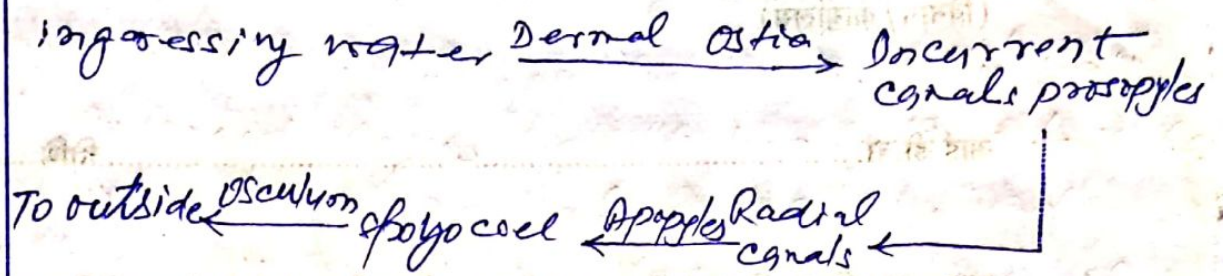


2. Sycon type: Sycon type of canal system is more complex system of pores and canals and is characteristic of Syconoid sponges, like Leypa (= Sycon) and Grantia. It can be theoretically

derived from the asconoid type by horizontal folding of its wall. Embryonic development of scypha clearly shows the asconoid pattern converting into syconoid pattern. Body wall of syconoid sponges includes two types of canals, incurrent and radial, parallelly and alternating with each other. Both types of canals extend blindly in body wall but are interconnected by minute pores. Incurrent pores or dermal ostia, found on the outer surface of body, open into the incurrent canals. These canals are non-flagellated, as they are lined by pinocytes, and lead into adjacent radial canals through minute openings called prosopyles. It is not clear whether prosopyles are channels through pinocytes but it is definite that, in the adult, they are simple intercellular spaces. Radial canals are flagellated chambers, as they only they are lined by choanocytes. These canals open into the central spongocoel by internal ostia or apopyles. Spongocoel is a narrow, non flagellated cavity lined by pinocytes. It opens to exterior through an excurrent pore, the osculum similar

to that of ascon type. course of water current may represented as given below:-



In more complex sycon type, as illustrated by Grantia, the incurrent canals are irregular, branching and anastomosing, forming large subdermal spaces. This is due to development of cortex, involving pinacoderm and mesenchyme, spreading over the entire outer surface of sponge.

3. Leucon type: As a result of further thickening of body wall, the sycon type gives rise to a still more complex canal system, the leucon type. This is characteristic of leuconoid sponges, such as Spongia. Here radial symmetry is lost and canal system has become very irregular. Flagellated chambers are small, spherical and lined by choanocytes. All other spaces are lined by pinacocytes. Incurrent canals open into flagellated chamber through prosopyles.

Flagellated chambers in their turn, communicate with excurrent canals through apopyles. Excurrent canals are developed as a result of shrinkage and division of spongocoel which has disappeared. Thus excurrent canals communicate with the outside through the osculum.

Course taken by water current is as follows:

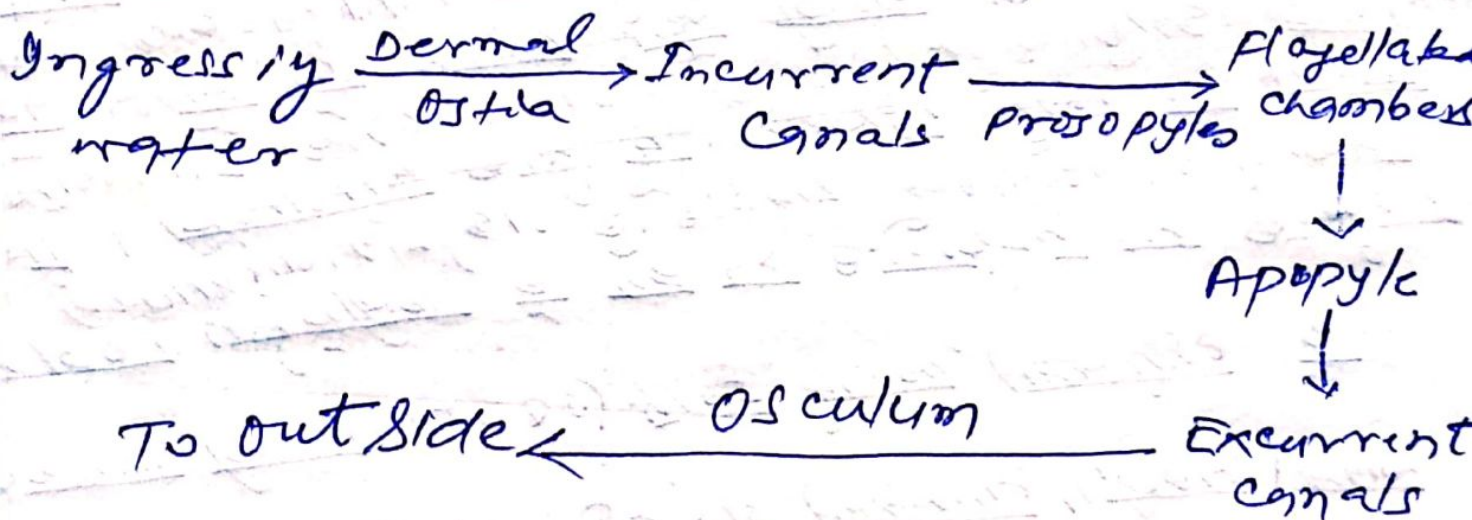


Fig:—

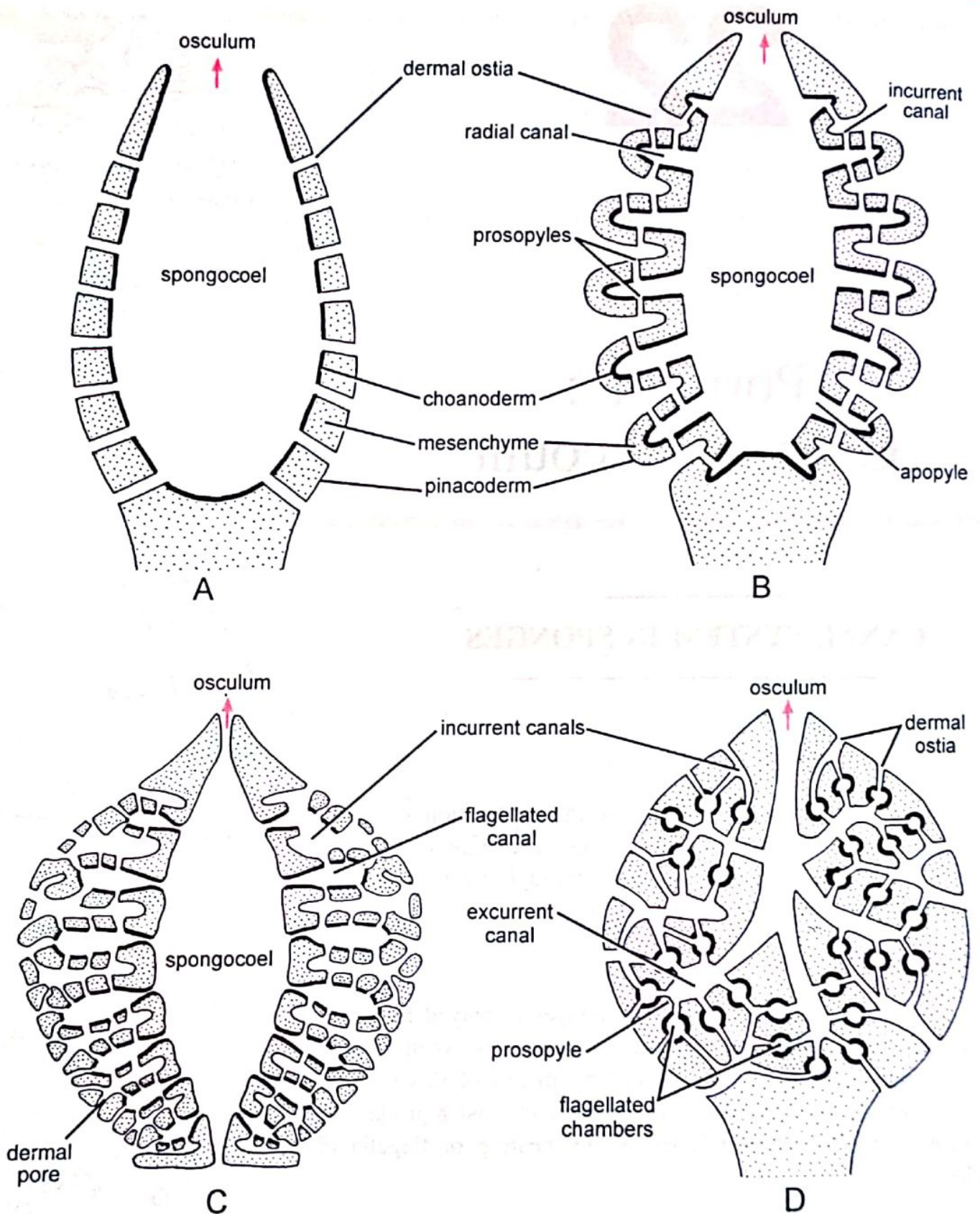


Fig. 1. Canal system of sponges. A. Ascon type. B. Simple sycon type. C. Complex syconoid type with cortex, D. Leucon type.