No. 77
APRIL, 1984

The Tasmanian Naturalist

Registered by Australia Post – Publication No. TBH0495
Postal Address: G.P.O. Box 68A, Hobart, 7001
Editor: D.A. Ratkowsky Annual Subscription: $5.00

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Editor.

WHO BUILT THE STONE WALL FISH TRAPS?

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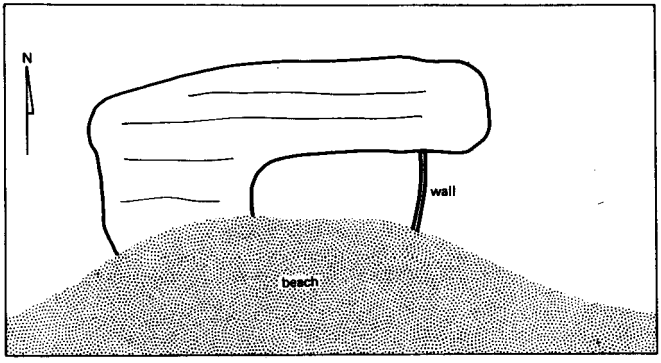
When we started a program to record Aboriginal sites in Tasmania in 1974, one of the first things we were told about was the Penguin fish traps. Even though we asked many locals about them, no one knew when they had been built. Some people said that the fish traps "had always been there". So the question arose – were they made by the Aborigines? Soon other fish traps were recorded. Often two or three traps were found close together. None have been found in inland rivers or lakes, but this is not surprising as before the acclimatisation of trout there were no sizeable fish in the inland waters. The main concentration was along the centre of the north coast where the tide range is the greatest in Tasmania. There is one exception to this pattern. At Cooks Beach, Freycinet Peninsula, two small fish traps have been recorded.

The first archaeologist to look at fish traps in Tasmania was Rhys Jones in 1963. He suspected that the Rocky Cape trap might have originally been built by the Aborigines but the possibility that these traps were the source of the fish remains found in the nearby excavations in the Rocky Cape cave became less likely when fish were found to disappear from the Tasmanian diet about 3,500 years ago. It seemed improbable that the low stone walls could have survived that long in a coastal environment.

In 1981 in response to an article in the Circular Head Chronicle, I was able to locate a former north coast resident who had built several fish traps in the Burnie area about 30 years ago, and who was able to provide information on their construction, maintenance and catch.



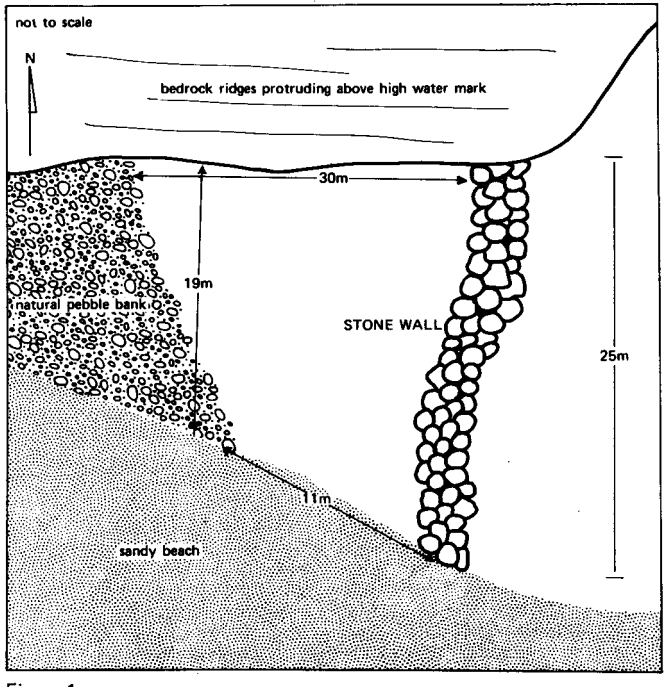


Figure 1
Sketch plan of a typical fish trap (not to scale). This trap is opposite the Burnie High School.

All the fish traps are of similar construction, having walls of loosely piled boulders. Some take advantage of sea bed features and include lengths of natural rock outcrop in the wall design. A sketch plan of one example is shown (Figure 1). In one case, a group of six youths were able to complete the construction of a trap in one low tide. No major reconstruction was normally required, although after violent seas some sections of the wall might need to be restacked. The trap at Hawley Beach and one of the group at Penguin have low internal walls, which make it easier to catch any fish trapped behind the main wall.

All the stone wall traps work with the rise and fall of the tide. At high tide the walls are submerged and fish move into the area to feed. As the tide ebbs, the walls become exposed, trapping any fish which are still inside. As the tide drops further the water runs out through the walls until the fish can be collected in the remaining shallow pools. The fish need to be collected soon after the tide has fallen. If not collected sea birds are likely to take the fish, or the fish will escape with the next high tide, or someone else will collect them!

Stone wall fish traps retain all the sizes and types of fish that come into the area. Up to 19 types of fish and octopus and squid have been caught in these traps. Of a total of more than 3,000 fish bones excavated by archaeologists from Rocky Cape, all but four were Parrot fish. Leaving aside the difficult question of whether Aborigines preferred to eat one type more than others, it seems likely that if the Aborigines had used fish traps a wider range of types of fish would be found in the archaeological sites. This does not occur so the evidence suggests that they used some other methods of catching fish.

Finally, historical evidence favours a recent origin. In a letter written in 1878, two fish traps near Leith on the north coast were described. In the design of one the operator ". . . encompases with a rough stone wall a small strip of the shore that is washed by the sea and left dry when the tide is out . . .". From what we now know, stone wall fish traps do not appear to have been used by the Aborigines of Tasmania but were first built by European settlers. The mystery has finally been solved.

MOLLUSCAN STUDIES IN TASMANIA

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Bulletin No. 233 of the Tasmanian Field Naturalists Club (October, 1983) drew the attention of naturalists to the study of Tasmanian shells. It was also suggested that little work has been done recently.

There is in fact a wide range of opportunity for naturalists to contribute. There are many areas yet to be looked at by collectors particularly with the definition of the fauna as an aim. This is certainly true along the south western and western coasts This article will draw attention both to some of the work being done and to some aspects of need.

A great deal is known about shells in Tasmania due to the industry of early naturalists. The molluscan fauna became as well known as that of any part of Australia and perhaps better. Certainly the small size of Tasmania contributed to this, but a great deal is due to the enthusiastic workers most of whom were amateurs. W.L. May, perhaps Tasmania's foremost worker on shells, coordinated the early work and made it readily available with the publication of his "Illustrated Index" (1923, 1958). This was the culmination of years of effective collecting and study. He described many new species and provided much vital information on the nature and distribution of the fauna. Hence some people may be surprised that there is so much yet to be done.

May's contribution was so considerable that it was many years before new work appeared in the Tasmanian literature. It is still possible to place a name on most of our species thanks to his efforts. But the task of revision which he commenced, continues. New fields of study have developed. There is a large field of study available in the ecology of the Mollusca. It is true that scientific study has become more exacting. Our knowledge

of methods and technique seems to have grown faster than the field contributions. This is because the number of workers is relatively small and there are economic limitations. The work of the professional has to be justified.

There is consequently still room for the amateur according to ability and opportunity. All that is needed is a love of nature, a willingness to learn and a determination to obtain results; essentially what is required for anything one may undertake. Mr. Tim Hume of Launceston has observed freshwater mussels for many years both in nature and in his aquarium. Tim has passed on many very interesting observations to the writer. As a leading naturalist once observed, it is making a contribution that is important. How this is done in communicating to others is probably less significant but field naturalist journals exist to enable contributions to knowledge to be published. Work being done is not very obvious if nothing is reported.

There are research results which may affect Tasmania directly or indirectly but which are not necessarily published here. The literature in fact holds problems for all of us. Hence the significance of having and using a library. The enormously valuable contribution which librarians make to any study cannot be over emphasized.

A considerable number of molluscan research papers are published yearly many of which are of importance to the malacologist. Several may be mentioned which have been published in southern Australia and are of general interest. The writer has published a study of the shell and variation of the estuarine species *Hydrococcus brazieri* (Tenison Woods) and *Assiminea tasmanica* Tenison Woods (Kershaw, 1983). Ponder (1982) studied the anatomy of *Hydrococcus*. Solem and his colleagues in Western Australia (1982) studied a new species of *Assiminea*. Their results may lead to greater knowledge of the Tasmanian species.

In Victoria, Quinn (1983) has studied spawning in *Siphonaria tasmanica* Tenison Woods. His paper is of direct interest to Tasmanians observing this species. Hobart malacologist J.R. Penprase (1981) has reported on a fascinating study of brooding in chitons. This follows earlier work reported by Elizabeth Turner (1978) on "Brooding of chitons in Tasmania". Mrs. Turner was recently a co-author in a study of Pleistocene marine molluscs (Colhoun, et al., 1982).

There is active research at present on freshwater molluscs. Obendorf and Black (1983) published an important paper on liver fluke and the host *Lymnaea tomentosa* in north western Tasmania. There have been earlier reports of the snail there but little was known of the fluke. Dr. Ponder and his associates at the Australian Museum are making a study of the family Hydrobiidae in Australia. Specimens of these small snails from Tasmanian streams would be invaluable if sent in cotton wool dampened with formalin.

A new species, *Glacidorbis pawpela* Smith was described from Great Lake (Smith, 1979) a few years ago. The description of *Glacidorbis pedderi* from Lake Pedder (Smith, 1973) created a great deal of interest. The recognition of these molluscs in Tasmania and Victoria, the recognition of the appropriate genus and the establishment of additional localities and the habitat was an exciting research project for Dr. Smith of the Museum of Victoria. Additional records of these snails are very probable. Dr. Smith is now working on an important project concerning land Mollusca in Australia. This project will be of great value to all workers, here in Tasmania, as well as throughout Australia.

A very useful monograph recently published by Solem (1982) of the Chicago Museum deals with the Pacific Island land molluscan families Charopidae and Punctidae. These families form a considerable part of the Tasmanian fauna so that this work is of much interest here. Solem in fact describes the anatomy of a Tasmanian snail in this work.

New books on shells appear every year. There are a number dealing with the subject on an Australian basis which give some detail on Tasmanian shells. The most useful is still "Marine Molluscs of Victoria" (Macpherson and Gabriel, 1962) which may be obtained from the Museum of Victoria. On a world basis the most comprehensive and effective seen recently is the "Compendium of Sea Shells" (Abbott and Dance, 1982) written by two highly respected malacologists.

It is difficult to produce such books dealing with Tasmania if only because the market is small. But a book published here fairly recently is "Tasmanian Land and Freshwater Molluscs" (Smith and Kershaw, 1981). The writer is attempting a similar book on bivalve shells in Tasmania but progress is slow due to the volume of work involved.

Work on the Cephalopoda, the most advanced molluscs, has proceeded rapidly in recent years with Dr. C.C. Lu dealing with this research in Victoria. Volume 44 of the Memoirs of the Museum of Victoria is given over to a symposium report on this subject. While in Tasmania a stranding of Squid on Macquarie Island was reported this year (O'Sullivan, et al., 1983).

Studies by the writer on Tasmanian land Molluscs have continued for a number of years. Recently this has involved the genera *Caryodes*, *Helicarion* and *Bothriembryon* (Kershaw, 1979, 1981). As these and closely related genera have a wide distribution in Australia it is not possible to study the Tasmanian material in isolation. In addition more Tasmanian material is needed. But the writer is no longer able to collect personally in many parts of the state. Hence the assistance of field naturalists in collecting these snails from anywhere in Tasmania would be most welcome in enabling this research to continue.

If there has not been a great deal done on the Molluscs recently it would seem to be due to the fact that there are few workers and a great deal to do. Shells are a very rewarding hobby as any collector knows. There is room for more people interested in the opportunity to make contributions to a knowledge of Mollusca in Tasmania. This can be done in a variety of ways. Specimens with clear locality labels can be donated to museums or direct to people doing research such as the writer. Small papers detailing the species found in specified areas can be submitted to the Naturalist. With a little more effort data on the habitat and life histories of species can be presented. There is a boundless need for dredging expeditions from which representative material at least would be invaluable to museums. If you dredge up some beautiful volutes do not throw away the other shells which may appear also. But always collect responsibly.

The only limitations are those placed by individuals on themselves and of course those dictated by common sense.

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LITTLE CORELLA IN TASMANIA

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The Little Corella *Cacatua sanguinea* occurs in all mainland states but has not previously been recorded living in a wild state in Tasmania, though it is occasionally imported as an aviary pet. Forshaw & Cooper (1980) discuss the taxonomy of this species and accept four subspecies. They state that the south-eastern population is extending its range southwards with a widespread increase in numbers.

On 27 October 1983 the writer was advised by Mr. Ken Littlejohn, Tasmanian National Parks and Wildlife Service, of two well separated sightings of Little Corellas. On 15 October, while on duty at "Beaufront", Ross, he observed a flock of white cockatoo-like birds feeding on the ground. After watching them for a short while he realised they were not all Sulphur-crested Cockatoos *Cacatua galerita* as he had first assumed. Body size and crests differed and some calls were not those of Sulphur-crested Cockatoos. The birds were watched with the aid of binoculars from a distance of about 50 metres and identified as being seven Sulphur-crested Cockatoos, and 35 Little Corellas. The following day, while driving on a by-road known as Chintah Road, about nine kilometres south-east of Longford, Mr. Littlejohn found another flock, feeding on the ground. It comprised seven Little Corellas and about 12 Sulphur-crested Cockatoos.

In a subsequent telephone conversation, Mr. K.D. von Bibra of "Beaufront" supported the first report. He had known of Little Corellas living on his property for about 10 years and believed they had bred up from a single pair.

These two sightings were made in localities separated by a distance of about 55 kilometres and it appears probably that the Chintah Road birds were additional to those seen at "Beaufront".

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GOULD'S PETREL IN TASMANIA
The first Australian record for the New Caledonian subspecies

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Gould's Petrel *Pterodroma leucoptera* (Gould, 1844) occurs widely in subtropical regions of the South Pacific Ocean. The nominate subspecies *P. l. leucoptera* was, until recently, the only race recorded from Australia. The only Australian breeding station is on Cabbage Tree Island off Port Stephens, New South Wales, which comprises about 400 birds (Serventy, **et al.** 1971).

The first on-shore occurrence of Gould's Petrel in Tasmania is recorded in *Tasmanian Bird Report No. 8* (1980); beachwashed on Ocean Beach, Strahan, on 14 March 1978. Two further beachwashed specimens have since been accessioned into the collections of the Queen Victoria Museum.

Reg. No. 1981/2/236 was collected by the writer at Ordnance Point on the west coast on 16 April 1981. Almost all its flesh had been eaten by birds but sufficient of the skin remained to make a reasonable study specimen, allowing determination to a specific level.

This was confirmed by Dr. P.C. Harper, University of Canterbury, New Zealand, who also determined it as an immature. Sex and body weight could not be ascertained. Its subspecific identity remains to be determined.

Reg. No. 1981/2/483 was collected by M. Orchard at Cape Tourville, Freycinet Peninsula, on 2 January 1981. It was an adult female in relatively good condition and prepared as a study skin (weight 153g, total length 295mm, tail 87, wing 224, tar 30, mid toe 34, ova 0.3). Mr. Shane Parker, Curator of Birds, South Australian Museum, later examined it and determined it as *P. l. caledonica*, the subspecies which breeds in the mountains of New Caledonia. Parker and May (1982) recorded this subspecies from South Australia, based upon two feathered skeletons collected in 1976 and 1979.

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THE TASMANIAN MUDFISH ON FLINDERS ISLAND

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The Tasmanian Mudfish *Galaxias cleaveri* was described (Scott, 1934) from a single specimen collected at West Ulverstone. It was found inside a damp eucalypt root some distance from water. Passed to the Curator of the Queen Victoria Museum, it was experimentally kept out of water for over 65 hours. After this time it appeared dehydrated and lifeless but when placed in formalin reacted violently before being overcome by the preservative

The circumstances under which the fish was discovered and the results of the subsequent experiment illustrated the ability of this species to survive for extended periods of time when free water has dried from its habitat and indicated that it may survive over summer in damp earth when the ponds and streams seasonally dry up. Andrews (1976) revised the family Galaxiidae, giving a detailed description of *G. cleaveri* and recording specimens collected from coastal areas in the north, west and south-east of the state. Jackson and Davies (1982) record its occurrence on Wilsons Promontory, Victoria, the only record from the Australian mainland.

In 1983 it was discovered on Flinders Island when Mr. Derek Smith collected several at the Patriarch Reserve. The Reserve was selected and purchased by a local committee in 1977 and as part of its development, under the guidance of trustees, a waterhole was bulldozed on a flatland area in an endeavour to provide permanent water for native fauna.

In the autumn of 1983, following good rains, the hole overflowed eastwards into a previously dry drain which carried the water to landlocked swampy lagoons and marsh land nearer the coast. It was then that Mr. Smith tried some sample netting in the drain and there discovered a species of fish unfamiliar to him. Two were sent, alive, to the Queen Victoria Museum where they were determined as the Tasmanian Mudfish *G. cleaveri*. Mr. Smith has since netted a number of other waterways around Flinders Island but has so far failed to find further populations.

The area where the mudfish was found and the drainage system to its east usually dry up in summer and the mudfish, like other freshwater animals which live in such habitats, has apparently evolved to survive dry periods by aestivating in cool, damp places until relieved by the autumn rains.

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THE BIRDS OF SNAKE PLAINS, A SANDSTONE OUTCROPPING ON MT. WELLINGTON

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In a survey of Mt. Wellington during the 1982/83 breeding season (Tasmanian Bird Report No. 12, pp. 18 - 21; Tasmanian Naturalist No. 74, July 1983, pp. 3 - 6), I did not include Snake Plains in the survey area. Snake Plains is easily accessible from the Pipeline Track or from the Milles Track, and is a poorly drained area of exposed Triassic sandstone about 1 km^2 in area, characterised by an acid, peaty soil that supports a vegetation that has elements distinctly different from that of the remainder of the Mt. Wellington Range. For example, *Lepyrodia tasmanica, Epacris lanuginosa* and *Boronia parviflora* occur on Snake Plains, but not in other parts of the Range. In addition, *Oxylobium ellipticum, Leptospermum scoparium, Gleichenia alpina, Gahnia grandis, Bauera rubioides, Empodisma minor* and *Melaleuca squamea* are abundant, with *Eucalyptus johnstoni* occurring as short, stunted trees.

I surveyed the avifauna of Snake Plains on 17 days between 9 October 1983 – 3 December 1983, spending approximately one hour on the Plains during each visit. Observation was either visual or aural, and sometimes birds were both seen or heard. By this means, I recorded a total of 15 species; these are given in Table 1.

Species that inhabit Snake Plains that are not found elsewhere on Mt. Wellington, or only rarely in the swampy highland areas of the Range, are the Latham's Snipe, Ground Parrot and Calamanthus. The number of species seen per visit ranged from a minimum of four on 16 October, a very wet day, to a maximum of ten on 1 November, a dry, calm day, for an average of 7.6 species per visit. This compares with an average of almost 18 species per visit in the open, wet sclerophyll forest dominated by *Eucalyptus delegatensis* which adjoins Snake Plains. Species present in the nearby wet sclerophyll forest but absent from the plains are the Green Rosella, Shining Bronze-cuckoo, Blackbird, Flame Robin, Golden Whistler, Grey Fantail, Strong-billed Honeyeater, Black-headed Honeyeater, Spotted Pardalote, Striated Pardalote and Silvereye. Another group of species are equally 'at home' on the Plains and in the adjacent forests. These are the Fan-tailed Cuckoo, Olive Whistler, Grey Shrike-thrush, Yellow-throated Honeyeater, Crescent Honeyeater, Black Currawong and Forest Raven.

Perhaps it is the relative absence of birds which contributes to the feeling of remoteness, wildness and solitude which I experience whenever I visit Snake Plains.

TABLE 1. List of species observed on Snake Plains in the period 9 October 1983 – 3 December 1983.

Recommended English Name	Number of Observations	Percentage of Visits
Latham's Snipe	6	35
Yellow-tailed Black Cockatoo	2	12
Ground Parrot	2	12
Fan-tailed Cuckoo	11	65
Black-faced Cuckoo-shrike	5	29
Olive Whistler	9	53
Grey Shrike-thrush	13	76
White-browed Scrubwren	1	6
Calamanthus	15	88
Brown Thornbill	1	6
Tasmanian Thornbill	1	6
Yellow-throated Honeyeater	17	100
Crescent Honeyeater	17	100
Black Currawong	14	82
Forest Raven	15	88

Printed by Advance Publicity Co., North Lindisfarne