Habitat.—Torquay; Guernsey, at extreme low water (Bowerbank); Budleigh, Salterton, Devon (Carter); Westport Bay (Norman).

Remarks.—The ectosome is not more than 0·5 mm. thick; in dried specimens I saw no appearance of fibrous tissue in it, it seems to consist of collenchyme, crowded with calthrops and pigmented granule-cells. The spinose microrabds are, when young, frequently even up to a length of 0·02 mm., smooth centrotylote microxeas, obviously diactinose asters. When sparsely spined they call to mind the microxeas of *Ecionema bacillifera*, Carter. They are generally scattered through the sponge, and form a thin layer beneath the outer epithelium. The presence of the toxa is somewhat surprising, and Schmidt remarks that such spicules, characteristic as they are of the Desmacidine series, have, without any doubt, been merely accidentally introduced into the preparation (*loc. cit.*, *supra*). This, however, is certainly not the case; the toxas are as much parts of the sponge as any of the other spicules. It is not probable that any of the Pachastrellidæ have points of contact with the Desmacidina, and one would naturally look to ancestral forms such as *Pœcillastra* or *Pachastrella* for the homologue of this spicule. The microrabds can very well be explained as representing the microstrongyles of the latter or the microxeas of the former; but the toxas, judging from analogy, are more likely to be traceable to a spiral than to an actinal form. The only spiral form in either *Pœcillastra* or *Pachastrella* is the spiraster, and in the absence of intermediate links, and considering the vast difference in size, it seems hazardous to suggest that this can have been the parent of the *Dercitus* toxa. In *Caminus apiarium*, O. Schmidt, remarkable toxa-like spicules occur, evidently explicable as diactinose forms of an aster, but the toxas of *Dercitus* are not to be explained in this way; they are more probably microxeas which have acquired a curvilinear growth.

Norman in discussing the nomenclature of this sponge rightly claims priority for *Dercitus* over *Pachastrella*, but adds that undoubtedly Schmidt's genus *Pachastrella* is identical with *Dercitus*, in this agreeing with Schmidt himself and Carter. It appears to me, however, that the differences between them are as great as in some other groups would serve to distinguish subfamilies. It is true that similar differences in different groups are of unequal value, but this is not always so. The only case in which it can be certainly alleged is when the differences are inconstant; when they are constant but serve to divide a family into a number of genera, each containing a single species only, one cannot assert that they are of unequal value as compared to similar differences which in another family give us genera each with several species. The more natural explanation might then appear to be that a family with genera of single species is one which by severe exposure to unfavourable conditions has become impoverished. Such an explanation may possibly be true for the Pachastrellidæ, the different genera of which are separated by characters which in the Stellettidæ are of subfamily importance.