

SHELL MEASUREMENTS OF *Caryodes dufresnii* (LEACH) (MOLLUSCA:PULMONATA) FROM NORTH EASTERN TASMANIA

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Introduction

Tasmania's largest land mollusc, the endemic snail *Caryodes dufresnii*, occupies a wide range of habitats throughout Tasmania. Shell variation is considerable, both in size and colouration. It has been suggested that several distinct morphs occupy the major ecological sites of dry sclerophyll forest and wet sclerophyll rainforest. In general, mature shells from high rainfall sites tend to be darker and larger, with a maximum height of 50mm, compared with those from drier sites where shells attain 35mm in height (Kershaw and Dartnall, 1972).

This note reports the find and measurement of numerous shells at Big Boggy Creek, 15km SW of Ansons Bay in north eastern Tasmania. Comparison is made with a small number of specimens from a dry forest site at Saddleback, 5km SW of Mathinna.

Caryodes is particularly active during wet weather so the number of days in which rain falls may be used as a site indicator combined with a suitable ground cover of leaf litter, bark ribbons and logs.

Study Sites

The collection site at Big Boggy Creek has been cleared for eucalypt plantation establishment and windrows formed before burning. The surrounding native forest carries an overstorey of mature *Eucalyptus obliqua* and *E.globulus*, an understorey of *Olearia argophylla* (musk), *Pomaderris apetala* (dogwood) and *Acacia verticillata* (prickly moses). The ground cover is patchy, mainly ferns (*Blechnum sp.*) over a litter layer several centimetres thick and topped with bark ribbons.

Saddleback has a dense overstorey of 19 year old *E.sieberi*/*E.obliqua*/*E.amygdalina* regrowth and gaps containing *Acacia melanoxylon* (blackwood) and *Acacia dealbata* (silver wattle). Dense *Pteridium esculentum* (austral bracken) occurs over very rocky ground with a shallow litter layer and many old eucalypt logs.

Site	Altitude (metres)	Mean Annual Rainfall (mm)	Rain Days (annual)
Big Boggy Creek	120	977	145
Saddleback	620	858	122

Results

During plantation establishment at Big Boggy Creek live snails migrated into the windrows prior to burning. Surveys of these windrows enabled a total of 164 *Caryodes* shells to be found of which 79 were undamaged. Other snails found at this site during the survey were *Victaphanta lampra*, *Thryasona sp.? diemenensi*, and *Pedicamista coesa*.

The following table lists the measurement means (\pm sd) grouped into each whorl class. All measurements were made using vernier callipers fitted to a Wild binocular microscope. The method of measurement follows that given by Smith and Kershaw (1981).

Site	Number of whorls	Number of Specimens	Height (mm)	Width (mm)	Aperture length (mm)
Big Boggy Creek	3.0—3.4	1	1.94	1.54	1.23
	3.5—3.9	6	2.13 \pm 0.08	1.64 \pm 0.25	1.26 \pm 0.08
	4.0—4.4	27	2.83 \pm 0.05	1.83 \pm 0.01	1.45 \pm 0.02
	4.5—4.9	37	3.28 \pm 0.04	1.92 \pm 0.02	1.56 \pm 0.01
	5.0—5.5	8	3.53 \pm 0.08	1.96 \pm 0.04	1.64 \pm 0.07
Saddleback	3.7	1	1.36	1.17	0.74
	5.0	1	1.88	1.27	0.83
	5.6	1	2.16	1.33	1.12

The ratio of width: aperture length of Big Boggy Creek specimens is consistent for each whorl class at 1.25:1 \pm 0.05. The Saddleback morph, with only three specimens measure, has a ratio of 1.43:1. A large group of dry forest morph types need to be measured to make a statistical comparison.

It is hoped that these data will help establish or confirm a distinct morph type to be compared with groups of specimens from other localities.

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References

- Kershaw, R.C. and Dartnall, A.J. (1972) The Mollusc *Caryodes dufresnii* in Tasmania. *Vict. Nat.* **89**:111-118.
- Smith, B.J. and Kershaw, R.C. (1981) In 'Tasmanian Land and Freshwater Molluscs'. Fauna of Tasmania Handbook No. 5, pp. 23-25.