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THE FUTURE OF NATIONAL PARKS & WILDLIFE SERVICE

The State Government's announcement that it intends to amalgamate the Land Management Division of the present Lands Department with National Parks & Wildlife Service, the Department of The Environment, the Town and Country Planning Commission and the Local Government Office under the title of "Department of Municipal Affairs" has caused widespread concern. Grave doubts have been expressed, not only about the wisdom of the proposal but also the method of its adoption.

Very unobtrusively the Government commissioned Mr John Mant, a Sydney barrister, to review administration and land management in Tasmania. All indications are that his report and recommendations have been presented verbally to the Government and not committed to writing.

If, in fact, Mr Mant has made a written report it seems incredible that the Government should accept the recommendations, which appear to be of major importance, without releasing the report so that the electors may make their own assessments of its merits. Only after a careful study of the report can a reasoned judgment be made and the Government's decision be endorsed or opposed.

WHITE-BREASTED SEA EAGLE

I recently had a close look at an immature sea eagle (aged about two years) in flight. The under-wing pattern resembles very closely the pattern of the Whistling Kite *Haliastur sphenurus*.

L.E.W.

STRANGE BAT DEATHS AT ST LEONARDS, NORTHERN TASMANIA

R.M. Tyson

On the 30/12/74 I found the body of a small bat lying on the front lawn of my house at St Leonards near Launceston, Northern Tasmania. Upon examination I found it to be a male Small Forest Eptesicus, *Eptesicus vulturinus*. A study skin was prepared and I thought little more about it until on the 14/11/75 once again on the lawn, another bat was found. This proved to be a female Small Forest Eptesicus, heavily pregnant. Again a skin was prepared and the foetus was preserved. On the 5/4/76 a Lesser Long-Eared Bat, *Nyctophilus geoffroyi* female, was found on the lawn. In the same location on the 26/11/76 another female Small Forest Eptesicus was found. Skins were prepared of both of these.

Nearly five (5) months later on the 12/4/77 another male bat was found dead on the lawn. This bat was larger and much darker than the previously more easily identified species. The only other species of bat found in Tasmania that I have seen close enough to identify is the Gould's Wattled Bat, *Chalindobus gouldii*. In a deserted shack on Roses Tier near Ben Lomond, I observed a pair of Wattled Bats clinging and moving about on the shingles inside the building. These bats were soft brown in colour with a dark head and mantle extending over the shoulders. Specimens in the Queen Victoria Museum, Launceston, appear generally darker with however, the distinct dark head and shoulders. The fact that the latest bat found was a solid colour rules out the Gould's Wattled Bat as the species. Museum skins of the Tasmanian Pipistrelle, *Pipistrellus tasmaniensis* do not match this latest bat from St Leonards either.

Therefore I assume this to be a Chocolate Bat, *Chalinolobus morio*. The skin I prepared matches the description of this species given by Hall and Richards (1979). Also Ride (1970) in identification, among other things says "ears too short to meet above head when pressed together." It is interesting that this is a Chocolate Bat as Green (1973) says "It is probably the least common kind of bat found in Tasmania".

Bats are common around St Leonards and can readily be observed "hawking" about on warm evenings. On the 4th of January 1979, I watched a small bat swoop and attack a moth I think to be of the genus *Abatiade*. This moth was dropped by the bat and fell to the ground where it died. I find this interesting as the moth had a body length of 65 mm which is as big if not bigger than all the species of bats found in Tasmania (Green 1973). However, all bats, particularly the Pipistrelle, 19g (Green 1973) are heavier than the moths.

The puzzling aspect of these dead bat findings on my front lawn could possibly be due to a large Canary Island Palm, *Phoenix canariensis* in the centre of the lawn. This palm attracts many introduced birds as well as a large number of moths and other insects. It may be that the bats are attracted to such a large food source, hunting right up into the branches of the tree. The nearer stages of the branches, or fronds, of the Canary Island Palm are a series or mass of large brittle spikes. I suspect the dead bats mentioned have failed to negotiate these spikes in their quest for food and have become entangled or

perhaps stabbed by them, causing death. Certainly the skin membrane of the wings of the bats were punctured in several places.

The bats and the moth are available for examination by any interested reader.

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Hall, L.S. & Richards, G.C. (1979). Bats of Eastern Australia.
Queensland Museum Booklet No. 12.

Ride, W.D.L. (1970). A Guide to the Native Mammals of Australia.
Oxford University Press, p. 176.

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POPULATION ESTIMATES OF THE SHORT-TAILED SHEARWATER *PUFFINUS TENUIROSTRIS*, IN TASMANIA

by J.A. Naarding

Tasmanian National Parks and Wildlife Service

It is a daunting task to count the total population of an abundant species like the short-tailed shearwater. This species could be Australia's most numerous bird (Rowley 1975) and an estimate of the total population is only made possible by its very restricted breeding range and its very predictable breeding cycle. Except for a few rookeries, along the coast of N.S.W., the south coast of Victoria and South Australia, all the breeding grounds are on the Tasmanian mainland and its off-shore islands. In Tasmania there are about 150 rookeries with a total area of just over 1000 ha. They are situated in three main areas:

1. The Furneaux group of islands in the N.E.,
2. The Hunter group of islands and King Island in the N.W.,
3. The islands and coastline between Tasman Island and Port Davey in the S.E. of the State.

There is also a small concentration of rookeries near Macquarie Harbour on the west coast.

Between 1978 and 1981 the N.P.W.S. of Tasmania has conducted a study of the short-tailed shearwater and some 20 rookeries situated in all the major rookery areas were surveyed in detail. Burrow densities and occupancies were measured as well as the breeding success in each of these rookeries. Armed with that information and incorporating estimates of longevity and mortality rates from Serventy (1974), it was possible to calculate the total population of the short-tailed shearwater. The results of these calculations indicate that there are between 15 and 16 million birds (Naarding 1980, 1981). The number of birds breeding outside the State of Tasmania is probably less than 2 million.

However the accuracy of this estimate is only as good as the least accurate of the supporting figures from which it was calculated. The mortality of juveniles in particu-

lar is difficult to determine. Feeding and weather conditions during their migration to and from the northern hemisphere could affect the total population from year to year.

During the past 30 to 40 years there appears to have been a considerable increase in the area of some rookeries. From literature and long-time residents it was learned that large rookeries now exist where previously there were none. On King Island and along the west coast breeding grounds have extended in area and new ones have appeared even during the past few years.

New rookery areas do not necessarily mean an increase in the population, but it is currently thought that the short-tailed shearwater is more abundant now than in the past. Although changes in the population are certain to have occurred in the past 150 to 200 years, we must assume that Flinders' report of 150 million short-tailed shearwaters in early 1800 in Bass Strait over-estimated their abundance at that time (Flinders, 1814). It is extremely difficult for anyone to assess the numbers of birds in flocks of more than 1000. It is known that the Trefoil Island population is about 1.8 million. When all these birds arrive at dusk, very early in the season, as far as the eye can see in any direction the air seems full of them. Confronted with such a large number it is almost impossible to estimate how many birds there are.

At present the short-tailed shearwater population appears to be fairly stable and there is no reason for concern. However to maintain this population it will always be necessary to protect the breeding colonies. They are very vulnerable to damage from humans. Trampling of burrows and grazing by cattle are the most serious threats. These destroy the vegetation and cause subsequent erosion, making the soil unsuitable for burrowing.

References:

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BOOK REVIEWS
AUSTRALIAN MAMMALS**A Field Guide for New South Wales,
Victoria, South Australia and Tasmania**

by Jack Hyett, illustrated by Noel Shaw.

Published by Nelson, Melbourne, 1980. \$16.95

Unlike Australian birds which have been well served by authors like Slater and Pizzey, Australian mammals have not been covered in a comprehensive field guide for many years. To a large extent this reflects the difficulty of finding readily identifiable features for the many species which are cryptic, nocturnal, drably coloured and superficially alike. With increased interest in the natural environment there is a need for a book which will enable naturalists and laymen to identify mammals in the field.

This new field guide attempts to fill the gap. Only the eastern states are included so the guide is suitable for Tasmania. It includes the marine mammals and introduced mammals. The book has a strong waterproof cover, and while it will not fit in the average pocket, it would not take up too much space in a haversack.

The book begins with the mandatory section on classification, followed by a brief summary of the origins of Australian mammals. It is organised into the three subclasses of Mammalia (monotremes, marsupials and eutherians) with a general description of each. A series of photographs show representative skulls of each order and a short summary of the features of the orders is given at the beginning of the appropriate subclass section. If these and similar summaries for families had been distributed through the text, the author would have saved much repetition in the description of species and would have increased the educational value of the book. It would then also be easier to find the entries for species. In the absence of this organisation the book allows the reader to make disconcerting leaps, for example from Weddell Seals to Brumbies, without warning.

The majority of species are illustrated with black and white sketches which are generally more decorative than diagnostic, although some have useful insets showing important features. Entries for each species are given under a list of standard headings:

Common Name. Disappointingly, the author uses his own choice of names and does not adopt (or even acknowledge) the list of recommended common names developed by the Australian Mammal Society in an attempt to resolve the problem that bedevils many areas of natural history.

Scientific Name. Occasionally subject to change, but essential.

Other Common Names. Very helpful, particularly in Tasmania where Bennett's Wallabies are 'kangaroos'.

Description. Detailed, with italics for characteristics which distinguish similar species.

Size. Gives average or maximum head/body length, tail length and body weight (sometimes) in metrics.

Dentition. A simple dental formula is repetitive within families and of limited use. For example it would not separate the Red-necked Wallaby and the Swamp Wallaby, but a brief description or sketch of their premolars would do so instantly.

Locomotion. Describes the feet and gaits, which are useful but again repetitive.

Habitat. Uses a modification of Specht's classification which is widely accepted and should be used more in Tasmania.

Distribution. A vague geographical description. The author declined to provide maps on the grounds that distributions of many species are poorly known and liable to constant change. However, maps can provide a real incentive for naturalists to keep their eyes open and lodge specimens with museums to build up distribution data.

Status. A general statement, avoiding controversy, ranging from 'very common' to 'almost certainly extinct'.

Dwelling place. A description of nesting and/or resting sites.

Food. Lacks detail, and is not necessary in a field guide.

Voice. Very incomplete, but vocalisations can be helpful at times, particularly for arboreal species.

Habits. Contains some interesting snippets (did you know that Koalas can climb 2 inch galvanised water pipe?), but many are of little use as field characteristics.

Reproduction. Apart from details of morphology (e.g. teat number) which could be included in the general description, other details of reproduction are of limited use in the field.

Indications of Presence. This is potentially the most useful and the most singularly disappointing section in the book. Mammal identification is often, of necessity, done indirectly by the examination of tracks, faecal pellets, skulls, etc. It is then extremely frustrating to be informed that the wombat for example has 'very distinctive droppings' without any description or inset sketch. Pellets are described for only a handful of species, though many more must be known to the author and photographs have been published for some species. The same objection can be levelled at 'distinctive tracks' and 'characteristic diggings'. Other indications of presence border on the ridiculous: 'frequent road-kills' for wombats (but not for rabbits, possums or macropods), and 'koalas crossing' signs if you prefer not to get out of the car.

This field guide could have been far more valuable, without adding to the cost, with better organisation and generous use of maps and insets on the sketches. It also has a number of errors and omissions: for example the Eastern Quoll apparently does not occur on agricultural land, and the captions for the deer antlers are not in the correct order.

For the Tasmanian naturalist, the Fauna of Tasmania Committee will soon publish a field guide to the marine mammals, but the remainder of the mammals will not be covered for several years. R.H. Green's booklet, 'The Mammals of Tasmania' is still a useful guide. For a wider coverage I suggest that the prospective buyer wait for a new field guide to be produced by Basil Marlow of the Australian Museum. At least then you will have a choice.

SEASHORE SEARCHING

by Margaret Richmond, 1980

published by the Author

(\$5.50 incl. postage from M. Richmond, P.O. Box 272, Devonport 7310)

This is an unusual book designed to reach and stimulate the interest of young children visiting the beach. The author has seen the need for such a book and realised that it must be attractive to young children. She has seen also that it must be designed for use on the seashore. It is consequently reasonably small and durable. It is also clear, concise and beautifully scripted.

The twenty colour plates demonstrate both the author's ability as a photographer and her ability to choose subjects likely to interest children. Each plate is the subject for questions designed to encourage the child to think about the subject matter, its nature and to some degree, the environment. The book has come from many years of teaching young children and understanding their needs. It is, nevertheless, as the author remarks, intended to be used in association with adult influence. Both she feels, will get enjoyment from this interchange of experience. But it can be said that more than this is involved. The child can be made more aware of the natural environment if such a book provides the right level of stimulation.

The author regards colour plates as essential for a purpose such as is intended in this instance. Consequently she has had to fund the work herself to keep it within reach of the average person. The cost of my copy direct from the author is within reach. Its justification depends on whether the person buying has or is working with young children. In order to obtain some idea of what this means it was shown to children between the ages of four and ten years and reactions noted. It is apparent that children with some beach experience are able to understand the material best. Apart from this the degree of interest increased with age, but all were excited by the illustrations. Only one plate should perhaps be criticised. This plate shows a specimen of the mollusc *Austro-cochlea constricta* (Lamarck). It would probably be satisfactory if used in the real life situation where the child can observe activity.

There is almost certainly no book which cannot be improved. In this case there is a need for more explanatory text designed to take the child and the adult a further step. A person with appropriate knowledge would not experience difficulty. An adult without such knowledge may be stimulated to try and discover more information for the sake of the child. Much therefore would depend on the reaction of the child.

It is this interaction which is important if there are to be more interested and informed naturalists in the future. Understanding of the natural environment must surely be greater if it is stimulated at an early age. Because this book certainly arouses interest in children and is attractive and durable, it can be said to achieve its aim. It has merit as a first book for the potential child naturalist. It also has good quality and much appeal for any child.

R.C. Kershaw.

CLUB EXCURSION

HUNTING GROUND, 4th April 1981

Following his address on Dragonflies to the Club's monthly meeting on 2nd April Piers Allbrook accompanied members on the excursion on 4th April to study aquatic life in the Jordan River. As a result of the mild autumn weather a good selection was seen, as indicated by the list that follows. We are very grateful to Mr. Allbrook for his assistance.

- Porifera:* Freshwater sponge
Fam. Spongillidae, probably *Hetererotura nigra*
An Australian endemic.
- Bivalvia:* *Sphaerium* sp.
- Gastropoda:* probably *Hymnaea* sp.
- Decapoda:* *Paratya australiensis* (shrimp)
- Ephemeroptera:* (mayflies) nymphs, dun
(first adult instar) and spinner (last instar)
- Odonata:* (dragonflies)
Fam. Libellulidae *Austrolestes annulosus*
Fam. Coenagrionidae *Ischnura heterosticta tasmanica*
" *aurora*
Fam. Aeshnidae *Aeshna brevistyla*
Austroaeschna longissima
Fam. Gomphidae *Austrogomphus guerini*
Fam. Corduliidae *Hemicordulia tau*
- Hemiptera:* (bugs)
Fam. Veliidae (pond skaters)
Fam. Corixidae (water boatmen)
Fam. Notonectidae (back swimmers)
- Lepidoptera:* (moths)
Fam. Pyralidae
- Trichoptera:* (Caddis flies)
Fam. Rhyacophilidae (naked active carnivorous larvae)
Fam. Leptoceridae (active swimming larvae in a smooth case)
Fam. Calamoceratidae (flat cased caddis)
- Coleoptera:* (beetles)
Fam. Gryrinidae (whirligig beetles)
Fam. Haliphidae (small beetles in decomposing wood)