



THE FUNCTIONAL MORPHOLOGY OF THE STOMACH OF THE LUCINACEA (EULAMELLIBRANCHIA)

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Despite superficial similarity, different groups within the Lamellibranchia are highly specialized for particular habitats. Specialization in the Lucinacea (families: Ungulinidæ, Thyasiridæ, Lucinidæ) includes an anterior inhalent tube built by a modified vermiform foot and an elongate anterior adductor muscle covered by a ciliated epithelium which forms a mechanism for sorting incoming particles. An evolutionary sequence in the development of these modifications is seen and this is accompanied by a related reduction in the size of the palps and gills and the efficiency of the mechanisms on them. Least modified are the Ungulinidæ, most, the Lucinidæ.

Related changes have occurred in the functional morphology of the stomach. The stomach of the Ungulinidæ is of the typical eulamellibranch form with well developed sorting areas and many apertures to the digestive diverticula. The stomachs of the Thyasiridæ and Lucinidæ are much modified. These modifications include the almost complete loss of sorting mechanisms and reduction in the number of apertures to the digestive diverticula. This secondary simplification emphasizes the basic structures involved in the transport of material from mouth to digestive diverticula and leads to the better understanding of the eulamellibranch stomach.

