

only straggling populations have survived in the southernmost parts with single representatives south of Greymouth. The warmer mid-New Zealand climate has possibly been more conducive to the perpetuation of the genus and the two basic stocks have survived together here. Speciation in this area appears to have been influenced by orogenic movements which eventually involved the formation of Cook Strait. More recently, volcanic activity in the central plateau region, and the formation of the Auckland Isthmus have further influenced distributions. The re-linking of the North Cape area with land near Awanui is apparently fairly recent.

It is hoped that the information supplied here will add something useful to that being gathered in the attempt to unravel New Zealand's geographic history. Relatively immobile animals such as snails are particularly useful in such studies. Recent relevant work is that of Dell (1956), Fleming (1949, 1954), Forster (1954), Lee (1956, 1959), Oliver (1950), Te Punga (1953), and Willett (1950).

As indicated in the sections on the various complexes, there seems to be a strong tendency for the genus to be associated with monocotyledonous plants such as nikau (*Rhopalostylis sapida* Wendl. and Drude), *Freycinetia*, *Cordyline* (low-growing species), *Astelia*, sedges, and with ferns. It is interesting to note that the Campbell Island species *P. subantarctica* is associated with *Dracophyllum*. Relatively moist forest seems to favour the genus but sparse vegetation will suffice.

The desire to keep the genus within species limits will no doubt not meet with the approval of all. If sub-specific tendencies were in all cases accompanied by clear geographic limitations, then there would be a stronger case for sub-specific recognition. If sub-species are created in the future the following indicates the probable approach; a subspecies of *P. pilula* having the umbilicus below a certain size—no geographic significance as yet evident and intermediates occur in different or at the one locality; a sub-species of *P. perplexa* for the Whakataane-East Cape smaller and perhaps flatter form; a sub-species of *P. stokesi* for the smaller, taller, and sharper-ribbed South Island form.

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