



Molecular phylogenetic position and description of a new genus and species of freshwater Chaetonotidae (Gastrotricha: Chaetonotida: Paucitubulatina), and the annotation of its mitochondrial genome

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Taxonomy

Order **CHAETONOTIDA** Remane, 1925 (Rao & Clausen, 1970)

Suborder **PAUCITUBULATINA** d'Hondt, 1971

Etymology

From the Latin *litigo* (dispute) and *notus* (known), alluding to the pedunculated scales shared by several gastrotrich lineages.

Morphological diagnosis

Body stout, up to 148 µm long, tenpin-shaped, terminating in a furcate caudum; head slightly pentalobed, bearing cephalon, epi- and hypopleurae, and hypostomion; neck ill demarked; furca up to 18 µm long. Neck and trunk regions covered dorsally and lateroventrally by 34–45 alternating 34–36 pedunculated scales, up to 5 µm long and 3 µm wide; scales widen towards their rear end, just overlapping, and are strengthened by a weak keel extending for half their length; on dorsal side of the furcal base there are 8–10 pairs of non-pedunculated, keeled, elliptical scales; elliptic to oval keeled scales cover also the ventral proximal portion of the furcal branches; interciliary area fully covered by 9–10 alternating columns of pedunculated, keeled scales. One pair of round perianal keeled scales ~4–5 µm in size present. Sensorial ciliary elements distributed in two paired tufts of 4–8 cilia on the head and paired bristles on the neck, and on the posterior trunk region. Bristles of the neck region generally shorter, originating directly from the body; posterior bristles originating from round to triangular scales, each provided by two anteriorly converging keels. Ventral locomotor cilia distributed in two separate longitudinal bands extending from under the head to the furcal base; each band is approximately club-shaped anteriorly, but narrowing

considerably from the posterior pharyngeal region. Mouth ~5 µm in diameter, projecting slightly ventrally and leading into a 31 µm long pharynx; pharynx very muscular, showing a robust bulb at each end; two cuticular teeth are visible within the anterior bulb; pharyngeal-intestinal junction (PhIJ) at U22; intestine straight, wider anteriorly, anus ventral at U88. A pair of conspicuous, tubular protonephridia are present in trunk region, extending from past the PhIJ to approximately mid-body; parthenogenetic. Laid egg, 60 × 38 µm in size with egg shell smooth, without ornamentation.

Molecular diagnosis

18S rRNA gene: 246 T, 287 T, 521 T, 1402 A, 1411 C, 1421 A, 1438 C.

28S rRNA gene: 123 A, 460 A, 474 G, 525 T, 610 G, 639 T, 645 C, 647 A, 664 T, 667 A, 670 C, 736 G, 764 T, 772 A, 858 C, 859 A, 887 C, 946 G, 948 A, 963 T, 1803 A.