

## NOTES

### Examination of Hawaiian Marine Crustaceans for Gregarines

During the months of February and March, 1949, the writer had the opportunity to examine for gregarines 149 specimens belonging to 33 species of Hawaiian marine Crustacea. The following species were examined:

*Balanus amphitrite*, *Balanus eburneus*, *Balanus* sp., *Calappa hepatica*, *Calliactis armillatus*, *Crangon pacificus*, *Crangon ventrosus*, *Crangon paragracilis*, *Cyclograpsus henshawi*, *Dardanus asper*, *Dardanus punctulatus*, *Emerita pacifica*, *Grapsus grapsus tenuicrustatus*, *Lepas anatifera*, *Lissocarcinus orbicularis*, *Metapograpsus messor*, *Ocypode ceratophthalmia*, *Ocypode laevis*, *Pachygrapsus plicatus*, *Panulirus japonicus*, *Paraxanthias notatus*, *Percnon planissimum*, *Plagusia depressa tuberculata*, *Platyrodia (eydouxii ?)*, *Portunus sanguinolentus*, *Scylla serrata*, *Sesarma obtusifrons*, *Simocarcinus simplex*, *Thalamita edwardsi*, *Thalamita integra*, *Thalamita picta*, *Trapezia maculata*, a xanthid.

No gregarines were found in any of the species examined except in the digestive tract of *Balanus eburneus*; these in all probability are specimens of *Cephaloidophora communis* Mavrodiadi, described elsewhere from *Balanus eburneus* and from other members of the genus *Balanus*. Since *B. eburneus* has a very wide distribution over the world, the presence of *C. communis* is not surprising. It is surprising, however, not to find gregarines in any other of the species studied. In addition to

the digestive cavity, the caeca, liver, gills, and hairs of the abdomen and of abdominal appendages were examined. Of the other genera listed, gregarines have been found elsewhere, sometimes in a large percentage of specimens, in *Emerita*, *Pachygrapsus*, *Calappa*, and *Portunus*. The first two are infected on the Pacific coast of North America. Furthermore, some of the Hawaiian forms belong to genera very close to those carrying gregarines in various other parts of the world.

A parallel situation has recently been described by McConnaughey (Calif. Univ., Pubs., Zool., 55:1-34, 1949), who found none of the octopi he examined in Hawaii positive for dicyemids, although there is practically 100 per cent infection of octopi on the Pacific coast of North America.

Although these data drawn from the distribution of certain marine endoparasitic Protozoa are fragmentary, one possible interpretation is the relative independence of the Hawaiian invertebrate hosts from their counterparts on the Pacific coast of North America.

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