

zoea larvae of *Petrolisthes novaezelandiae* and *Porcellana longicornis* are summarised below.

- (1) The zoea larvae of *Petrolisthes novaezelandiae* are slightly larger than those of *Porcellana longicornis*.
- (2) In *Petrolisthes novaezelandiae* zoeae the exopodite of the third maxilliped has no setae in stage two, and is less strongly developed throughout larval life than that of *Porcellana longicornis*.
- (3) The small dorsal hairs on the fourth and fifth abdominal segments of *Petrolisthes novaezelandiae* are not found in *Porcellana longicornis*.
- (4) The telson of *Petrolisthes novaezelandiae* has six pairs of posterior dorsal hairs, and there are distal hooklets on the first and second long posterior setae in stage two. In *Porcellana longicornis* dorsal telson hairs are not found, and there are distal hooklets only on the first long posterior telson setae in stage two.
- (5) Distal hooklets are found on both the inner and outer margins of the posterior setae in *Porcellana longicornis*, but only on the inner margin of the setae in *Petrolisthes novaezelandiae*.

In the opinion of this author these differences warrant only specific status.

Specific characters described for the larvae of *Porcellana longicornis* and *P. platycheles* by Lebour (1943) and for *P. inequalis* by Gurney (1938) and *P. bluteli* by Bourdillion-Casanova (1956) show more significant variation between the species than is shown between *P. longicornis* and *Petrolisthes novaezelandiae*. Hence on larval evidence *P. novaezelandiae* should be placed in the genus *Porcellana*.

The taxonomic character separating adults of the genus *Petrolisthes* from those of the genus *Porcellana* is, according to Thomson (1898), in the nature of the peduncle (protopodite) of the second antenna. In the genus *Petrolisthes* the basal joint of the antennal peduncle is short, partially concealed in the orbital cavity, and does not protrude beyond the superior margin of the carapace. In adults of the genus *Porcellana* the basal joint of the antennal peduncle is long, and forms an acute and somewhat flattened projection external to the orbit, and is joined to the superior margin of the carapace. By this character, *Petrolisthes novaezelandiae* should be placed in the genus *Petrolisthes*.

However, on comparing adults of this species with those of *Porcellana longicornis*, the author found no further differences which could justify the present generic separation.

SUMMARY

- (1) In *Petrolisthes novaezelandiae* there are two main zoeal stages which include the sub-stages 1a, 1b, 2a, 2b, and 2c, of which 1a and 2a are essential in the planktonic life history. Larvae are present throughout the year and are the commonest porcellanid species in the Wellington plankton. They are most abundant in the late spring and summer peak of the spawning period. The megalopa larva, not found in the plankton, was reared in the laboratory.
- (2) From the key of Lebour (1943) which is based on previously described porcellanid larvae, the larvae of *P. novaezelandiae* should be placed in the genus *Porcellana*. The reliability of the telson as a character separating larvae of the genus *Porcellana* from those of the genus *Petrolisthes* is therefore in doubt.