

range or are known from one locality, and in Group III, eight from a total of 31 are "rare" species.

TABLE I.—NUMBER OF SPECIES PER FAMILY OCCURRING IN THE FOUR DISTRIBUTION GROUPS.

| Family          | Group I<br>North<br>and South<br>Island Waters | Group II<br>Three Kings<br>to North<br>Cape Area | Group III<br>North Island<br>Excluding<br>North Cape | Group IV<br>South<br>Island Waters<br>or Higher Lat. | Total |
|-----------------|--|--|--|--|-------|
| Campanulariidae | 7  | 0  | 3  | 7  | 17    |
| Campanulinidae  | 1  | 0  | 2  | 1  | 4     |
| Lafoeidae       | 1  | 1  | 8  | 4  | 14    |
| Lineolariidae   | 1  | 0  | 0  | 0  | 1     |
| Haleciidae      | 4  | 1  | 3  | 3  | 11    |
| Syntheciidae    | 1  | 2  | 2  | 0  | 5     |
| Sertulariidae   | 12   | 7  | 5  | 21   | 45    |
| Plumulariidae   | 15   | 7  | 8  | 3  | 33    |
| Total           | 42   | 18   | 31   | 39   | 130   |

It will also be seen from Table I that Group I and Group IV have an essentially equivalent number of species. The number of species in Group IV is due mainly to members of the family Sertulariidae and Campanulariidae. It should be noted, however, that of the seven campanularians, four are known from a single locality, and two of these are of uncertain identification, being known only from the literature. Thus, the 21 species of sertularians may reasonably be considered the major faunal elements of Group IV and the only thecate family in New Zealand waters with a high proportion of South Island species. Species of the other thecate families represented in our waters are in the main concentrated in Group II and Group III with the possible exception of species of the family Campanulariidae with seven species in Group I. More cosmopolitan species are, however, found in this family in New Zealand waters than in most other families, so that their longer latitudinal range is not remarkable.

Sertularians, in particular, in South Island waters, give evidence of the occurrence of two subgroups. One group of sertularians mainly in the genus *Symplectoscyphus* are rarely found northward of Oamaru, which is a little more than half way down the east coast of the South Island, and another group, from several different genera are rarely found southward of this locality. This subdivision of the South Island thecate hydroids into a southern and northern element is in accordance with the findings of other workers (see Knox, 1960) who recognize two biogeographical provinces for South Island waters. The more southern of these provinces is the Forsterian, which includes Stewart Island and the Snares, but not the other Subantarctic Islands, and the more northern, is part of the wider ranging Cookian province (Fig. 1c), which extends over east and west coasts of the lower half of the North Island, bounded on the east coast at East Cape, but on the west coast extending almost to Cape Maria van Diemen.

The possible unreliability of the southern boundary of the present Group II has been noted above. When more is known of the east coast North Island hydroids, it will be possible to give a decision as to whether they too are distributed in subgroups and have a similar latitudinal distribution to that shown by other marine animals such as the molluscs. The best that can be said at present is that the evidence suggests that the hydroids conform in distribution pattern to that already known for other groups. The molluscs indicate a north-eastern Aupourian province.

Nonetheless, the thecate hydroids show clearly a latitudinal distribution pattern with sertularians having a stronger representation in number of species in cooler South Island waters, particularly southward of Oamaru, and plumularians having a strong representation in northern North Island waters, particularly the Three