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KING PENGUIN (APTENODYTES PATAGONICA) IN TASMANIA

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SUMMARY :

A King Penguin came ashore in Southern Tasmania during March 1970 to moult. It was held in captivity till the moult was complete and was then released. The condition of the plumage is discussed with a view to determining its age.

Mr. F. C. Wolfhagen told me that on 15 March 1970 he had seen two boys carrying a King Penguin along the beach at Safety Cove, near Port Arthur, and a few days later a Press report stated that a Royal Penguin had been collected by P. Pettman at the same beach. In consequent correspondence Mr. Pettman advised me that he had collected the King Penguin (not a Royal Penguin) on Monday, 16 March, because "they (the boys) intended destroying it". The bird was in moult. A few days later the State Fauna authority, The Animals and Birds Protection Board, received advice about this bird and one of its officers collected it from Mr. Pettman's home at Eaglehawk Neck on 23 March and took it to Woodville Private Zoo, near Hobart, where it was held until the moult was complete. Black-and-white photographs of it were taken on 23 March and these indicate that the auricular patches (which had not been moulted at that time) were quite clearly defined.

On 31 March 1970 I saw the bird at the zoo and took several photographs of it. The moult was almost completed, only a few tufts of old feathers were still present on the upper back, the hind neck and the chin. The head was black and the auricular patches were yellow with no suggestion of orange, but not clearly defined and edged with black below which is very noticeable in photographs of birds on Macquarie Island. The upper edges of the auricular patches were clearly defined but the yellow blended gradually into the dark grey on the sides of the neck below. The breast was light yellow. The back was a much darker grey than appears in the photographs of Macquarie Island birds, and the black line separating the dark grey back from the light yellow breast was inconspicuous. The feet were black, the eyes brown, and the bill black except the base of the lower mandible which was flesh coloured.

After the moult was completed the bird was taken to Maria Island, off the East Coast, and released into the sea on 14 April. It swam away strongly.

The following features which seemed to indicate immaturity are discussed in relation to the available literature and to comments from observers with personal experience with the species - (1) the colour and boundaries of the auricular patches, (2) the colour of the sides and back, (3) colour of the lower mandible, and (4) the colour of the iris.

All papers and references to which I have had access comment on the yellow of the auricular patches in juveniles, and Falla (1937) adds that the teleoptile plumage of Specimen No. 1144 was similar to that of an adult. No description has been found to correspond with the Tasmanian specimen in which the lower margin of the auricular patch was not clearly defined after moult, and photographs from Macquarie Island, believed to include birds of all ages, do not show any with this feature.

Published descriptions all refer to the colour of the back as blue-grey and that this is clearly separated from the light yellow breast by a distinct black line, which is also apparent in photographs which have been studied. The back of the Tasmanian specimen was, however, very dark grey and the black line was inconspicuous. For a newly-moulted bird this seems unusual because the new feathers would seem more likely to be well coloured.

The colours of the lower mandible are quoted by all authors as being salmon pink to orange or purplish in adult birds, but there are differences in the descriptions of the juveniles. Wilson (1907) quotes the juvenile as having "the lower bill purplish black with a patch $\frac{1}{2}$ " long of pale whitish horn colour on each side, about the middle of its length; and the immature's as being bluish black shading into a brick-red tinge at the base". Stonehouse (1960) writes of the juveniles "black mandibular plates more or less streaked with pink", and Murphy (1936) says, "about the time that the juvenals take to sea, toward the end of their second summer, the black lateral plates of the mandibular rami are moulted, the newly exposed surfaces of the shields being white." He added, "I observed adult King Penguins moulting throughout my stay at South Georgia (November to March). After complete renewal of the plumage, the horny mandibular shields flaked off." It should be noted that Stonehouse and Murphy were both concerned with South Georgian birds whilst it would seem most likely that the Tasmanian specimen came from Macquarie Island, but this should not be material as no geographical races are recognised.

G. C. Johnston, who has spent the summer months on Macquarie Island, has commented to me "Mandibular plates are very frequently found on the ground in the big King rookery on Macquarie (Lusitania Bay) and are almost invariably coloured pale mauve. I have not found any plates showing such coloration elsewhere on the island (there is only the one breeding colony) and I would hence infer that these mauve plates come from chicks moulting into their first mature plumage, and also from those which die etc in the rookery before going to sea. Birds which are very deeply coloured in the auricular area and top of the breast as mentioned above and which I take to be birds of breeding age have salmon pink mandibular patches. The intensity of colour of the plates does seem to be related to the depth of orange

coloration (and its extent) such that birds with yellow ear patches tend to have paler plates down to what I assume you would call flesh coloured."

The following notes have been provided by F. C. Kinsky, of the Dominion Museum, Wellington, New Zealand; "In general it seems to me, that the first juvenile plumage is already very similar to the adult plumage, except for the young birds being paler in colour, particularly as far as the yellow and black parts are concerned. However the mandibular plates, normally salmon pink or orange with adult birds are definitely not of that colour with juvenile birds. They seem to be black in their first stages, and white or off-white, when the young birds leave their colonies. I personally have only seen one immature bird alive (on Campbell Island, Jan. 1968) which by dissection proved to be an immature male. The mandibular plates on this bird were light mauve. I therefore assume that the colour of the mandibular plates during the first two years at least, is very different to the adult colouring, and is therefore the only positive identification you can apply. I am however not sure how long it takes for these mandibular plates to change to the adult colouring. This might occur during the first true moult (i. e. following one year at sea) or it might take even longer."

The colour of the iris of King Penguins is stated by Wilson to be grey with a brown tint, streaked radially with darker brown in juveniles, brown with darker radial streaks in both immatures and in adults, so this characteristic does not give any guide to the current question.

It seems impossible to come to any firm conclusions from the facts and opinions quoted, but it is suggested that the Tasmanian specimen was an immature bird about two years old. This is based on the colour of the mandibular plates. It is noted by Murphy that the lateral plates of the rami are moulted about the time the juvenals take to sea and that the newly exposed plates are white, and he states also that after plumage moult is completed the ramal plates flake off. It follows, then, that juveniles moult and lose their ramal plates immediately before they leave their nesting colonies at about the age of one year, and it seems that these are annual events thereafter. If, however, the Tasmanian specimen was about two years old and moulting for the first time since going to sea, it seems that the sequence of moult of plumage and ramal plates may have been reversed.

I suggest that the King Penguin may be subject to *Aptoschromatosis*, a colour change occurring without moult. This might explain the dark-grey plumage of the back and the light-coloured ramal plates of a newly moulted bird, with colour intensification, particularly of the auricular patches, as the breeding season approaches.

Other records of the King Penguin in Tasmania are :-

- (1) Hall (1910) reported one captured near Maria Island on the East Coast, but this appears to have been a report by a fisherman and the identification was not confirmed by a recognised ornithologist. It should be regarded as unsubstantiated.
- (2) Sharland (1956) found some skeletal remains of this species near the mouth of the Derwent River on 21 July 1956.
- (3) D. Randall, a Wildlife Officer of The National Parks and Wildlife Service,

Tasmania, found a bird, also near the mouth of the Derwent on 2 February 1970. It was being mauled by a dog so he hurriedly returned it to the water and did not take particular note of its plumage beyond the fact that it did not show any signs of moult. It has been suggested that this may have been the same bird which was picked up at Safety Cove six weeks later, but there is no evidence to support this.

(4) In March 1972 J. Veasey, a bushwalker, saw a King Penguin on a beach near Louisa Bay on the South Coast and he photographed it. I have seen the transparency, but the bird is at too great a distance to enable fine details of its plumage to be determined. It did not appear to be in moult.

(5) On 2 February 1973 a large penguin, suggested as being a King, visited Dover in Southern Tasmania and a photograph (in silhouette only) of it was published in the Saturday Evening Mercury on 3 February. On 10 February a King Penguin, apparently in good health and not in moult, was seen and photographed at Garden Island Creek about ten miles north of Dover. It seems likely that these sightings were of the same bird.

The observer on the second occasion, Mr. J. G. K. Harris, must surely have a unique record - a recent arrival from England, he has seen a King Penguin in Tasmania before he has seen our local resident, the Little Blue Penguin.

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WADERS IN TASMANIA

D. G. Thomas

(Continued from last issue)

6. Red-kneed Dotterel Charadrius cinctus
 Very rare vagrant from the mainland. The only record is of an immature bird at South Arm in January 1967.
7. Hooded Dotterel C. cucullatus
 Common. Small numbers breed on most ocean beaches. Flocks, of up to 30 birds, may form in winter on tidal mud or the edges of brackish lagoons near the coast.
8. Red-capped Dotterel C. alexandrinus
 Common. Breeds on the edges of tidal flats, salt pans and lagoons close to the coast and inland. Forms loose flocks outside the breeding season, Not exclusively coastal.

9. Banded Dotterel C. bicinctus
Common from March to September with individuals present in most other months. Breeds in New Zealand. Mainly coastal but occurs inland - Tunbridge, Ross, Lake Pedder.
10. Mongolian Sand Dotterel C. mongolus
Summer visitor from Siberia. Uncommon but occurs each year in small numbers. Recorded from Cape Portland (maximum 8), Anson's Bay and the Derwent Estuary.
11. Large Sand Dotterel C. leschenaultii
Irregular summer visitor in small numbers from Siberia. Several records from Cape Portland and the Derwent Estuary.
12. Black-fronted Dotterel C. melanops
Sparsely distributed, breeding on the edges of brackish or fresh water lagoons. Avoids tidal situations.
13. Oriental Dotterel C. veredus
Irregular visitor in small numbers from Siberia. Has only been recorded from Cape Portland (twice) and Lauderdale (twice, one record is of 3 birds).
14. Eastern Golden Plover Pluvialis dominica
Regular summer visitor from Siberia. Occurs in flocks of up to 100 birds at Circular Head, the Tamar Estuary, Cape Portland, Mussel Roe Bay, St. Helens, Sorell, Barilla Bay and Pipeclay Lagoon. Smaller flocks occur at Anson's Bay and South Arm. A few remain throughout the winter.
15. Grey Plover P. squatarola
Uncommon but regular visitor from Siberia. Occurs singly or in pairs in most years at Cape Portland, Sorell, South Arm and has been recorded from the Tamar Estuary.

CURLEWS, SNIPES & SANDPIPERS - Scolopacidae

16. Turnstone Arenaria interpres
Regular visitor from Siberia to northern coasts, occasional elsewhere. Flocks of 30 or more occur at Stanley, Kelso, Low Head, Cape Portland and Anson's Bay.
17. Japanese Snipe Gallinago hardwickii
Common summer visitor from Japan. Occurs in marshy areas throughout Tasmania.
18. Little Whimbrel Numenius minutus
Rare. Only two records: South Arm (January 1965) and Barilla Bay (February 1966). Breeds in Siberia.
19. Whimbrel N. phaeopus
Uncommon, but probably a few visit Tasmania each summer from Siberia. Recorded from Tamar Estuary, Cape Portland, Sorell and South Arm.

20. Eastern Curlew N. madagascariensis
Common. Flocks of up to 250 birds occur at Circular Head, George Town, St. Helens, Swan River, Blackman Bay, Sorell and South Arm. Smaller numbers occur at Port Sorell, Kelso, Cape Portland - Mussel Roe Bay. Variable numbers remain during the winter.
21. Little Greenshank Tringa stagnatalis
Rare summer visitor from Siberia. Only recorded from Flinders Island.
22. Greenshank T. nebularia
Common visitor during the summer months from Siberia. Flocks of up to 50 form regularly at St. Helens, Pittwater, Barilla Bay and South Arm. Occurs elsewhere in small numbers, e. g. Tamar Estuary and Cape Portland, or irregularly, e. g. Lisdillon. A few may remain during the winter.
23. Wood Sandpiper T. glareola
Rare visitor from Siberia. The only record is of a single bird at Clear Lagoon, Sandford in October 1967.
24. Common Sandpiper T. hypoleucos
Rare summer visitor from Siberia. Has been recorded recently from near Stanley, Sorell and Maria Island (a single bird at Darlington in several years).
25. Grey-tailed Tattler T. brevipes
Regular summer visitor from Siberia in small numbers, usually to be found at Cape Portland, Sorell and South Arm. Occasional elsewhere. The odd bird may remain throughout the winter.
26. Knot Calidris canutus
Regular summer visitor from Siberia that appears to be increasing in numbers. Occurs at Sorell (50 or more) and Cape Portland (10 or more). Has been recorded occasionally elsewhere: Port Sorell, St. Helens, Blackman Bay, Low Head, Lauderdale, Sandford, South Arm and King Island.
27. Great Knot C. tenuirostris
Rare summer visitor from Siberia. Apparently occurs in very small numbers, maximum 4, at Sorell and Cape Portland.
28. Sharp-tailed Sandpiper C. acuminata
Regular summer visitor from Siberia. Regular at Cape Portland (up to 100) and Barilla Bay (30 - 100), occasional elsewhere. Has occurred inland at Tunbridge.
29. Pectoral Sandpiper C. melanotos
Rare but possibly regular summer visitor from Siberia. The only records are from Barilla Bay and Clear Lagoon, Sandford - Lauderdale.
30. Baird's Sandpiper C. bairdii
Rare summer visitor from Siberia. The only Australian record is a bird collected at Lauderdale in October 1966. (Continued next issue).
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BIRDS OF QUEEN'S DOMAIN, HOBART

DURING the years 1969-1971 members of the Bird Observers' Association of Tasmania carried out a survey to determine the species occurring on the Domain and those which nest there. This was prompted by the desire of Mr. J. H. Hemsley, Curator of Wildlife with the Animals and Birds Protection Board, to learn the extent to which the nesting of native birds might be affected by the activities of the large numbers of Starlings in the neighbourhood.

To carry out the survey the Domain was divided into six areas, each of which was kept under frequent observation by a member of the Association. During the latter part of the survey the Royal Botanical Gardens was added as a seventh area, and it is interesting to note that although the Gardens contain a wide variety of trees and shrubs which might be expected to attract birds which don't frequent other parts of the Domain this has not proved to be the case.

It has been shown very clearly that the northwestern and western sectors, which are subject to the prevailing winds, have a low bird population. It has been suggested that the high vehicular traffic density of the Brooker Highway, which skirts the Domain here, might affect the birds but this is not believed to be factual. The northeastern slopes carrying a good stand of Casuarinas are almost devoid of birds, but this is to be expected because these trees provide very little food for insectivorous birds and the ground underneath them is almost bare of shrubs and grass.

Whilst the species list for the area, as shown by the survey, contains 36, these are by no means all resident species, 7 being interstate migrants and several others altitudinal migrants. Birds which move across Bass Strait spend the warmer months of the year here, while the altitudinal migrants are normally found here in the cooler months, although there is often some overlap. In addition, a number in the list are uncommon to the area, having been seen only at long intervals and singly or in small numbers.

The species list is :-

Brown Hawk,	Grey Fantail,
N Spur-winged Plover,	N Spotted Pardalote,
Spotted Turtledove,	N Yellow-tipped Pardalote,
Musk Lorikeet,	N Grey-breasted Silveryeye,
Swift Parrot,	N Black-headed Honeyeater
N Eastern Rosella,	Crescent Honeyeater
Pallid Cuckoo,	New Holland Honeyeater,
Fan-tailed Cuckoo,	Yellow-throated Honeyeater,
Welcome Swallow,	Little Wattle-bird,
Tree-Martin,	N Yellow Wattle-bird,
Australian Pipit,	House Sparrow,
Black-faced Cuckoo-shrike.	N Goldfinch,
Blackbird.	Greenfinch.
Superb Blue Wren.	N Starling,
N Brown Thornbill,	N Dusky Wood-swallow,
N Yellow-rumped Thornbill,	Grey Butcher-bird,
Scarlet Robin,	White-backed Magpie.
Flame Robin,	N Forest Raven.

(Those marked "N" have been found nesting in the area.)

In addition to those listed above a White-faced Heron has been seen flying over the area, and during the autumn months Spine-tailed Swifts have also been seen overhead. The Domestic Pigeon is also seen frequently.

Silver Gulls frequent the River Derwent on the eastern side and often scavenge about the sports grounds and the Regatta ground. Other seabirds on the river are Pacific Gull, Dominican Gull, Black Cormorant and Little Pied Cormorant, and these may readily be seen from the Domain though not actually occurring over it.

It is known that the Brown Goshawk and the Yellow-tailed Black Cockatoo have also occurred on the Domain, although not recorded during the progress of this survey, and there is one record of a Ground Parrot. A Yellow Rosella was also found during the survey and was present for two years, but this is believed to have been an escapee from an aviary. A Masked Owl is known to live in Government House grounds but this area was not included in the survey.

Although many Starlings were found breeding on the Domain it is evident that native birds which use similar nesting sites are still breeding regularly, and it seems that the Starlings are not having any marked effect, if any, in this regard.

Members who took part in the survey were Misses M. Westbrook, E. F. Warren, Mrs. P. Park, Dr. C. F. J. Smith, Dr. O. M. G. Newman, Messrs, K. Moore, D. Ziegeler and L. E. Wall.

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