

CHAPTER ELEVEN

MOLLUSCS

11.1 The mollusc fauna of south central Seram

The mollusc fauna of the central Moluccas (particularly marine gastropods) is rich, and has been well-documented ever since Rumphius first described the main forms. At the present time many hundreds of certain gastropod species are known, including in excess of 104 terrestrial species. A few cephalopods and polyplacophora are known, named and used by the Nuaulu but, apart from *Nautilus*, are not seen as being related to molluscs. Shelled gastropods, bivalves and *Nautilus* are grouped together by the Nuaulu in a named and well-defined category: **nunu**. Squid and octopus are related only through their similarity with *Nautilus*. Of the known species which might be theoretically grouped by the Nuaulu under the label **nunu**, only 39 were observed and collected during fieldwork in the Nuaulu area. The difference between the number of species collected and those known zoologically from the area may be accounted for by relative geographical distribution. The south coast of Seram between Elpapatih Bay and Teluti Bay is relatively uniform and exposed, and without the reefs which provide a wide range of different niches. On the other hand, the restricted use of the sea by the Nuaulu may also be reflected in the low index.

A checklist of molluscs collected in the Nuaulu area is presented in table 18. Species identifications compared with Nuaulu designations applied to actual specimens collected are set out in table 19.

11.2 Nuaulu categories applied to gastropods and bivalves

11.2.1 **nunu ai otoi**.

Ai otoi is a short piece of wood or twig and in this context it appears to be an allusion to the shell length of this marine gastropod, on the basis of a superficial resemblance. Applied to all species of the genus *Conus*, and approximately equivalent to AM use of 'congkak berjari'.

11.2.2 nunu inanaie, nunu inane aie

Ina = 'mother', **aie** = 'base, ground'. The term, which glosses with AM 'lola' is applied to all species of the genus *Trochus*.

In many coastal areas of the Moluccas *Trochus* shell was traditionally used for the manufacture of bracelets and pendants. However, there is no existing Nuaulu tradition and it is unlikely that there ever has been in the historical period. Shell ornaments collected between 1970 and 1971 were said to have come from Teor and other islands off the southeast of Seram.

11.2.3 nunu iwa

Etymology unknown. The term, which glosses the AM term 'keong lola', is applied to *Trochus niloticus* and *T. flammulatus*, thus overlapping the content of **nunu inanaie**. The overlap appears to result from the tendency to use the term **nunu inanaie** to refer to smaller specimens and **nunu iwa** to refer to larger ones with red markings. If this is so, then the terms do not refer to true 'natural kinds', as Bulmer would use this term. The usage also makes sense of informants statements that the shell of **nunu iwa**, but not **nunu inanaie**, is occasionally sold in Sepa. The flesh is eaten.

11.2.4 nunu hihikuro

Etymology unknown. The term, which glosses with AM 'mata bulan' ('eye of the moon'), is applied to *Turbo setosus* and *T. argyrostomus*. One informant applied the term to *Drupa morum* (see 11.2.8).

11.2.5 nunu mata putie

Mata putie = 'white eye'; an allusion to the markings of this shell. Applied to *Turbo porophyrites*.

11.2.6 nunu mata ipole hanaie

Mata = 'eye'; **ipole** means 'to beat out (as in washing on a flat stone)'; **hanaie** = 'male'. Applied to *Lunella coronatus*.

11.2.7 nunu mata ipole pina

Pina = 'female'. Both **nunu mata ipole hanaie** and **nunu mata ipole pina** superficially resemble each other, except the latter is much smaller. The term **nunu mata ipole pina** is applied to *Angaria lacinatus*.

TABLE 18 Checklist of molluscs recorded in the Nuaulu region of south central Seram, 1970-1975.

Species	Ecological zones			Nuaulu gloss
	1	2	3	
AMPHINEURA				
- chiton	+	-	-	
GASTROPODA				
PROSOBRANCHIA - mostly marine spiral shells				
<i>Conus g. lividus</i>	+	-	-	nunu ai otoi
<i>Conus cf. pertusus</i>	+	-	-	nunu ai otoi
<i>Conus cf. monachus</i>	+	-	-	nunu ai otoi
<i>Trochus tenebrica</i>	+	-	-	nunu inanaie
<i>Trochus niloticus</i>	+	-	-	nunu iwa
<i>Trochus flammulatus</i>	+	-	-	nunu iwa, nunu inanaie
<i>Trochus costatus</i>	+	-	-	nunu inanaie
<i>Turbo setosus</i>	+	-	-	nunu hihikuro
<i>Turbo argyrostomus</i>	+	-	-	nunu hihikuro
<i>Lunella coronatus</i>	+	-	-	nunu mata ipole hanaie
<i>Turbo porophyrites</i>	+	-	-	nunu mata putie
<i>Angaria lacinatus</i>	+	-	-	nunu mata ipole pina
<i>Drupa morum</i>	+	-	-	nunu unie, nunu hihikuro, nunu tapako
<i>Drupa spathulifera</i>	+	-	-	nunu tapako
<i>Murex tribulus</i>	+	-	-	nunu unie
<i>Septaria sanguisaga</i>	-	+	-	nunu wenate
<i>Septaria sp.</i>	+	-	-	nunu hua inate
<i>Cypraea arabica</i>	+	-	-	nunu hun
<i>Cypraea carneola</i>	+	-	-	nunu hun
<i>Cypraea lynx</i>	+	-	-	nunu hun

<i>Clypeomorus subbrevicula</i>	+	-	-	nunu oiro
<i>Clithon angulosa</i>	+	-	-	nunu tari
<i>Clithon(?) subsulcata</i>	+	-	-	nunu marane
<i>Latirus turritus</i>	+	-	-	nunu sesu nuae
<i>Barbatia fusca</i>	+	-	-	nunu hua inate, nunu katenane, nunu wae inate
<i>Thiara amarula</i>	+	-	-	nunu saun kanie
<i>Pisania sp. cf. crenilabrum</i>	+	-	-	nunu asu meie
PULMONATA - land and freshwater snails				
<i>Chloritis mima</i>	-	+	-	nunu kinihane
<i>Chloritis unguina</i>	-	+	-	nunu kinihane
<i>Neritodryas cornea</i>	-	+	-	nunu marane
<i>Nerita antiquata</i>	-	+	-	nunu marane
<i>Achatina fulica</i>	-	-	+	nunu keon
<i>Amphidromus(?)</i>	-	-	+	nunu weri-weri
<i>Nanina citrina</i>	-	-	+	nunu kinihane
<i>Nania aulica</i>	-	-	+	nunu kinihane
<i>Melanoides (?) granifera</i>	-	+	-	nunu saun kanie
<i>Melanoides (?) punctata</i>	-	+	-	nunu seu waene
<i>Melania hastula</i>	-	+	-	nunu sesu waene
<i>Paludina</i>	-	+	-	nunu sesu waene
<i>Vivipara javanica</i>	-	+	-	nunu sesu waene
PELECYPODA -mainly bivalves				
<i>Remis sp.</i>	+	-	-	nunu mara nanate
<i>Remis (Corbicula) sp.</i>	+	-	-	nunu kakante
<i>Tridachnes elongata</i>	+	-	-	nunu kakante
<i>Tridacna maxima</i>	+	-	-	nunu moi ika
<i>Periglypta reticulata</i>	+	-	-	nunu moi ika
<i>Ostrea spp.</i>	+	-	-	mutiara inae
<i>Saccostrea cucullata</i>	+	-	-	

<i>Pinctada maxima</i>	+	-	-	
	+	-	-	nunu sikewe aie
CEPHALOPODA				
<i>Nautilus pompilius</i>				
and prob. other species (<i>tenuis</i> , <i>major</i>)	+	-	-	nakatua saha
-squid				
<i>Loligo edulis</i>	+	-	-	sonto, sonto hatu
-cuttlefish				
<i>Sepia pharaonis</i>	+	-	-	
-octopus				
<i>Octopus aegina</i>	+	-	-	urita
<i>Cistopus indicus</i>	+	-	-	

Key. Zone 1 = marine; zone 2 = freshwater; zone 3 = terrestrial.

11.2.8 nunu unie

Unie, which may be glossed as 'bone', refers to the spikes on the shells labelled with this term. Glossed in AM as 'bia berduri', the term is applied to specimens of *Drupa morum* and *Murex tribulus*. The focal genus is almost certainly *Murex*.

11.2.9 nunu tapako

Tapako = 'tobacco', *Nicotiana tabacum*; but why this gastropod should be so named is unclear. It may be a corruption of **tanapaku**, 'the antlers of a young deer'. If this is so then it closely resembles the AM gloss 'cangkok tanduk' and reinforces the possibility of terminological confusion with **nunu unie**. The term is applied to *Drupa spathulifera* and *D. morum*. Both species are used in the manufacture of betel lime.

11.2.10 nunu hua inate, nunu (wae) inate

These are apparently synonyms. The meaning of **inate** is 'cut open half', and **hua** is a classifier for fruit, giving us something like 'the cut open half of fruit'; **wae** refers to freshwater (**waene**). Applied to *Septaria sp.* and *Barbatia fusca*.

11.2.11 nunu hun(i), nunu Tihun

Synonyms, the first apparently a contraction of the second. **Tihun** is the name give to the extensive sago swamp forest at the mouth of the river Ruantan by the people of Sepa, and known more usually to the Nuaulu as Somau. The terms, glossed in AM as 'bia kepala kambing', are applied to the

TABLE 19 Species identifications compared with Nuauulu terms applied to 66 gastropod specimens.

Species	N	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20	21
<i>Conus lividus</i>	1	1																				
<i>Conus pertusus</i>	4	4																				
<i>Conus monachus</i>	2	2																				
<i>Trochus tenebrica</i>	4		4																			
<i>Trochus niloticus</i>	4			4																		
<i>Trochus flammulatus</i>	2		1	1																		
<i>Trochus costatus</i>	1		1																			
<i>Turbo setosus</i>	4				4																	
<i>Turbo argyrostomus</i>	1				1																	
<i>Lunella coronatus</i>	1							1														
<i>Turbo porophyrites</i>	1					1																
<i>Angaria lacinatus</i>	1						1															
<i>Drupa morum</i>	3				1				1	1												
<i>Drupa spathulifera</i>	1									1												
<i>Murex tribulus</i>	1								1													
<i>Septaria sanguisaga</i>	1																					1
<i>Septaria sp.</i>	2									1	1											
<i>Cypraea arabica</i>	4											4										
<i>Cypraea carneola</i>	2												2									
<i>Cypraea lynx</i>	1												1									
<i>Clithon angulosa</i>	2												2									
<i>Clithon subsulcata</i>	2													2								
<i>Latirus turritus</i>	1																1					
<i>Barbatia fusca</i>	3									1	1								1			
<i>Thiara amarula</i>	2														2							
<i>Pisania crenilabrum</i>	2																				2	
<i>Chloritis mimia</i>	1																					1
<i>Chloritis unguilina</i>	1																					1
<i>Nanina citrina</i>	2																					2
<i>Neritodryas cornea</i>	1												1									
<i>Nerita antiquata</i>	1												1									
<i>Amphidromus</i>	1																					1
<i>Melanoides granifera</i>	2													2								
<i>Melanoides punctata</i>	2																2					
<i>Melania hastula</i>	2																1					1
TOTAL	66																					

Key N = total number of specimens identified by informants. 1. nunu ai otoi 2. nunu inanaie 3. nunu iwa 4. nunu hihikuro 5. nunu mata putie 6. nunu mata ipole 7. nunu unie 8. nunu tapako 9. nunu hua inate 10. nunu wae inate 11. nunu hun 12. nunu tari 13. nunu marane 14. nunu saun kanie 15. nunu sesu waene 16. nunu sesu nuae 17. nunu katenane 18. nunu asu meie 19. nunu kinihane 20. nunu weri-weri 21. nunu wenate

cowries *Cypraea arabica*, *C. carneola* and *C. lynx*.

11.2.12 nunu oiro

Etymology unknown; applied to a gastropod of the inter-tidal zone: *Clypeomorus subbrevicula*.

11.2.13 nunu tari

Etymology unknown; applied to *Clithon angulosa*.

11.2.14 nunu marane

Marane = marsupial cus-cus or *Phalanger*, with which this natural kind is compared. The allusion is to both the coloration of this freshwater snail and its habit of climbing trees and grass stems at the waters edge. The AM gloss is 'siput rakus'; applied to *Clithon (?) subsulcata*, *Neritodryas cornea* and *Nerita antiquata*. The flesh is edible and the shell used in the manufacture of betel lime.

11.2.15 nunu saun kanie

Kanie = 'seed (of the) saun(e)', (the screw pine *Pandanus conoideus*). Applied to the freshwater snails *Melanoides (?) granifera* and *Thiara amarula*.

11.2.16 nunu sesu waene

Sesu derives from **sesunue** meaning 'pin' or 'needle'; an obvious allusion to the shape of this freshwater (**waene**) gastropod. The term is applied to *Melanoides (?) punctata* and *Melania hastula*. When boiled these snails are considered edible.

11.2.17 nunu sesu nuae

See 11.2.16, except that in this case the reference is to a marine (**nuae**) gastropod; applied to *Latirus turritus*.

11.2.18 nunu katanane

Etymology uncertain, although **katonane** is the resonant hollow clucking sound made by flicking the tongue against the roof of the mouth. Applied to the bivalve *Barbatia fusca*.

11.2.19 **nunu asu meie**

Asu = 'dog'; **meie** may possibly be derived from **mei-** = 'tongue'; giving us 'dog tongue shell'. The term is applied to *Pisania sp. cf. crenilabrum*.

11.2.20 **nunu kawasa (kuasa)**

Etymology unknown, except that the same word occurs as a male personal name with mythical connotations, when it is regarded as sacred [Ellen, 1983]. The homophone also means 'power' (as in the AM gloss, from which it may be derived), though whether the words are homonymous is unclear. This is an edible freshwater snail, probably *Thiara amarula*.

11.2.21 **nunu wenate**

The term, which may be a contraction or mis-hearing of **wae onate** ('big river'), is applied to the freshwater snail *Septaria sanguisaga*. The flesh is edible and the shell used in the manufacture of betel lime.

11.2.22 **nunu pukune**

Pukune = 'short'; applied (apparently synonymously) to *Clithon (?)subsulcata*. See 11.2.14.

11.2.23 **kinihane**

This term (the meaning of which is not further reducible) is applied to all land slugs.

11.2.24 **(nunu) kinihane**

Lit. '(shell) slug'; applied to the land snails *Chloritis unguina*, *C. mima*, *Nanina citrina* and *N. aulica*. Some confusion may arise from the common reduction to the uninomial **kinihane**, which as we have seen (11.2.23) also means 'slug', and the use of **kinihane** to mean 'snail shell', as in **kuma kinihane**, that is hermit crabs inhabiting a snail shell (chapter 12.2.3). Snails in this category are not eaten as they are considered poisonous; neither is the shell used in the manufacture of betel lime, perhaps as an extension of this practice, or more rationally because the shells are thin and rarely available in sufficient quantities to make their collection worthwhile. Shells of *Chloritis unguina* are found in large quantities in the surface litter of limestone caves in the vicinity of Rohua also used when hunting bats.

11.2.25 (nunu) matakopui

Matakopui = 'decaying (or septic) eye' or 'sleepy dust', a reference to the sticky emission of this land snail found on trees and leaves.

11.2.26 (nunu) weri-weri

This term (which may be an AM introduction, or from some other coastal language) seems to be a collective term applied to all land snails, including **kinihane** and **matakopui**. The term was applied to a single specimen of *Amphidromus*; found among trees and grass along the beach.

11.2.27 nunu keon

From AM 'keong' for snail. Applied to *Achatina fulica*. This large snail has been introduced from east Africa through human agency, and is widespread throughout the tropics. In the early seventies I came across no specimens at all in the Nuaulu area; by 1990 it had become extremely common in secondary forest and on garden land where it was beginning to cause significant damage. According to Fred Naggs (pers. comm.), a population explosion following initial introduction is typical and is usually followed by a population crash, apparently due to a parasite burden. The term **nunu nisi** (reported by R.B.) may be applied to this species.

11.2.28 nunu kakante

Kakante may be the noun form of the verb **kaka**, 'to lift, to pick up'. The term is applied to the bivalve *Tridachnes elongata*, and perhaps also to *Remis* (*Corbicula*).

11.2.29 Nunu mara nanante

Mara nanante is a corruption of **mara makinete** (the male *Phalanger maculatus*). However, the term is so similar to **kakante**, and the apparent application to *Remis* so close, that they may refer to the same category.

11.2.30 nunu mua ika, nunu moi ika, mai ika (nunu uma ika, nunu umai ika; R.B.)

Mua and **mai** may be corruptions of **moi** ('respect'), **uma** or **umai** the same of **numa** ('house'); **ika** is 'fish'. We thus have something like 'fish to be respected' or (more probably) 'fish house'. The term, glossed in AM as 'keong kepala kambing' is applied to the clams *Tridacna maxima* and *Periglypta reticulata*. The flesh is eaten, and the shell used in the manufacture of betel lime, although it is not universally considered suitable as its thickness often prevents its reduction to lime given the primitive burning methods

employed by the Nuaulu. Large clam shells are used as containers, for example to hold water used when sharpening bushknives. They are a common sight placed outside the door of a Nuaulu house next to the whetstone. Smaller shells are used as domestic scrapers and spoons: to clean containers, scrape fireplaces and to ladle sago porridge.

11.2.31 *nunu sikewe aie*

Sikewe = 'taro', *Colocasia esculenta*; *ai-* = 'foot, leg': giving us 'taro foot shell'. The identification of this marine shellfish is not known.

11.2.32 *mutiara inae, supu putie* (arch.)

Mutiara is identical with AM, meaning 'pearl'. So we have, quite literally, 'mother of pearl', referring to oysters of the genera *Ostrea*, *Saccostrea cucullata* and the pearl oyster *Pinctada maxima*. Not present in Nuaulu area; for the most part known by reputation only, the Aru islands of the southeast Moluccas being an historically important pearl fishery.

11.2.33 *nakatua saha*

Nakatua ('cockatoo': chapter 4.2.26) is an allusion to the beak-like shell of this cephalopod. (M)*saha* is the referential prefix for males who are married but not yet with offspring. The term refers to the genus *Nautilus* (most usually *N. pompilius*), the shell of which is used to decorate the ritual head-dress (*orane*) and shields (*aniaue*) [see plate 16 here, and Ellen 1993: frontispiece and plate 1.6e].

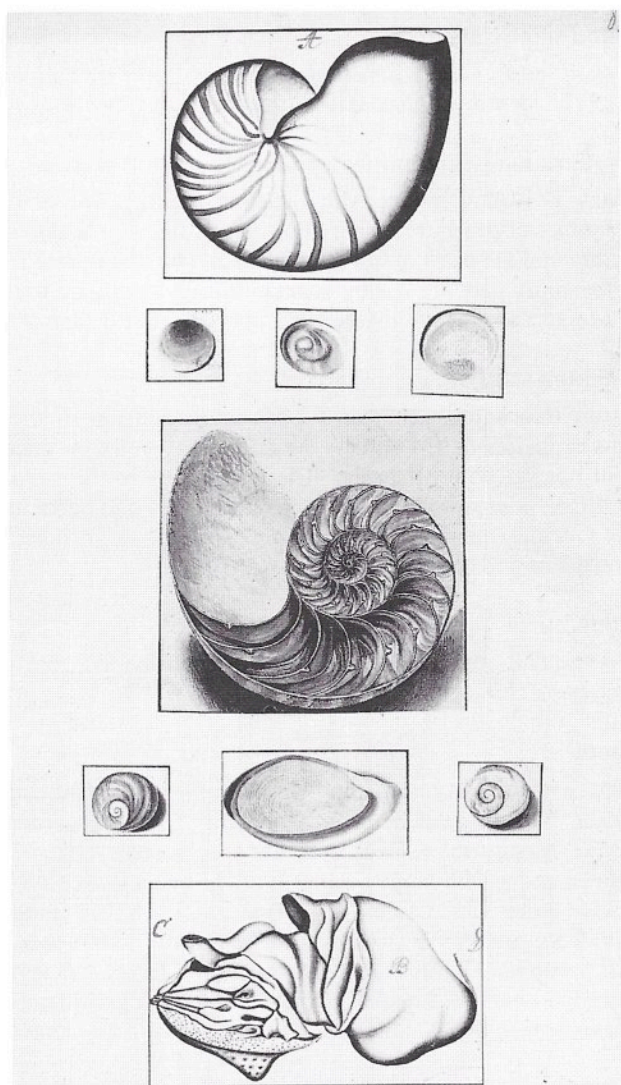
11.2.34 *nunu purai*

This is the only non-mollusc to be included in the category *nunu*, and refers to the barnacle.

11.2.35 *sonto*

Cognate with AM 'sontong'; applied to all types of squid and cuttlefish known to the Nuaulu. Squid, like marine fish, was until recently rarely caught by the Nuaulu themselves, and the specialised techniques required are still known and used by only a handful of individuals. Squid is occasionally purchased from non-Nuaulu. In 1990 a distinction was being drawn by some individuals between *sonto* (optionally *sonto (a)abiasa*) and *sonto hatu* (optionally *sonto batu*). The latter is a larger species, found for example off the coast of Saparua. Note the interchangeability of AM and Nuaulu words, which presumably reflects the recency of the innovation.

PLATE 16: Shell (above), section (centre) and animal (below) of *Nautilus pompilius*. These wash drawings are the presumed models for the engravings in Rumphius's *Amboinsche Rariteitkamer*. Reproduced from Van Benthem Jutting [1959: photo 17]; original in Royal Library, The Hague.



11.2.36 *urita*

Cognate with AM 'gorita'; applied to octopus, which is only rarely seen along this part of the coast of south Seram.

11.3 Non-basic categories for molluscs

All molluscs known to the Nuauulu, with the exception of squid and octopus, are placed in the well-defined category **nunu**, 'animals with shells'. Barnacles (**nunu purai**) are also included in the category on the grounds of possessing a hard outer casing and generally similar lifestyle. *Nautilus* is quite firmly assigned to the category **nunu** by virtue of its characteristic shell. While neither squid nor octopus are regarded in any sense as **nunu**, their similarity with *Nautilus* (tentacles, beak, eyes, ink) leads them to be loosely associated with the category on morphological grounds; they are 'linked' in Hunn's sense. Squid has a similar loose association with **ikae** on the basis of habitat and the similar methods employed to catch them. Land snails are only rarely identified terminologically as **nunu**, but they are generally assigned to the category. Their association with slugs (**kanihane**) may partly explain this marginal position. The two main types of land snail recognised by the Nuauulu (**matakopui** and **nunu kinihane**) are grouped together into a semi-covert category, sometimes labelled **weri-weri**. To this we should now perhaps also add the relative newcomer **nunu keon**.

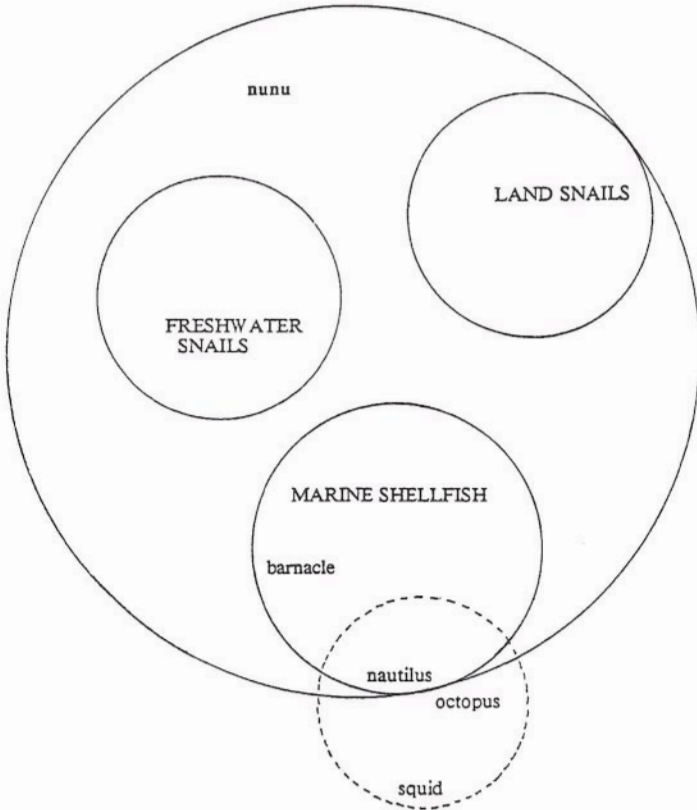
Among 'core' **nunu**, we can infer the existence of two intermediate categories based on close physical resemblance: **nunu sesu** (11.2.16-17) and **nunu mata ipole** (11.2.6-7). More broadly, Nuauulu sometimes make an intermediate distinction on the basis of habitat, between **nunu waene** ('freshwater shellfish') and **nunu nuae** ('marine shellfish'). This contrast does not, of course, fully partition the category, excluding land snails. Together with the fact that these latter are never - for example - described as **nunu tanane**, this further underlines their marginality.

The relationships between the more inclusive non-basic categories discussed in this section are illustrated in figure 14.

11.4 The social and economic uses of molluscs

Various social and economic uses of molluscs and their allies for the Nuauulu have been dealt with in the individual entries for terminal categories; these are more systematically and comprehensively set out in table 20. Conch shells, *Choronia tritonis*, used as horns in west Seram, are known to the Nuauulu, but not used by them. The use of shells in the manufacture of

FIGURE 14 Relationships between the more inclusive Nuauulu categories applied to molluscs.



betel lime is discussed in greater detail in Ellen, 1991.

TABLE 20 The social and economic use of molluscs among the Nuaulu.

Species	Eaten	Used for betel lime	Notes
<i>Conus lividus</i>		+	
<i>Conus pertusus</i>			
<i>Conus monachus</i>			
<i>Trochus tenebrica</i>			Occasionally sold. Traditionally used for the manufacture of bracelets and ornaments outside the Nuaulu area (see 11.2.2)
<i>Trochus niloticus</i>	+	+	As above
<i>Trochus flammulatus</i>	+		As above
<i>Trochus costatus</i>	+	+	
<i>Turbo setosus</i>	+	+	
<i>Turbo argyrostomus</i>			
<i>Turbo porophyrites</i>		+	
<i>Lunella coronatus</i>			
<i>Angaria lacinatus</i>			
<i>Drupa morum</i>		+	
<i>Drupa spathulifera</i>		+	
<i>Murex tribulus</i>			
<i>Septaria sanguisaga</i>	+	+	
<i>Septaria</i> sp.			
<i>Cypraea arabica</i>			
<i>Cypraea carneola</i>			
<i>Cypraea lynx</i>	+	+	Poisonous; must be drained and cooked with care
<i>Clithon angulosa</i>			
<i>Clithon subsulcata</i>	+		
<i>Latirus turritus</i>			
<i>Barbatia fusca</i>			
<i>Thiara amarula</i>	+		
<i>Pisania crenilabrum</i>			
<i>Chloritis mimia</i>	+	+	Rarely eaten. Sometimes used in the manufacture of lime
<i>Chloritis unguina</i>	+	+	As above

<i>Nania aulica</i>	+	+	As above
<i>Nanina citrina</i>	+	+	As above
<i>Neritodryas cornea</i>		+	
<i>Nerita antiquata</i>			
<i>Amphidromus</i>			
<i>Melanoides granifera</i>			
<i>Melanoides punctata</i>	+		
<i>Melania hastula</i>	+	+	
<i>Tridacnes elongata</i>	+	+	
<i>Tridacna maxima</i>	+	+	Containers, scrapers, spoons
<i>Periglypta reticulata</i>	+	+	Rarely eaten. Sometimes used in the manufacture of lime. Also used as scrapers, spoons and containers
<i>Nautilus</i>			Used for decorating head-dresses and shields
Squid	+		Only occasionally eaten
Octopus			Rarely seen

Note. I have provided positive entries in columns 2 and 3 only where the indicated usages have been confirmed. It is highly likely that the total number of entries in each case understates the number of species used.