

closely allied to the present Mediterranean species *Schizaster canaliferus*; under the name of *Echinus dux*, a species which has all the facies of *Sphærechinus* with the structure of the poriferous zone of *Echinus* proper; also *Echinocyamus*, which varies to such an extent that it is well-nigh impossible to separate many of the more recent Tertiary forms from the species still living. The species described by Laube is remarkable for showing in so large a species the sculpture in the line of the horizontal sutures characteristic of the young stages of *Echinocyamus* such as I have figured in the Revision of the Echini, pl. xiii., while the presence of such a type as *Amphiope elliptica* (*Echinodiscus*) shows evidently the former extension of the genus far to the eastward of its present range; and the existence of species of *Schizaster* like *Schizaster leithanus* (Laube), with very decided *Hemiaster* affinities, enable us readily to see how *Hemiaster* may gradually have been modified into the typical *Schizaster* of the present day. *Spatangus austriacus* seems from Laube's figures to be more closely allied to *Spatangus raschi* than to *Spatangus purpureus*, while *Brissomorpha* is evidently an entirely different type, which unites, like many of the deep-sea Spatangoids lately discovered, characteristic features of several genera. It has the greatly developed posterior interambulacrum forming a regular beak covering the anal system somewhat as we find it in *Echinocrepis*, but it has the labiate actinostome of *Brissus*, with the outline from above of *Echinolampas*; its representative in the present day is *Nacopatagus*, with which it is most closely allied. Manzoni and Mazetti have figured and described in the Atti Soc. Tosc. Sc. Nat., iii. pl. xix. fig. 2, under the name of *Heterobrissus*, one of the Spatangoids with ambulacra flush with the test (but with few pores), which seems to be more closely related to some of the abyssal genera such as *Nacopatagus* than any other; and seems to indicate, from the structure of its petals and the consequent long line of simple pores forming the ambulacral areas, how the present genera, that is, the whole group of the Pourtalesia with simple pores, originated and came to persist, retaining the embryonic type through which all Spatangoids primarily pass, the apetaloid state, which is but slightly advanced in *Heterobrissus*.

When we compare the Nummulitic species of Echinids with those now existing either in the littoral, or in the continental and oceanic zones of the Indo-Pacific region, we find that the generic types have continued to the present day, and many species will undoubtedly prove to be identical, on close comparison of more extensive series of the large number of Temnopleuridæ which characterised the Indian Seas of the Tertiary beds with those of the present day, as well as with the species of *Maretia*, *Brissopsis*, *Hemiaster*, *Temnechinus*, *Echinanthus*, *Echinolampas*, and other Cassiduloids, which have been figured by Herklots, D'Archiac and Haime.

From the excellent descriptions of the Australian Tertiary Echinids of Duncan, of Laube, and of Tate, we cannot fail to be struck with the existence in the Australian Tertiaries of the genera *Eupatagus*, *Lovenia*, *Arachnoides*, *Echinobrissus*, *Fibularia*,