land mass in the Marlborough area took place. Why *Neocurupira* did not manage to migrate north at this time is difficult to explain but it is not found in the present North Island and would appear to have reached the Marlborough Sounds after the present Cook Strait was formed during the Pliocene–Pleistocene. It is possible that *Neocurupira* did in fact reach the "North" Island but subsequently became extinct. However, the fact that *Neocurupira* species are at present found in a wide-spread range of habitats in the South Island makes the suggestion of extinction in the North Island unlikely.

During the early Pliocene New Zealand again consisted of two islands. The South Island was of approximately the present configuration but extended across the present Cook Strait on to the south-western tip of the present North Island. A shallow sea separated this peninsula from the northern part of the North Island (Fleming, 1962). It is considered that during this period *Peritheates harrisi* evolved in the then North Island and *P. turrifer* in the then South Island. It is further postulated that when the present Cook Strait was rapidly formed during the Pliocene–Pleistocene a small population of *Peritheates turrifer* was isolated from the South Island; and that, when the shallow sea regressed off the centre of the North Island, *Peritheates harrisi* migrated south until now it is found in the small southern area of the North Island inhabited by *Peritheates turrifer* (Fig. 70).

The presence on Banks Peninsula of *Neocurupira chiltoni,* the only New Zealand blepharocerid with large black spines on the fourth instar larva, is extremely interesting. This peninsula is a remnant of two extinct volcanoes which were probably initially active during the Cretaceous (Liggett and Gregg, 1965). They were again active during the Pliocene–Pleistocene and very slightly during the Pleistocene–Holocene. The volcanoes were separated from the main South Island until approximately the last volcanic activity when they were connected to the mainland by low aggraded plains. As the last volcanic activity was very limited, Banks "Peninsula" was probably available for colonisation by blepharocerids during the Pleistocene. Dumbleton (1963a) considered that *Neocurupira chiltoni* evolved from aerial colonists as the aggraded Canterbury Plains do not provide suitable ecological conditions for invasion by water. Except for large spines on the fourth instar larva, *Neocurupira chiltoni* is very similar in egg shape, larval morphology and general adult morphology to *Neocurupira tonnoiri.* Therefore it is considered that the aerial colonists of Banks Peninsula were of the *tonnoiri*-type. The nearest that *Neocurupira tonnoiri* is known to approach Banks Peninsula is Arthur's Pass, a direct distance of 70 miles. If, as at present, the prevailing winds were westerly during the Pleistocene, as suggested by Gage (1964), it is quite probable that the original colonists could have been blown the intervening distance. However, if blepharocerid adults can become aerial colonists it is surprising that other species of blepharocerids occurring at Arthur's Pass have not found their way to Banks Peninsula.

Mount Egmont, Taranaki, North Island, is very similar to Banks Peninsula for it is a recently extinct volcanic dome separated from the main mountain chain and known blepharocerid localities by ecologically unsuitable terrain. Despite intensive searching by a number of collectors, no blepharocerids have yet been discovered, though both L. J. Dumbleton and A. G. McFarlane (pers. comm.) indicate that other freshwater fauna is abundant on the mountain. Located west of blepharocerid localities Mount Egmont has little chance of aerial colonisation from the predominantly westerly winds. During the Last Pleistocene Glaciation, Mount Egmont was connected to the north-west of the South Island by a flat aggraded plain, probably similar to the present Canterbury Plains. This ecologically unsuitable terrain was no doubt the main reason that no South Island blepharocerids reached the North Island and vice versa during this period.

The present distribution of the remaining *Neocurupira* species makes it difficult to form a hypothesis concerning their pattern of evolution. It seems likely that the