

## A General Section

### 1 Morphology, Biology, and Terminology

In the following chapters the general external and internal morphology of the Urostyloidea (= urostyloids)<sup>1</sup> and terms specific to this group are described and explained (Fig. 1a–g). For explanation of other terms, see Corliss (1979), Corliss & Lom (1985, 2002), Lynn & Corliss (1991), Hausmann & Hülsmann (1996), and Hausmann et al. (2003). Moreover, some other topics (e.g., parasitism, ecology and distribution) are briefly discussed. For discussion of the ground pattern of the Urostyloidea see the systematic section.

#### 1.1 Size and Shape

The body length of urostyloid ciliates ranges from about 50  $\mu\text{m}$  (e.g., small specimens of *Holosticha pullaster*) to ca. 850  $\mu\text{m}$  (*Urostyla gigas*); the majority is between 100  $\mu\text{m}$  and 300  $\mu\text{m}$  long. The body length:width ratio ranges from about 3:1 or less (e.g., some *Urostyla* species) to about 10:1 in some *Anteholosticha* species, for example, *Anteholosticha fasciola*. Consequently, the body outline of urostyloids is basically either broadly elliptical, elongate elliptical, or almost vermiform. The ventral side is, as in most other hypotrichs, usually flat, the dorsal side more or less distinctly vaulted (Fig. 1d, f). The dorsoventral flattening given in the descriptions is the (usually roughly) estimated ratio of body width to body height (Fig. 1d). For example, a specimen with a body width of 30  $\mu\text{m}$  and a body height of 10  $\mu\text{m}$  is flattened 3:1 dorsoventrally.

Urostyloid hypotrichs are flexible (supple), and almost acontractile to distinctly (up to about 30%) contractile. So far no urostyloid with a rigid body is reliably described. A rigid body/cortex in the Hypotricha is only known from the Stylonychinae (Fig. 14a). Very likely this conspicuous feature evolved convergently in the euplotids and stylonychines (Berger 1999). The adoral zone of membranelles (“oral apparatus”) is, as is usual, in the left anterior portion of the cell, and usually less than 40% of body length, in most species around 30%. Hypotricha-species with a longer adoral zone (more than 40%) are either immature postdividers or, if their body is inflexible, stylonychines for which a relative length of 40% or more is characteristic. Moreover, some stylonychines, for example, *Pattersoniella vitiphila* (for review see Berger 1999, p. 766), have a cirral pattern very similar to the midventral pattern of the urostyloids. The biomass of urostyloids ranges from about 12 mg (e.g., *Holosticha pullaster*) to about 8000 mg for the huge *Urostyla gigas* which is nearly 1 mm long.

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<sup>1</sup> For names of higher taxa used in the present book see Figs. 13a, 14a and Table 1.

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