid type clamp. Anchors absent. Buccal suckers septate. Copulative organ — cirrus. Vagina mediadorsal. Parasites of Carangidae.


Heteromicrocotylidae Unnithan, 1961, emend.

Microcotylinea with bilateral asymmetric haptor, on one side of which clamps sessile, open, wide, and on the other pedunculated, closed, "fire-tongs"-shaped. Anchors absent. Buccal suckers septate. Copulative organ — cirrus. Genital atrium with complex arms and usually with atrial sucker (muscular cup, through which cirrus pushes). Anterior to atrium the "accessory copulatory apparatus"*** is situated (muscular hole with some thin medial hooks and a pair of thick hollow lateral hooks with glandulosus reservoirs). Vagina single, mediadorsal, vaginal ducts two. Parasites of Carangidae.


Monaxinoididae Mamaev, fam. nov.

Microcotylinea with simple clamps on unilateral haptor (on the other side there is usually only one clamp), anchors present. Buccal suckers aseptate. Genital atrium

submedial, with long curved spines and muscular atrial sucker at its bottom. Anterior to atrium (not connected with it) is “accessory copulatory apparatus” — muscular cup with sagittate hooks and a single large hollow hook, to which the ducts of glandulae go up. Vagina single, submediodorsal, with two vaginal ducts. Parasites of Carangidae. Type (single) genus Monaxinoides Yamaguti, 1963 with single species M. indica (Ramalingam, 1961) Yamaguti, 1963* (syn. Heteraxine indica Ramalingam, 1961: Monaxinoides laminata Radha, 1975). The first description (Ramalingam 1961) is wrong and for that reason Yamaguti (1963) erroneously placed this genus in Monaxininae.

This family is undoubtedly related to Heteromicrocotylidae (there are an atrial sucker and “accessory copulatory apparatus”) but differs in unilaterial haptor with simple uniform clamps, asceptate buccal suckers and single “glandulosus” hook in “accessory copulatory apparatus”.

Rhinecotyliidae Lebedev, 1979

Microcotyliinae with unilateral haptor on that, on two paddles, the clamps of two different forms: simple on anterior paddle and “firetong”-shaped on posterior. (The young worms have anchors between paddles, losing in adults.) Ventral surface of basal part of haptor turned into multivalent sucker. Buccal suckers septate. Genital atrium has two muscular bulbs armed with spines. Vagina and receptaculum seminis absent. Parasites of Sphyraenidae.


Paramonaxinidae Mamaev, fam. nov.

Microcotyliinae with unilateral haptor on that, on two paddles, the simple uniform clamps of microcotyliid type but with large sticklike scleritum medio-supplementarium. There is a lappet with anchors between paddles of haptor, or it (in adults) is absent. Buccal suckers septate. Genital atrium has two muscular bulbs armed with spines. Ovary in form of an interrogation mark. The seminal receptacle absent. Vagina present or absent. Parasites of Sphyraenidae and other Perciformes.

This family is undoubtedly related to Rhinecotyliidae but less evolved (clamps simple, a sucker on the haptor absent). Both of these families are similar in structure of haptor to the unrelated family Axinidae.


СИСТЕМАТИЧЕСКИЙ СОСТАВ СЕМЕЙСТВА HETERAHINIDAE И ДРУГИХ РОДСТВЕННЫХ СЕМЕЙСТВ МОНОГЕНЕЙ

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Резюме. В статье кратко приведены семейства Monogenea семейства Heteraxinidae и других морских одноклещевых, энтомологическому ряду Monogenea, выделяются новые семьи семейства Megamicrocotyliidae, Paramonaxinidae и Monaxinidae.

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