close and thick, radiating structures, which are divided up into strong spines or teeth, so as to be stoutly and crowdedly echinate. In fact, the condition of the wall and costæ, in this compound form, exhibits the closest resemblance to that which obtains in the simple genus *Fungia*, a form from which *Halomitra* may at once be derived by the development of secondary or daughter calicles around the central primary calicle.

Comparing this characteristic condition of *Halomitra* with that which obtains in the species for which the genus *Podabacia* was instituted by Milne-Edwards and Haime, namely, the *Madrepora crustacea*, Pallas (=*Pavonia explanata*, Dana), we find an essential and fundamental distinction. This was clearly recognised by Dana, who states that the under surface is "*echinulato-striate and porous*," that is, that the wall is not solid, but finely and closely porous or fissured throughout, while the costæ are in the form of distinct striations, the course of which is indicated by the fine denticulations or echinulations of which they are composed, and the radial arrangement of which is generally much obscured: a condition comparable to that which obtains in *Lithactinia* rather than in *Fungia*.

Concerning this form (*Pavonia explanata*, Dana=*Podabacia crustacea*), Dana writes: "this species might well form a distinct genus. It looks much like an inverted *Halomitra*," a statement that is altered to a considerable extent by Milne-Edwards and Haime, who, in writing of the same species, say, "il se trouve indiqué dans l'ouvrage de M. Dana, qui le définit très-justement en l'appelant une Halomitre retournée et pédonculée." The genus *Podabacia* was certainly well instituted for this very distinct form.

The confusion between the genera *Podabacia* and *Halomitra* has arisen from the fact that there exist specimens which, while they have the characteristic *shape* of *Halomitra pileus*, yet possess the *structure* of *Podabacia crustacea*, as exemplified in the characters of the wall and costæ: specimens which are clearly referable to *Podabacia* (amended so as to include free as well as fixed forms).

From this it will be seen that we have no means of determining whether the *Mitra polonica* of Rumphius, which is usually regarded as being the *Halomitra pileus*, is really referable to *Halomitra* or *Podabacia*.

The *Halomitra pileus* of Dana is undoubtedly the *Madrepora pileus* of Pallas, whose description must certainly have been drawn up from a specimen of *Halomitra* and not of *Podabacia*. The description of Lamarck would apply equally well to either of the equiform specimens of *Halomitra* and *Podabacia*, and have included them both; while the redescription of Milne-Edwards and Haime was evidently drawn up from specimens of both of these types and is more applicable to the *Podabacia* than to the *Halomitra* form.

So that while, on the one hand, the specific term *pileus* must apply to the *Halomitra* (*Madrepora*) *pileus*, Pallas (=*Halomitra pileus*, Dana), it is desirable, on the other hand, to retain it also for the equiform *Podabacia*, which would, therefore, stand