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AUSTRALASIAN GREBE (*TACHYBAPTUS NOVAE- HOLLANDIAE*) IN TASMANIA

L.E. Wall

The status of this species (formerly known as Little or Red-necked Grebe) in the last century and early part of this century is uncertain. Littler, in his "Handbook of the Birds of Tasmania and its Dependencies" (1910), only commented that it is seldom seen; Lord & Scott, in "Vertebrate Animals of Tasmania" (1924), noted that it was occasionally seen near Bridgewater, and Sharland in "Tasmanian Birds" (1958) quoted the species as "not common". Mr. Sharland has told me that up to that time he had not seen the bird in Tasmania.

The only detailed reference is in W.V. Legge's paper, "List of Birds Observed at the Great Lake in the month of March" (Emu 4, pp 103-109), where this species is noted as: "... found sparingly on the lake. It is universally distributed throughout Tasmania, being met with in a variety of situations - rivers, lagoons, lakes, tarns, tidal waters - anywhere, in fact, where it can procure its food and find the requisite shelter for its nest. In the rivers of the eastern and open country portion of the island its favourite resorts are the still, reed-fringed reaches which are their chief characteristic, and likewise the shallow brackish lagoons of the East Coast." This statement is in sharp contrast to all other published comments. Great Lake seems a most unsuitable habitat for Australasian Grebes which like plenty of weeds for feeding and nesting activities while the lake appears to be entirely lacking in this respect. However, Legge's observations were made when he undertook a hydrographic survey of the lake in 1903 at which time it was in its natural state and its level not raised for hydro-electric purposes. He emphasised that the lake was remarkably shallow, rarely exceeding 5 metres in depth, and its floor extraordinarily level and in many parts covered by an erect spinous weed. Since that time the lake's level has been progressively raised by about 18 metres.

The first observation in more recent times was made by D.R. Milledge in January 1964 at Pawleena reservoir, and I saw four there on the following two weekends. In November of the same year two were seen at St. Helens and one at Diana Basin on the East Coast. In April 1965, during the Club's Easter Camp at Douglas River, twelve were seen on a reedy lagoon at Seymour, and in the following October, J.R. Napier photographed an occupied-nest at Campbell Town.

I have no further records until 1972 when there were three sightings on King Island in March and April (the first for that island), one in October on Flinders Island by J.R. Napier, and one near Woodbridge by D.R. Milledge in July. The only report for 1973 was of one bird at Ouse in December and there were none in 1974.

1975 brought a number of sightings - eight at Lake Pedder on 20 March, one at Sandford on 20 April, and one at Ouse on 28 May by A.W. Fletcher. W. Ferrar reported 4 at Buckland on 3 April and one on 10 December.

A pair with two young were found at Buckland on 8 February 1976 with other sightings in the same month at Buckland and Sandford. In the following spring there was a sighting at Dodges Ferry and two breeding records from Kettering and Rosegarland.

In 1977 I have records for Sandford in July, Rosegarland in October and Kettering on 6 November when two very small young were included.

In 1978 I found one at Ouse in January, one at Kettering in July, one at Lake Dulverton in August, two at Kettering in September and in December when they had five well-grown young.

Observations of the last few years indicate that the Australasian Grebe is again a regular member of the Tasmanian avifauna as Legge indicated that it was early in this century. It favours small farm dams and reedy lagoons although a few of the observations were on substantial areas of water (Diana Basin, Lake Pedder and Lake Dulverton). There is particular interest that a very small farm dam at Kettering has been used for breeding in each of the last three years although the birds are not permanent residents there.

UNDERWATER ARCHAEOLOGY

J. Stockton

The name to be given to this new field of research has always been a problem. 'Marine' or submarine' archeology would limit the work to that done in the seas, while much is done in rivers, lakes and streams. Archaeology under water, of course, should be called simply archaeology. We do not speak of those working in the Kosciuszko Mountains as mountain archaeologists, nor those working on coastal colonial settlement like Bowen's Landing, coastal colonial archaeologists. They are all people who are trying to answer questions regarding man's past, and they are adaptable in being able to excavate and interpret the sites and what they contain. Is the study of an ancient ship and its cargo or the survey of a toppled harbour wall somehow different? That such remains lie underwater entails the use of different tools and techniques in their study, just as the survey of a large area on land, using aerial photographs, magnetic detectors, and drills, requires procedure different from excavating stone artefacts in an Aboriginal cave. The basic aim in all cases is the same. It is all archaeology. A defence of underwater archaeology as archaeology might seem unnecessary, but by some it has been considered something special, just outside the field of true archaeology.

Knowledge to be gained from the water is not mainly of ship construction and trade routes, There is a vast amount of information on technology, art, and history to be gained from the study of cargoes carried on ancient ships. On other sites, objects fell or were deliberately thrown into the water. In still other situations sites which were occupied by man during the last ice age were covered when the sea level rose as the ice melted. In recent years, many sites on inland river systems have been inundated by the construction of dams.

Until fairly recently most of these underwater sites were considered suitable only for salvage. The picture of sunken treasures being looted by divers readily springs to mind and such was the case for some years. This was unfortunate as much valuable information was destroyed, but this problem is becoming less common. National laws are beginning to protect sites underwater as they have done on land.

It is unfortunate that those who are simply divers, hoping to preserve their monopoly on underwater work, too often stress the difficulties in working under water. It takes years of training to become an archaeologist or an architect; however, divers can be trained in a couple of weeks.

Furthermore the new diver often maintains stricter safety standards than the experienced professional diver. It has been said that it is much simpler to train an archaeologist to dive, than to train a diver to be an archaeologist. However, there is a tremendous contribution that the non-archaeologist diver can make.

Research for underwater archaeology involves archival and historical records work, site locating, mapping and excavating. In all these fields the non-archaeologist diver can make contributions. An example of this sort of co-operation is the feasibility study carried out on the wreck of the "Sydney Cove" in April-May 1978 by the Tasmanian National Parks and Wildlife Service. The archaeological director was Graeme Henderson, the curator of the Department of Maritime Archaeology, Western Australian Museum. The team included people with expertise in engineering, boat handling, photography, archaeology and finds recording and drawing. The expedition relied upon both paid and voluntary workers.

The primary duty of the field archaeologist is to record the details of his site before and during excavation. Thus his interpretation of the remains may be evaluated by those who will know the site only through its publication. Without plans, an excavation is no more than salvage. The techniques of recording differ according to the site, and much can be learned of sites by simple mapping, without excavation.

There has been a growing awareness of the archaeological significance of the Continental Shelf in general since the early 1960's. Although it has long been common knowledge that historic shipwrecks occur in coastal offshore areas, it is only the last decade that there has been an increasing consciousness of the potential existence of important pre-historic sites on the shelf. This increased interest by archaeologists has come about largely as the result of the application to archaeology of geomorphological data in regard to sea level changes (Fairbridge 1960, Shepard 1964, Jones 1968 and Bowdler 1978). The evidence indicates that the level of the sea varied considerably along the Continental Shelf during the period of human occupation in Tasmania. These coastal sites will represent the maritime Aboriginal culture of the period.

Bowdler (1978) has argued that Australia was colonised over 40,000 years ago by people adapted to a coastal way of life; that initial colonising routes were around the coasts and thence up the major river systems. She also points to the definitive test of this hypothesis, the archaeological exploration of the submarine Continental Shelf.

The technology for such an exploration has developed since the 1960's and is now readily available. Most of this development has been on shipwrecks, or inland sites inundated by man made dams (Bass, 1970; Lenihan, 1977). The problems for this study are ones of selecting a high probability area in which to carry out the initial reconnaissance, and expense. This is a new area for Australian archaeological research.

On this point it is interesting to note that a shell midden and a burial have been found on the sea bed 20 m below the present sea level in Florida (personal communication N. Fleming) and Reynold Ruppe, of Arizona State is presently working on submerged offshore middens (Cummings and Lenihan, 1974). The submergence of an Aboriginal archaeological site by the ocean will produce a radically different environment with resultant effects on the conservation of the remains in the deposit. Just what this new environment will preserve remains to be seen. I am certain that the first Aboriginal site to be found on the present sea bed will not be found by an archaeologist.

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AVIFAUNA OF TASMANIAN ORCHARDS

Part 1

Peter Fielding

INTRODUCTION

Orchards are disappearing from the landscape due to a decline in demand for Tasmanian fruit. In recent years orchardists have found it more economical to "grub" their orchards out. Often orchards are replaced by pastures which are poorer habitat. In a year's study of a pasture that replaced an orchard near Forcett only 39 species of birds were found. In a nearby pear orchard 54 species were observed. The pasture studied was completely bare of any trees. The removal of trees meant the disappearance of most 'bush birds', although some were found on the fringes of the pasture where eucalypts and acacias remained.

Not many species of birds are permanent residents in orchards. Most of the permanent residents are introduced birds. This is probably due to the deciduous and exotic nature of orchards. Most birds move into orchards to feed, to rest or to take up partial residence. Some birds were only observed flying overhead but possibly visit orchards. Food supply in orchards consist of insects, grubs, worms nectar, fruit and mammals, etc.

Some orchards I entered contained no birds at all, possibly due to the use of deadly chemical sprays. A bird list of 22 species compiled by D. R. Milledge at Triabunna 20-5-'69 is an example of the numbers of birds that can be found in orchards where deadly sprays are not used: 4+ Swamp Quail, 2 Tasmanian Native-Hen, 2 Yellow-tailed Black Cuckatoo, 20+ Musk Lorikeet, 12+ Green Rosella, 1 Fan-tailed Cuckoo, 4 Common Blackbird, 1 Golden Whistler, 1 Grey Shrike-Thrush, 4+ Grey Fantail, 80+ Yellow Wattlebird, 200+ Little Wattlebird, 10 Noisy Miner, 6+ Yellow-throated Honeyeater, 30+ Black-headed Honeyeater, 20+ Crescent Honeyeater, 40+ New Holland Honeyeater, 3+ Spotted Pardalote, 30+ Silvereye, 30+ European Goldfinch, 1 Grey Butcherbird, 50+ Forest Raven.

Distribution of orchards are mainly restricted to south eastern Tasmania, Tamar Valley, Spreyton and Scottsdale districts.

Apple, pear, plum, apricot, quince and cherry orchards were studied briefly in each district. This is not considered to be a complete list of orchard birds due to the short duration of my survey. Special thanks to D. R. Milledge and thirty Tasmanian orchardists for the use of their knowledge of orchard birds.

ANNOTATED LIST OF SPECIES

1. White-faced Heron Ardea novaehollandiae

Occasional visitor during the months when trees are bare of leaves.

2. Cattle Egret Ardeola ibis

One bird observed in a pear orchard at Forcett, July 1977.

3. **Accipiter species**

Several reports of occasional birds.

4. **Wedge-tailed Eagle Aquila audax**

Records of occasional birds from New Norfolk, Forcett, Copping and Dunalley.

5. **Swamp Harrier Circus aeruginosus**

Several sightings of birds above orchards during the early spring when trees are bare of leaves.

6. **Brown Falcon Falco berigora**

Visitor to most orchards.

7. **Mankeen Kestrel Falco cenchroides**

One bird observed above a pear orchard at Forcett, October 1977.

8. **Swamp Quail Coturnix ypsilophora**

Common visitor in orchards with good grass cover.

9. **Peafowl Pavo cristatus**

Introduced resident in an apricot orchard at Dunalley.

10. **Ring-necked Pheasant Phasianus colchicus**

Introduced partial resident at Castle Forbes Bay and Port Huon. When the orchard trees shed their leaves the birds move into the protection of evergreen native forest. Breeds successfully each year in an orchard at Castle Forbes Bay.

11. **Tasmanian Native-Hen Gallinula mortierii**

Common visitor. Twenty-five percent of orchadists that recorded this species reported fruit damage. Fruit is taken from low branches that can be reached from ground level. Some birds also hop up onto trees via low branches to reach high fruit.

12. **Swamphen Porphyrio porphyrio**

Recorded at Franklin and Castle Forbes Bay. Reported to eat apples by flying up to the lower branches.

13. **Masked Plover Vanellus miles novaehollandiae**

Common partial resident. Breeds each year in an orchard at Castle Forbes Bay.

14. **Japanese Snips Gallinago hardwickii**

A regular migrant at New Norfolk amongst well spaced trees.