"Describe the skeletal system in Porifera"

or "Skeleton in Porifera"

Ans → Sponges posses an internal skeleton secreted by mesenchymal amoebocytes called Sclerblast. The skeleton may consists of

(i) spicules.
(ii) spongin fibre.
(iii) A combination of both spicules and spongin fibres.

(i) Spicules :→

These are crystalline bodies consisting of an axis of organic material around which is deposited calcium carbonate in the case of calcareous spicules and hydrated silica in the case of siliceous spicules.

These spicules are distinguishable into two types :→

(A) Megascleres and
(B) Microscleres.

Megascleres → megascleres are large in size and make up the chief supporting frame work of the sponge where as the microscleres are small and remain distributed throughout the mesenchyme.

Spicules are classified according to the number of axis and rays. According to this classification there are five types of spicules.

(a) Monaxon.
(b) Tetraxon
(c) Triaxon
(d) Polyaxon and
(e) Spherees.

(a) Monoaxon :→ It is found due to the growth along the single axis either in both directions or in

Curved. only one direction the axis may be straight or curved. It can further be distinguished into the following types according to the form of axis: →

① Monactinal Monoaxon: → It is formed due to the growth in only one direction. This types of spicule is known as style.

① The style rounded at one end and pointed at the other end is known as strongylot style.

② The style covered with thorny process ~~end is Knobbed are~~ is know as "acanthostyle". →

③ The style whose blunt end is Knobbed are known as Tylostyle

⑪ Diactinal monoaxon: →

In these spicules growth takes place in both the directions starting from a central point and both the ends are similar. These are distinguishable as follows: →

① oxeas: — abruptly pointed at both ends

② Tornotes → Both ends are spear shaped

③ strongyle: → Both ends are rounded

④ Tylote → Both ends are Knobbed like pin head.

The microscleric form of diactinal monoaxons are known as micro-rhabds and accordingly the above mentioned types are known as "micro-oxeas", "Micro-Tornote", "Micro-strongyle" & "Micro tylote". In the "micro sceleric form the diactinal monoaxon are curved like the letter C, is known as Sigma (C-shaped)

Toxas — bow-shaped.

and chelas (both ends similar) and anisochelas both ends dissimilar)

Isochela Anisochela