(Fig. 3), the spatulate rostrum of the functional avicularium being developed on the distal region of the kenozooecium. The prominent opesia, formed by the enlargement of the central aperture, is divided by a pair of projecting spinose condyles into a distal sub-triangular region and a proximal semi-circular area (Fig. 2). The avicularian opesia now developed, is restricted distally by the recessed rostral palate and proximally by the gymnocyst (i.e., the frontal wall of the kenozooecium).

Kenozooecia in *F. spinea* Brown may be formed also as regenerative structures within zooecia as shown by a Stewart Island specimen (Fig. 3). One zooecium in this particular colony is readily distinguished from the others by its orifice, which is sealed off by a calcareous occlusion. Removal of the frontal shield revealed the oval chamber of a kenozooecium emplaced within the zooecial chamber.

Levinsen (1907, fig. 11) encountered a very similar regenerative process in *Membranipora fossata* Levinsen, a species which he (p. 155) cited as evidence of "double regeneration". In that instance, a zooecium has regenerated another within its zooecial cavity. This in turn has regenerated a vicarious avicularium. The feature of immediate importance, however, concerns the kenozooecium situated within an adjacent zooecium, the significance of which Levinsen overlooked. This could be interpreted (like the Stewart Island material) as a regenerative phase, perhaps intermediate between the zooecium and the functional avicularium. These processes clearly emphasise the high degree of polymorphism exhibited by certain Anascan and primitive Ascophoran species.

Waters (1887, Pl. 7, fig. 18) depicted a kenozooecium in the fossil material he identified as *Membraniporella nitida* Johnston var. (= *F. spinea* Brown, 1952, p. 181) from Waipukurau, New Zealand (Pliocene), but made no comment on the structure in his description. The writer cannot decide whether it is interzooecial, or whether it occupies the cavity of an old zooecium and thus vicarious, therefore constituting a regenerative condition similar to that encountered in the Stewart Island material. Waters' figure is rather ambiguous on this point. Avicularia were not found in any of the New Zealand fossil material Brown (1952, p. 183) assigned to this species, although Waters (1887, p. 52) did record a large spatulate avicularium in a Recent specimen. A specimen from Weka Pass (Middle Miocene) however, which Brown (1952, p. 183) attributed to *Figularia huttoni* Brown (the writer in manuscript, considers this species to be conspecific with *F. spinea* Brown) appears to agree with the Recent material as regards the mode of origin of avicularia. The rostral opesia in the fossil specimen is depicted (Brown: text-fig. 127) as a rounded pore, suggesting that it has been retained intact from the central pore of a kenozooecium. Normally, the rostral opesia becomes expanded into a large sub-triangular aperture (Fig. 3).

Discussion

The morphological significance of kenozooecia in the Cheilostomata is not fully understood. Norman (1903, p. 102) and Hastings (1964, p. 258) have shown that in some Cribrilinidae kenozooecia play an important part in the building of the colony. Brown's (1952, p. 75, text-fig. 27) observations show that in *Retevirgula acuta* (Hincks), the zooecia may be budded off from such structures. Harmer (1957, p. 948) commented on the occurrence of similar chambers in *Chorizopora*. In several cribrilinid and membraniporine genera avicularia replace kenozooecia. A regenerative condition involving a kenozooecium, intermediate between the adult zooecium and the functional avicularium has also been observed in one species of *Figularia* and *Membranipora*.