Development of Spicules in Sponges:

The cells that Secrete the Spicules are known as Sclereoblast.

A calcareous monaxon Spicules is Secreted by a binucleate Sclerobast. A small piece of Calcium Carbonate is deposited around an Organic axis thread between the two nuclei. As the Spicule grows, the two nuclei drawn apart until Scleroblast divides into two cells. One cell lying at the inner end of the Spicule is called the founder which gradually moves inwards and forms the shape and length of the Spicules. The other cell lying at the outer end of the Spindle is called the thicker which lays additional layer of Calcium Carbonate thus providing thickness to the Spicule. When the Spicule is fully formed both the cells pass into the mesoglaea.

A triradiate Spicule is formed by three Scleroblasts which meet in a triangle and and divide to form Six cells. A Small Spicule is Secreted by each pair of cells. Later the three Spicules or rays unite together to form a triradiate Spicule.

Development of Skeleton in Sponge / DI

Tetraradiate Spicule is Secreted Similarly by four Sclaroblasts Cells.

A hexactinal Spicule is Secreted Within a multinucleate Syncytical mass which is perhaps derived by repeated nuclear divisions of an Original Sclaroblast.

Spongin:

It is an organic horny elastic Substance resembling Silk in chemical composition. The Spongin fibres are in the form of fine threads. The fibres are Secreted by flask-shaped mesenchyme cells called Spongioblast, which after Secreting the Spongin, become vacuolated and finally degenerate.

Spongin occurs in various forms in demospongin. In Some Monaxonida spongin occurs as a cement connecting together the Siliceous Spicules. In Some other Monaxonida it is found in the form of branching fibres in which Siliceous Spicules are imbedded. In Keratosa the Spicules are absent and the Spongin alone forms a continuous, elastic fibrous framework of the body.

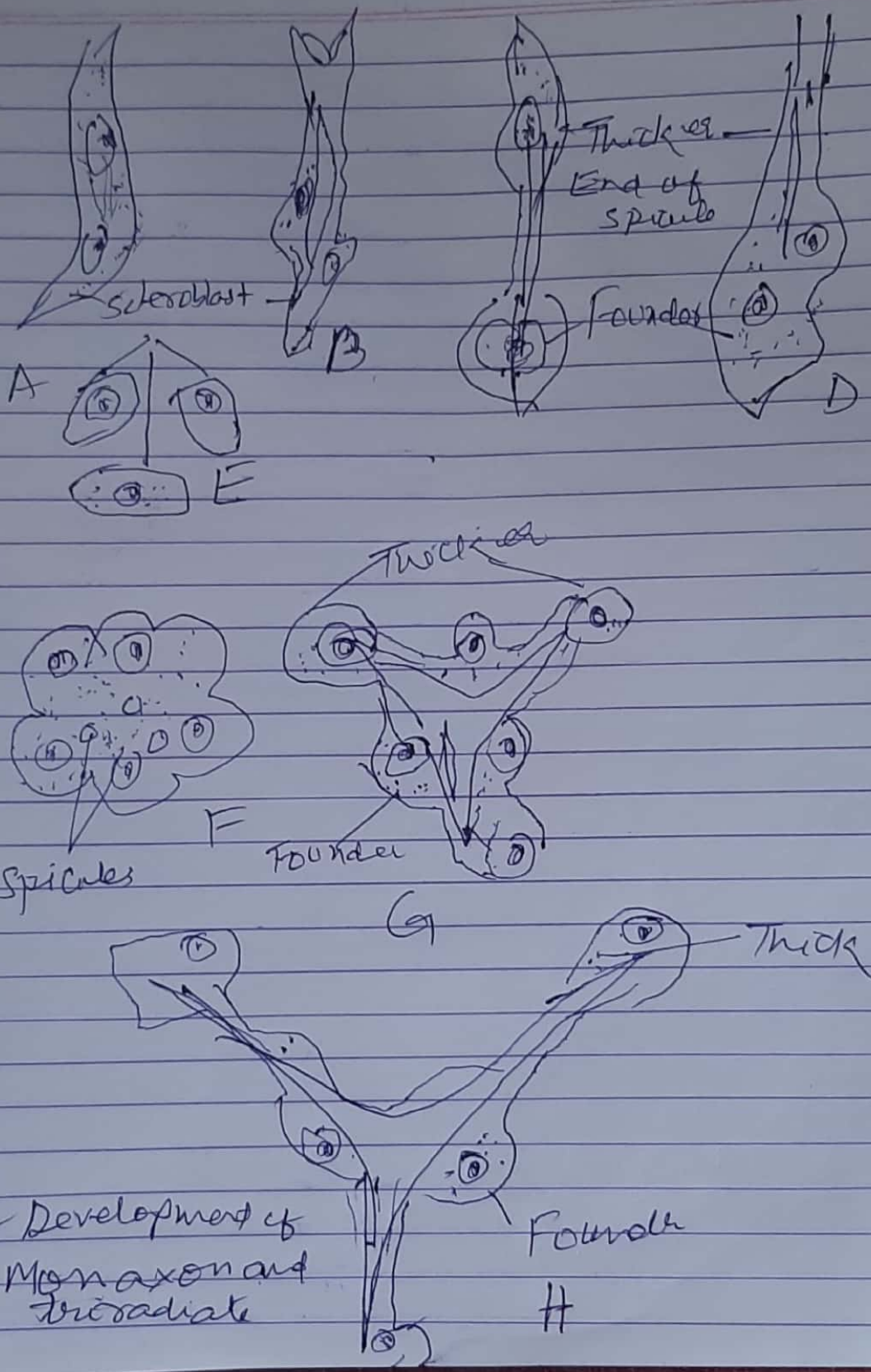

Fig - Development of Monaxon and triradiate