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ABSTRACTS

30 ON THE SKELETAL STRUCTURES OF THE ENTEROPNEUSTA (HEMICHORDATA).

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In Enteropneusta, the protosoma (proboscis) is bound to the mesosoma (collar) by a short and rather narrow stalk (1, 2). The complex is strengthened by the skeleton and the stomochord.(a) The skeleton, a thickening of the basal membranes underlying the epithelia, can be divided into three parts : a triangular plate set into the proboscis, a thick vertical bar in the stalk and two horns or crurae, running dorso-ventrally around the buccal cavity in the collar. The skeletal substance is well coloured by PAS, aldehyde fuchsin and acid alcian blue; the staining by aldehyde fuchsin and alcian blue is deeper after a preoxidation. Skeleton is also stained by light green and methyl blue but curiously enough toluidine blue (at pH s 3 and 4) remains practically inactive compared with the strong metachromasy exhibited by the collar ectodermal cells. The centre of the median bar, occupied by a yellow sclerified material, displays an obvious argentaffinity. The skeletal substance is made up of neutral and acid polysaccharids, mixed with -SH bearing proteins; polyphenols are present in the oldest parts. The role of the skeleton is merely the stiffening of the weak stalk and the anchoring of the strong muscular bands arising from the collar. (b) The stomochord, an endodermic caecum given off dorsally by the buccal cavity, runs above the skeletal bar and enters into the posterior part of the proboscis. The central lumen is present up to the tip of the organ and even swells in front of the skeletal plate. The pseudo-stratified epithelium is composed of vacuolated and ciliary cells, radiating around the canal (3). The organ is wrapped in a distinct basal lamina. The stomochord is faintly stained by the different dyes, except the basal membrane, the nuclei and the apical border of the cells (cilia and microvilli) and contrary to the surrounding organs (blood, pericardial vesicle and glomerulus). This is not in agreement with Welsch and Schumacher's (4) observations. A few scattered glandular cells can be observed close to the opening of the caecum. The stomochord does not display any peculiar structure except the developed vacuolization of its cells; may be it bears the surrounding organs but thanks to its cilia, it could also be a possible disposal system for soluble wastes discharged by blood and glomerulus. It has nothing in common with the canal of the so-called neural gland of Tunicata.

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