

# THE LAND SNAILS OF THE ALDABRA ISLANDS, WESTERN INDIAN OCEAN

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*Abstract* Collections of Aldabran land snails made since 1895 are reviewed to provide a list of species recorded on the atoll. 31 extant species are recorded, of which 5 (16%) are endemic species, 1 (3%) endemic subspecies and 1–2 (3–6%) possibly introduced. 4 of the species believed to be endemic are represented by insufficient material to allow formal taxonomic description. One species, *Gulella gwendolinae* is suggested to have changed morphology significantly over the last 100 years. Further priorities for land snail research on Aldabra are identified.

*Key words* Aldabra, Assumption, Gastropoda, Mollusca, Seychelles.

## INTRODUCTION

The land snails of the high islands of the western Indian Ocean are notable for the high proportion of island endemics and their varied biogeographical affinities. Those of Madagascar and the granitic Seychelles islands have a mixture of Gondwanan and recent African origins (Emberton & Rakotomalala, 1996; Gerlach, 1999; Gerlach & Bruggen, 1999), whilst those of the Comores and Mascarenes are colonists from Africa and Madagascar respectively. The low coral islands are very poorly known from a biogeographical perspective. Studies of Aldabra atoll suggest a largely African (Peake, 1971) derived fauna although some groups show a strong Malagasy influence (Cogan, 1984). Published data for snails of the coral islands of the Aldabra and Amirante groups are restricted to incomplete collections from Aldabra, Assumption, Cosmoledo, D'Arros, Desroches and Poivre. These mostly represent isolated shells or small collections made during visits of a few hours only.

The Aldabra group of islands in the western Indian Ocean comprise the atolls of Aldabra, Astove, Cosmoledo, Farquhar and the island of Assumption (Fig. 1). Only the first of these has been studied in any detail and is notable for the high degree of endemism in its fauna (Cogan, 1984) which demonstrate largely Afro-Malagasy affinities. Comparatively few introduced species have been recorded on the atoll and the ecosystem is considered one of the most natural in the region (Stoddart, 1979). The biogeography of much of the fauna has been studied, most notably birds, reptiles and insects but the terrestrial molluscs have been largely overlooked, with only five taxonomic publications for the islands (Martens, 1898; Connolly, 1925; Bruggen, 1975 & 1986; Patterson, 1975).

Small collections of snails have been made on a number of occasions; Thomasset in 1907, J.G. Lionnet in 1966 (specimens in Seychelles Natural History Museum), J.F. Peake in 1967 (specimens in British Museum (Natural History) [BM(NH)]), V. Spaul 1974 (specimens in BM(NH) and Aldabra Research Station), K. Beaver in 1989 (specimens in Nature Protection Trust of Seychelles [NPTS]), R. Chapman in 1997 (specimens in O. Griffiths colln. and NPTS) and J. Gerlach in 2000 (specimens in NPTS). In addition single specimens of *Rhachistia aldabrae* have been collected by Wilson in 1895 and R. Fanchette in 1999 (specimen in Aldabra Research Station). The present paper summarises the records made to the present. Only terrestrial species are considered and emphasis is placed on the fully terrestrial species, without marine larvae.

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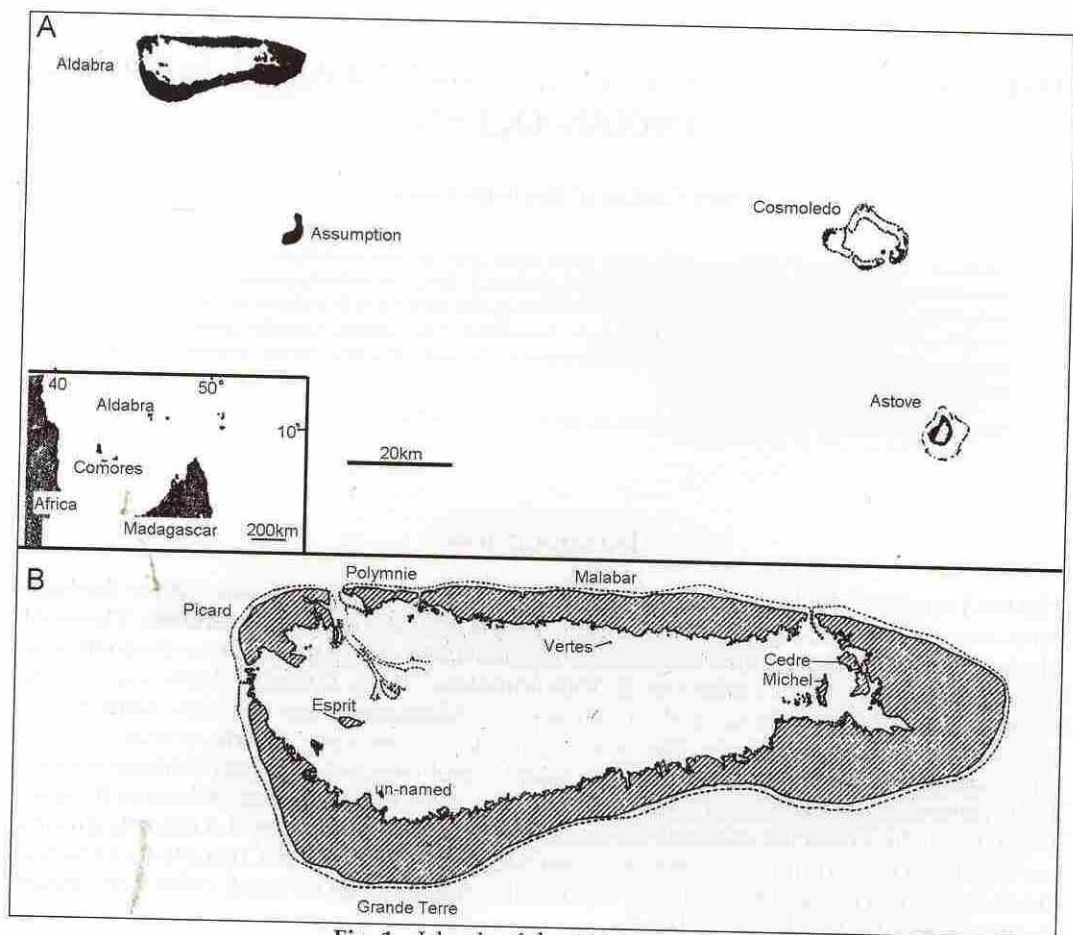


Fig. 1 Islands of the Aldabra group

PROSOBRANCHIA

LITTORINIDAE

*Littorina glabrata* Philippi, 1846 (Plate 1a, NMW.Z.2002.027.00025)

Widespread in the Indo-Pacific.

Aldabra: Picard (islet near La Gigi) 9/12/2000; Malabar (islet off Gionnet) 11/12/2000.

*Littorina scabra* (Linnaeus, 1758) (Plate 1b, NMW.Z.2002.027.00016)

Widespread in the Indo-Pacific.

Aldabra: Picard (La Gigi mangroves) 9/12/2000, (Bassin Lubine) 12/12/2000; Grande Terre (Bras Deux Cedres) 10/12/2000.

ELLOBIIDAE

*Auriculastra* cf. *radiolata* (Morelet, 1860)

A genus of several very similar species, widespread in the Indo-Pacific, *A. radiolata* is found in east and southern Africa.

Aldabra: Picard (400m east of camp) 1/11/97; Grande Terre (Takamaka) 3/11/97; Un-named island 1/7/97.

*Melampus caffra* (Küster, 1844) (Plate 1c, NMW.Z.2002.027.00013)

Widespread in the Indo-Pacific.

Aldabra: Picard (islet near La Gigi) 9/12/2000, (Bassin Lubine) 12/12/2000; Grande Terre (Cinq Cases) 6/89.

*Melampus graniferus* (Mousson, 1849) (Plate 1d, NMW.Z.2002.027.00006)

Widespread in the Indo-Pacific.

Aldabra: Grande Terre (Anse Mais) 17/4/97; Un-named island 1/7/97.

*Melampus lividus* (Deshayes, 1830) (Plate 1e, NMW.Z.2002.027.00010)

Recorded from the western Indian Ocean: Mascarenes, Seychelles, South Africa, Chagos and the Nicobars.

Aldabra: unknown locality 1907; Picard 20/4/97, (Bassin Cabris) 8/12/2000, (islet near La Gigi) 9/12/2000; Malabar (rail trail) 10/97, (Gionnet) 27/11/97; Grande Terre (Anse Mais) 17/4/97, (Bras deux Cedres) 10/12/2000; Ile Michel (Casuarina woodland) 29/6/97.

Astove: west side of lagoon 3/12/97.

*Melampus (Tralia) semiplicatus* Pease, 1869

Widespread in the Indo-Pacific.

Aldabra: Picard (Anse Mais) 17/4/97; Un-named island 1/7/97.

*Pedipes affinis* Férussac, 1821 (Plate 1f, NMW.Z.2002.027.00014)

Widespread in the western Indian Ocean: Mauritius, Reunion, Chagos, Seychelles, Andamans, Arabia and South Africa.

Aldabra: Malabar (Gionnet) 27/11/97; Grande Terre (10m east of camp Cinq Cases) 8/10/97.

#### ASSIMINEIDAE

*Assiminea parvula* Morelet, 1877 (Plate 2g, NMW.1955.158.02424)

Widespread in the Indo-Pacific.

Aldabra: 1907, 1966; Picard 6/89, 3/3/97 & 11/97, (islet near La Gigi) 9/12/2000; Malabar 6/89; Grande Terre (Anse Tambalico) 1974, (Cinq Cases) 1974, (Bassin Flamant) 6/89, (Takamaka) 6/89 & 3/11/97, (Dune d'Messe) 23/6/97 & 27/9/97, (Anse Mais) 17/4/97, (Bras Deux Cedres) 10/12/2000; Orchid island 1974; Ile Michel 29/16/97; Esprit 1974 & 16/12/2000.

Assumption: 18/12/2000.

Cosmoledo: Menai 1907 & 3/12/97.

Astove: Cocos woodland 3/12/97.

*Assiminea (Syncera) nitida* (Pease, 1864) (Plate 2h, NMW.Z.2002.027.00001)

Recorded from Seychelles, Rodriguez and Mauritius.

Aldabra: Picard 11/97, 12/12/2000; Malabar (coral pit at Middle camp) 9-10/10/97, (200m east of camp) 11/10/97, (Gionnet) 27/11/97; Grande Terre (Anse Tambalico) 1974, (Bassin Fregate) 7/7/97, (Anse Mais) 17/4/97, (Bras Deux Cedres) 10/12/2000; Un-named island 1/7/97.

#### TRUNCATELLIDAE

*Truncatella guerini* Villa, 1841 (Plate 2i, NMW.Z.2002.027.00029)

This is a large *Truncatella* with coarse ribs, widespread in the Indo-Pacific.

Aldabra: 1907, 1966; Picard 1907, 6/89, 20/4/97, 11/97, (400m east of camp) 1/11/97, (Bassin Cabris) 8/12/2000, (Anse Var) 8/12/2000, (Pte. dans Nord) 12/12/2000, (islet near La Gigi) 9/12/2000, (Bassin Lubine) 12/12/2000; Malabar 6/89, (coral pit at Middle camp) 9/10/97, (rail trail) 10/97, (200m east of camp) 11/10/97, (Gionnet) 27/11/97 & 11/12/2000, (islet off Gionnet) 11/12/2000; Grande Terre (Anse Tambalico) 1974, (Dune Jean Louis) 1975 & 19/10/97, (Dune d'Messe) 23/6/97, (Cinq Cases) 18/2/97 & 8/10/97, (Anse Mais) 17/4/97, (Takamaka) 3/11/97, (Anse Anglais) 10/12/2000, (Bras Deux Cedres) 10/12/2000,



Plate 1 a *Littorina glabrata* b *Littorina scabra* c *Melampus caffra* d *Melampus graniferus*  
e *Melampus lividus* f *Pedipes affinis* k *Tropidophora* sp. 'gardineri' m *Rhachistia aldabrae* p *Quickia*  
*aldabrensis* (Aldabra and Assumption specimens).

(Anse Mais) 13/12/2000 (not coll.); Orchid island 1974; Esprit 1974 & 16/12/2000; Ile Michel 29/16/97; Un-named island 1/7/97.

Cosmoledo: Menai 3/12/97.

Astove: Cocos woodland 3/12/97.

*Truncatella* cf. *valida* Pfeiffer, 1846 var. *minor* Nevill 1878 (Plate 2j, NMW.Z.2002.027.00011)

This is very similar to *T. guerini* but is much smaller and smoother. It appears to be the same species as was recorded by Nevill (1878) as *T. valida* var. *minor* from the Mascarenes, Seychelles, Sri Lanka and Andamans. It has not been recorded subsequently and it is not clear whether this is a distinct taxon or a small variety of *T. guerini*.

Astove: west side of lagoon 3/12/97.

#### POMATIASIDAE

*Tropidophora* sp. '*gardineri*' (Plate 1k, NMW.Z.2002.027.00023)

*Tropidophora gardineri* Barnacle, 1968  
Lionnet, 1984  
Gerlach, 1987

An Aldabra endemic species, presently undescribed. Further material, especially spirit material, is required for comparison with species from Madagascar.

Aldabra: 1966; Picard (back path) 12/12/2000; Grande Terre (Dune d'Messe) 1975 & 23/6/97, (Bassin Fregate) 7/7/97; Esprit 16/12/2000.

*Tropidophora* sp.

A large subfossil species. Subfossil *Tropidophora* have been recorded from a number of fossil deposits on Aldabra.

Aldabra: Malabar (rail trail) 10/97.

*Tropidophora (Ligatella) ligata* (Müller, 1774) var. *affine* (Sowerby, 1847)

The species has been recorded from Mauritius, Madagascar and South Africa. Var. *affine* has been reported from Mauritius and South Africa.

Cosmoledo: Menai 1907.

#### CYCLOPHORIDAE

*Cyathopoma* sp. (Plate 2l, NMW.Z.2002.027.00009)

*Cyathopoma picardense* Barnacle, 1968  
Lionnet, 1984  
Gerlach, 1987

An Aldabra endemic species, presently undescribed. Further material is required before this species can be described.

Aldabra: 1966; Picard 1907 (1 specimen); Malabar (rail trail) 10/97; Grande Terre (Takamaka) 3/11/97.

#### PULMONATA

##### CERASTIDAE

*Rhachistia aldabrae* (Martens, 1898) (Plate 1m, NMW.Z.2002.027.00004)

*Bulinus (Rhachis) Aldabrae* Martens, 1898; 28  
*Rachis aldabrae* Barnacle, 1968  
Lionnet, 1984  
Gerlach, 1987

An Aldabra endemic species.

Aldabra: 1907, 1966; Picard 11/1895, 11/97, (back path) 12/2/99 & 12/12/2000;

Malabar (Gionnet) 11/12/2000; Grande Terre (Anse Tambalico) 1974, (Dune d'Messe) 23/6/97 & 27/9/97; Ile Michel 29/16/97; Esprit 16/12/2000; Un-named island 1/7/97.

## STREPTAXIDAE

*Gulella gwendolinae aldabrae* Bruggen, 1975 (Plate 2n, NMW.Z.2002.027.00012 & 17)

*Ennea alauda* Barnacle, 1968  
Lionnet, 1984  
Gerlach, 1987

An African species represented by an Aldabra group endemic subspecies. This is also known from fossils from Aldabra (Aldabra limestone on Malabar; >125,000bp, Takamaka limestone on Grande Terre; <125,000bp). Measurements of *G. gwendolinae aldabrae* are significantly different from those of the nominate African subspecies in shell length ( $t=3.1906$ ,  $P<0.05$ ), diameter ( $t=2.6198$ ,  $P<0.05$ ), relative proportions (H/D) ( $t=3.1576$ ,  $P<0.05$ ) and aperture width ( $t=2.9321$ ,  $P<0.05$ ), but not aperture height ( $t=0.6933$ ,  $P>0.05$ ). Within *G. gwendolinae aldabrae* there appears to be little significant inter-island differentiation; shells from Assumption and Aldabra are virtually identical in size and proportion. The shells from Cosmoledo appear to be smaller, although only two shells are available at present. Interestingly, the differences within Aldabra are more pronounced; shells from Ile Michel are shorter but do not differ from the main Aldabra populations in any other respect, whilst those from Ile Esprit are narrower in proportion and the aperture is narrower. Unfortunately there is insufficient material from both these islands for reliable statistical significance testing and, although the Esprit population would appear to be distinct at varietal level at least, it is inappropriate to describe it as a distinct form on the available material. These differences are all in the direction of smaller shells on smaller and more isolated islands, this is what would be expected from wind or bird-dispersed species with strong founder effects on the more isolated islands. It is also notable that comparison of historical collections from Aldabra indicate a statistically significant reduction in shell size over the last 100 years (Fig. 2). This change is probably not due to simple adaptation to small islands as the form on the small island of Esprit is notably larger than the form currently inhabiting the main islands of

TABLE 1  
Morphometrics of *Streptostele acicula* populations

Population		Height (mm)	Diameter (mm)	H/D	n
granitic Seychelles	mean (sd)	5.3±0.57	1.7±0.05	3.16±0.43	22
Madagascar	mean (sd)	5.3±0	1.5±0	3.53±0	2
Comores	mean (sd)	4.9±0.42	1.4±0.05	3.61±0.24	5
Mascarenes	mean (sd)	4.6±0.42	1.4±0.27	3.4±0.42	13
Aldabra	mean (sd)	4.4±0.34	1.3±0.15	3.60±0.32	14
	range	3.9-5.1	1-1.8	3.33-4.19	

TABLE 2  
*Quickia aldabrensis* morphometrics

Population	Form	Shell (mm)			Aperture (mm)			Whorls	N
		Height	Diameter	H/D	Height	Width	H/W		
Aldabra	ovate	7.4-9	5-6	1.48-1.55	5.2-6	4	1.3-1.5	3	(Patterson, 1975)
	attenuate	8.5-9	4.5-5	1.8-1.9	5.75-6	4	1.44-1.5	3	(Patterson, 1975)
Assumption	large	8.6-9.6	5.1-5.2	1.8-1.9	4.7-5.3	3.2-3.4	1.59-2.64	3.5-4	8
	small	4.8	3.3	1.44	2.9	2.5	1.16	2	7

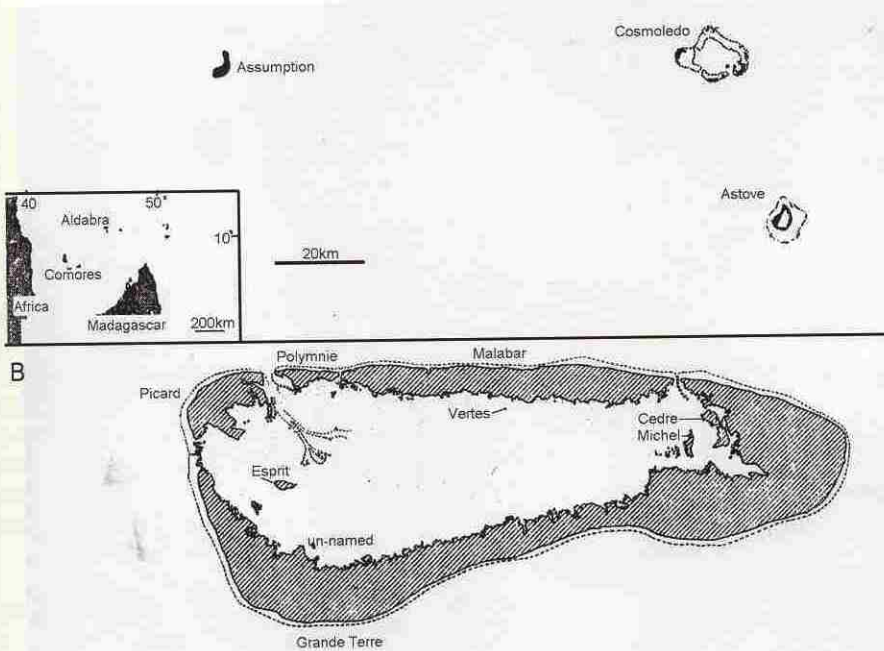


Fig. 2 Change in length of *Gulella gwendolinae aldabrae* since 1905. Esprit population shown as filled circles.

Aldabra. The size reduction may be due to a decline in the abundance of potential prey species over the last 100 years; potential prey such as *Euconulidae* are largely restricted to Esprit and the Takamaka area of Grande Terre, over the rest of the range of *G. gwendolinae aldabrae* prey are restricted to the much smaller *Gastrocopta* and *Nesopupa* species. Thus only smaller forms may be able to survive over most of Aldabra whilst large forms remain on Esprit. Further specimens from other parts of Aldabra (especially Takamaka) are needed to test this hypothesis.

Aldabra: Picard 1907, 7/9/67, 3/3/97, 11/97, (400m east of camp) 1/11/97, (Bassin Lubine) 12/12/2000; Malabar 6/89, (coral pit) 10/10/97, (Gionnet) 27/11/97; 11/12/2000, (Polymnie) 9/12/2000; Grande Terre 9&11/9/67, (Anse Cedres) 2/9/67, (Anse Tambalico) 1974, (Cinq Cases) 1974 & 6/89, (Dune D'Messe) 23/6/97, (Takamaka) 3/11/97; Ile Michel 14/9/67. Esprit 1974; 16/12/2000. Reported from Verte (Smith, 1909).

Assumption: 16/9/67.

Cosmoledo: Wizard island 1/4/83 (Schileyko coll., RMNH, Leiden).

*Streptostele acicula* (Morelet, 1877) (Plate 2o, NMW.Z.2002.027.00021)

Recorded from Seychelles (Mahé, Silhouette), Amirantes (Poivre), Comores (Anjouan, Mayotte), Madagascar (Nossi Bé) and Mascarenes (Mauritius, Reunion, Rodriguez). The population on the granitic Seychelles islands represents a distinct subspecies, *S. acicula maheensis* (Connolly, 1925). The Aldabran and Amirante specimens have been suggested to be closer to the Comoros specimens than those from the granitic Seychelles (Gerlach & Bruggen, 1999). The larger series available here confirms that these islands support the nominate subspecies (Table 1).

Aldabra: Picard (back path) 11/97 & 12/12/2000; Grande Terre (Takamaka) 3/11/97.



Plate 2 g *Assiminea parvula* h *Assiminea (Syncera) nitida* i *Truncatella guerini* j *Truncatella cf. valida* var. *minor* l *Cyathopoma* sp. n *Gulella gwendolinae aldabrae* (Picard and Esprit specimens) o *Streptostele acicula*.

## SUCCINEIDAE

*Nickia aldabrensis* Patterson, 1975 (Plate 1p, NMW.Z.2002.027.00003 & 8)

An Aldabra group endemic species. The population located on Assumption is distinctive, two forms were found; small shells 4.2–4.8mm long and larger, elongate ones 8.6–8.9mm long. The small shells appear to be juveniles although no intermediates were found. The large shells are comparable to the attenuate form from Aldabra (Patterson, 1975) but differ in having smaller, narrower apertures and an extra 0.5–1 whorl (Table 2). These differences may indicate that the Assumption population represents a distinct subspecific form or that it is derived from attenuate colonists from Aldabra and the present-day morphology shows a strong founder-effect. Spirit material is needed to resolve this question. There are no attenuate specimens from Aldabra in the collections from 1997 and 2000.

Aldabra: 1966; Picard 11/97, (back path) 12/12/2000, (islet near La Gigi) 9/12/2000; Malabar 6/89, (coral pit at Middle camp) 9–10/10/97, (Gionnet) 27/11/97, (Polymnie) 9/12/2000; Grande Terre 1907, (east) 1967, (Anse Tambalico) 1974, (Cinq Cases) 1974 & 18/2/97, (Bassin Flamant) 6/89, (Dune d'Messe) 23/6/97 & 27/9/97, (Bassin Fregate) 7/7/97, (Takamaka) 3/11/97, (Bras Deux Cedres) 10/12/2000; Esprit 16/12/2000; Orchid island 1974.

## GASTROCOPTIDAE

*Gastrocopta microscopica* (Nevill, 1878) (Plate 3q, NMW.Z.2002.027.00022)

This species has been recorded from the western Indian Ocean: Seychelles, the Mascarenes, Chagos, Madagascar (as *Gastrocopta seignaciana* (Crosse & Fischer, 1879)) and the Comoros (as *G. tripunctata*).

Aldabra: 1907; Picard 6/89, 3/3/97, 20/4/97 & 11/97, (Anse Var) 8/12/2000, (400m east of camp) 1/11/97, (islet near La Gigi) 9/12/2000, (Bassin Lubine) 12/12/2000; Malabar 6/89, (coral pit at Middle camp) 9–10/10/97, (200m east of camp) 11/10/97, (rail trail) 10/97, (Gionnet) 27/11/97 & 11/12/2000; Grande Terre (Cinq Cases) 1973–4, 6/89, (Anse Mais) 1974 & 17/4/97, (Anse Tambalico) 1974, (Dune d'Messe) 23/6/97 & 27/9/97, (Bassin Fregate) 7/7/97, (Takamaka) 3/11/97, (Dune Jean Louis) 9/10/97; Esprit 16/12/2000.

Assumption: 18/12/2000

Astove: Cocos wooldand 3/12/97

Cosmoledo: 1907; Menai 3/12/97

## NESOPUPIDAE

The Seychelles species of Nesopupidae presently include only two recorded species; *Nesopupa minutalis* (Morelet, 1881) (a species from the Comores recorded from D'Arros; Verdcourt, 1986) and *N. rodriguezensis* (a Mascarene species recorded from Mahé; Gerlach, 1994). The species of this family are all very similar and earlier records may not be correct. The present collection includes two species.

*Nesopupa pelei* Madge, 1938 (Plate 3r, NMW.Z.2002.027.00027)

Recorded from the Mascarenes, Chagos and Seychelles.

Aldabra: Picard 3/3/97 & 11/97; Polymnie 9/12/2000; Malabar (200m east of camp) 11/10/97, (coral pit) 10/10/97; Grande Terre (Anse Mais) 17/4/97, (Takamaka) 3/11/97; Esprit 16/12/2000.

*Nesopupa* cf. *rodriguezensis* Conolly, 1925 (Plate 3s, NMW.Z.2002.027.00007)

Recorded from the Mascarenes and Seychelles.

Aldabra: Picard 11/97; Malabar (coral pit) 10/10/97, (Gionnet) 27/11/97; Esprit 16/12/2000.

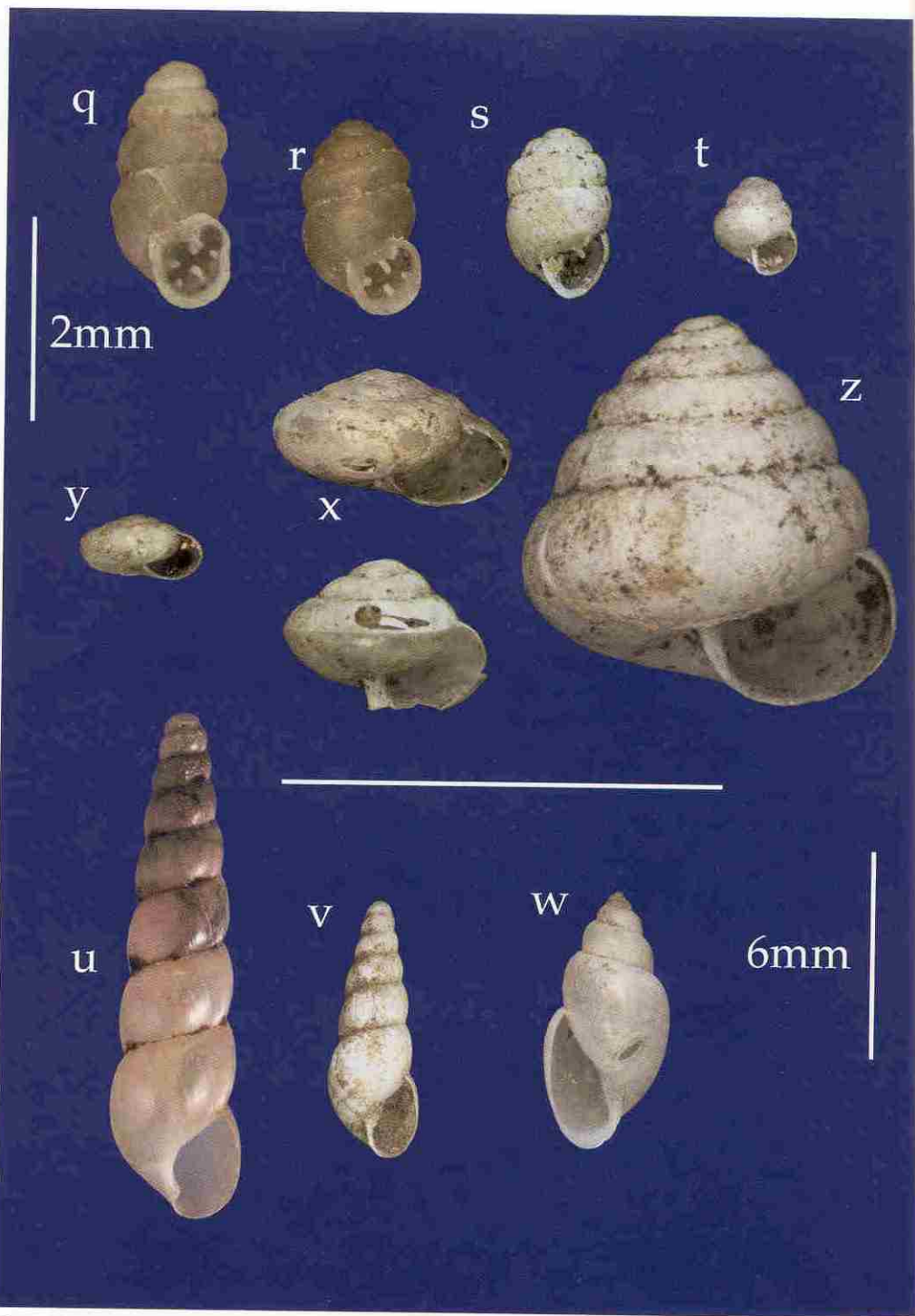


Plate 3 q *Gastrocopta microscopica* r *Nesopupa pelei* s *Nesopupa* cf. *rodriguezensis* t *Pupisoma orcula* u *Subulina octona* v *Opeas pumilum* w *Bulinus bawayi* x *Louisia barclayi* and *L. dupontii* y *Dupontia* sp. z '*Kaliella*' sp.

## VALLONIDAE

*Pupisoma orcula* (Benson, 1850) (Plate 3t, NMW.Z.2002.027.00026)

A widespread African species also recorded in Seychelles and the Mascarenes.  
Aldabra: Picard 11/97; Esprit 16/12/2000.

## SUBULINIDAE

*Subulina octona* (Bruguière, 1792) (Plate 3u, NMW.Z.2002.027.00005)

A widespread species, widely introduced. A subfossil specimen originally identified as *Stereostele nevillei* (Taylor *et al.*, 1979) was identified as *Subulina octona* by Gerlach & Bruggen (1999), this would indicate that the species has a long history on Aldabra although its current restricted distribution suggests an introduction.  
Aldabra: Picard 11/97, (back path) 12/12/2000.

*Opeas pumilum* (Pfeiffer, 1840) (Plate 3v, NMW.Z.2002.027.00024)

A widespread species, widely introduced.

Aldabra: Picard (back path) 3/3/97, 11/97 & 12/12/2000; Grande Terre (Takamaka) 3/11/97.

Assumption: 18/12/2000

*Paropeas achatinaceum* (Pfeiffer, 1840)

A widespread species, recorded from Aldabra by Naggs (1994) based on 2 specimens. There are no recent specimens and this may have been a temporary introduction.

## ACHATINELLIDAE

*Tornatellinops* sp.

A widespread Indo-Pacific genus with many very similar species, the Aldabra specimens are smaller than any of the 3 species recorded from the Mascarenes.  
Aldabra: Grande Terre (Takamaka) 3/11/97.

## PLANORBIDAE

*Bulinus bavayi* (Dautzenberg, 1894) (Plate 3w, NMW.Z.2002.027.00020)

*Isidora forskalii* Ehrenberg Connolly, 1925; 265  
Barnacle 1969; 56

Widespread in Madagascar.

Aldabra: Grande Terre (Takamaka) 1907, 1967 & 3/11/97, (Bassin Fregate) 1967 & 7/7/97, (Cinq Cases) 1967, 1974, 6/89 & 18/2/97, (north-east of Croix Blanc) 1974.

## HELICARIONIDAE

*Louisia barclayi* (Benson, 1850) (Plate 3x, NMW.Z.2002.027.00028)

Recorded from the western Indian Ocean islands: Reunion, Mauritius, Chagos (Diego Garcia), Seychelles (Mahé); Verdcourt 1992.

Aldabra: Polymnie 9/12/2000; Grande Terre (Dune Jean Louis) 9/10/97, (Takamaka 3/11/97).

*Louisia duponti* Godwin-Austen, 1908 (Plate 3x, NMW.Z.2002.027.00018)

Recorded from the Indo-Pacific islands, in the Indian Ocean it is recorded from Mauritius. Fragments of '*Kaliella*' sp. A. collected on Coetivy in 1905 are identifiable as a *Louisia* species (Gerlach, 1998) and the remaining fragments of these specimens appear to be referable to *L. duponti*.

Aldabra: Malabar (Gionnet) 27/11/97; Esprit 16/12/2000

This species was suggested to be a Pacific *Liardetia*, possibly *Liardetia* (*L.*) *samoensis* (Mousson, 1865) or *L. (Belopygmaeus) doliolum* (Pfeiffer, 1846), (Verdcourt, 1992). *L. duponti* lacks the spiral striae and keeled periphery of *L. doliolum* and the elongate caudal tail (further anatomical details of *L. doliolum* are not known). *L. samoensis* also

has a keeled periphery and it therefore seems unlikely that *L. duponti* is synonymous with either *L. samoensis* or *L. doliolum*, although it may prove to be conspecific with another supposedly Pacific *Liardetia* when the anatomy of that genus is better known. It is possible that the three species previously referred to *Louisia* (*L. duponti*, *L. barclayi* and *Liardetia sculpta*) originated in the western Indian Ocean. The latter species has been recorded from the Caroline islands, Macau, Guam, the Mascarenes (since 1907) and granitic Seychelles islands (since 1974 - J.G. pers. obs.).

*Dupontia* sp. (Plate 3y, NMW.Z.2002.027.00002)

An undescribed species, probably an Aldabra endemic.

Aldabra: Grande Terre (Takamaka) 3/11/97; Esprit 16/12/2000. A specimen in the Aldabra Research Station is labelled 'Sp. A', station data record cards list 'Mollusca sp. A' from Grande Terre (Tambalico and Cinq Cases) and Ile Esprit.

This species resembles *D. poweri*, *D. virginica* and *D. levensoniae* in the presence of spiral striae. These are restricted to the sutures and not on the underside in *D. virginica*, thus the Aldabra species may be referred to either *D. poweri* or *D. levensoniae*; these species differ in shell colour but the Aldabra shells are all bleached white and the fresh colour cannot be determined.

#### CHRONIDAE

'*Kaliella*' sp. (Plate 3z, NMW.Z.2002.027.00019)

*Kaliella* sp. B. Barnacle, 1968  
Lionnet, 1984  
Gerlach, 1987

An Aldabra endemic species, presently undescribed. Sprit material is required before the true generic position of this species can be determined.

Aldabra: 1966; Picard 1907; Polymnie 9/12/2000; Esprit 16/12/2000.

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