

presentative in the Challenger collection recalling vividly that of the typical Leuconidæ, a great stress is laid upon the close relationship of both these families in spite of the want of intermediate forms connecting them directly. Such being the case with regard to the Teichonidæ, a series of illustrations are given in the Report which, beginning with the internal structure of one of the typical Syconidæ (*Sycon arcticum*), lead us gradually to that of one of the typical Leuconidæ (*Leuconia multiformis*). The results of this argument are formulated as follows:—‘The Leucones are nothing but modified Sycones with a non-articulated tubar skeleton, their flagellated chambers are complete homologues of the radial tubes; their exhalent canals owe their origin to the invaginations of the inner cavity, and their inhalent canals are to be regarded as homologous with the intercanals of the Sycones.’

“The author adopts the families established by Haeckel, although with considerable

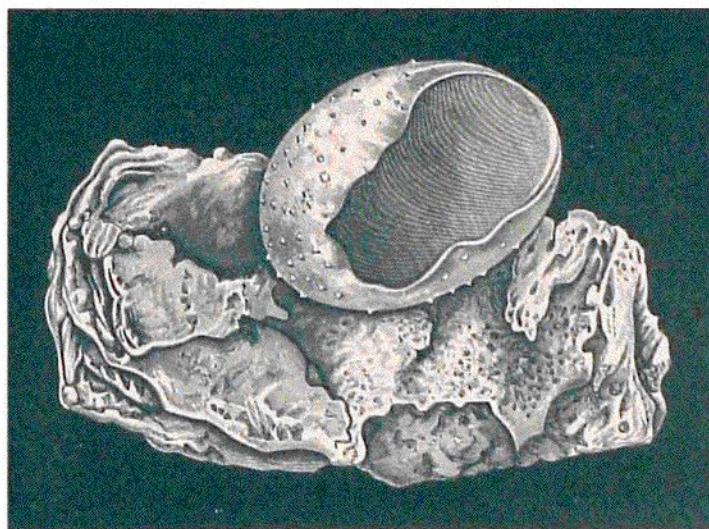


FIG. 218.—*Eilhurstia schulzei*, Poléjaeff.

modifications as to their diagnosis; but this is not the case so far as Haeckel's genera are concerned. As is well known, the definitions of these latter are based on spicular characters exclusively. Dr. Poléjaeff regards this proceeding as thoroughly artificial, and comes to the conclusion that ‘the spicules of the Calcareous Sponges being very variable in every direction, could not serve as a basis for the distinction of genera, even if there were in the Calcareous Sponges no other characters fit for very distinct systematic definitions.’ The principle upon which he proceeds is *the consideration of all the organs in their mutual correlation*. Following it he distinguishes—in the family of Syconidæ six genera (*Sycon*, *Grantia*, *Ute*, *Amphoriscus*, *Heteropegma*, and *Anamixilla*), two of which, namely *Anamixilla* and *Heteropegma*, are new; in the family of Leuconidæ four genera (*Leucilla*, *Leuconia*, *Leucetta*, and *Pericharax*), the genus *Pericharax* being created for forms partly collected by the Challenger, partly described by Haeckel; and as above