

Land Snail Survey of Olosega

23-25 February 2001

A survey of Olosega was undertaken as part of training in land snail collection and identification techniques for ASCC/Land Grant staff and students, funded through a grant from the National Science Foundation to Dr. Robert H. Cowie. Training was coordinated by Robert Cowie and Rebecca Rundell (Bishop Museum/University of Hawaii) initially over the period 20 February – 2 March 2001 (to be continued through April 2001).

Samples of snails were taken at 13 locations on Olosega. These locations ranged from lowland coastal habitats to the highest point on the island. The samples were returned to the laboratory at ASCC/Land Grant, sorted, and identified by ASCC/Land Grant trainees under the supervision of Cowie/Rundell. Confirmation of identifications will be undertaken at the Bishop Museum (Honolulu) by comparison with the Museum's extensive Pacific island land snail collections.

Prior to this survey of Olosega, only 6 species of land snails had been reported from Olosega (Table 1). Of these, 3 were native, 2 were probably introduced by early Polynesian colonizers, and 1 was a more recent, probably late 18th or 19th century, introduction.

The February 2001 survey recorded 20 species (Table 1): 3 of those previously recorded and 17 newly recorded species. Of the 17 newly recorded species, 10 are native and 7 are introduced (one of these possibly a Polynesian introduction).

The most notable find was *Samoana thurstoni*, found at 3 high elevation sites. This species belongs to the tree snail family Partulidae, considered the "flagships" of invertebrate conservation in the Pacific. No partulids were previously known from Olosega, and *Samoana thurstoni* was previously known only from the summit of Ofu, where it is extremely rare and threatened.

The survey increased the known land snail fauna of Olosega from 6 to 23 species.

Olosega field trip personnel

Robert Cowie (Bishop Museum)

Rebecca Rundell (University of Hawaii/Bishop Museum)

Falaniko Mika (ASCC/Land Grant)

Pasia Setu (ASCC/Land Grant)

Don Vargo (ASCC/Land Grant)

Fred Brooks (ASCC/Land Grant)

Table 1. Land snail species of Olosega – provisional list.

| Family/species | Recorded previously | Recorded in the 2001 survey | Status |
|--|---------------------|-----------------------------|----------------------------------|
| HELICINIDAE | | | |
| <i>Orobophana musiva</i> | | + | native |
| <i>Pleuropoma beryllina</i> | | + | native |
| <i>Pleuropoma fulgora</i> | + | + | native |
| VERONICELLIDAE | | | |
| <i>Vaginulus plebeius</i> | | + | alien |
| ELLOBIIDAE | | | |
| <i>Melampus fasciatus</i> | | + | native |
| <i>Melampus luteus</i> | | + | native |
| <i>Pythia scarabaeus</i> | | + | native |
| ACHATINELLIDAE | | | |
| <i>Lamellidea oblonga</i> | + | + | possible Polynesian introduction |
| <i>Lamellidea pusilla</i> | + | + | possible Polynesian introduction |
| PARTULIDAE | | | |
| <i>Samoana thurstoni</i> | | + | native |
| SUBULINIDAE | | | |
| <i>Allopeas clavulinum</i> | | + | alien |
| <i>Allopeas gracile</i> | | + | possible Polynesian introduction |
| <i>Opeas hannense</i> | | + | alien |
| <i>Paropeas achatinaceum</i> | | + | alien |
| <i>Subulina octona</i> | + | + | alien |
| STREPTAXIDAE | | | |
| <i>Gulella bicolor</i> | | + | alien |
| <i>Streptostele musaecola</i> | | + | alien |
| ENDODONTIDAE | | | |
| <i>Minidonta manuaensis</i> | + | | native |
| CHAROPIDAE | | | |
| <i>Discocharopa aperta</i> | + | | native |
| SUCCINEIDAE | | | |
| <i>Succinea manuana</i> | | + | native |
| HELICARIONIDAE | | | |
| <i>Diastole schmeltziana</i> ^a | | + | native |
| <i>Lamprocystis upolensis</i> ^b | | + | native |

^a A possibly undescribed species of *Diastole* was found at high elevation. However, it may be just a variant of *Diastole schmeltziana* and is not listed separately, pending further research.

^b Identification very tentative. May be *Ovachlamys fulgens*, an introduced alien.