wing coverts against the dark under-wing, would be revealed. Only one bird appeared to be in almost full breeding plumage. It was a beautiful specimen, the chin and throat being a pale buff bordered with a dark line from eye to eye. The others varied somewhat, the throats being deeper buff and the black bordering line consisting mostly of short streaks. In one bird, which was probably a juvenile, the general plumage was nondescript, with the throat patch barely discernible and no sign of the bordering band.

The iris was dark in all the birds, with a pale orbital ring which was more prominent behind the eye.

All the legs appeared dark and the short wide bills, black. At no time did I notice any reddish colouration near the gape in any of the birds, a feature that I particularly looked for, as it is given in literature and shown in coloured illustrations. Perhaps it is evident only on the breeding grounds.

Calls were not often heard. Sometimes, when alarmed, they would rise from the ground uttering loud "chik" or "chik-chik" notes. Occasionally as they flew about a sharp "chet" would be heard and sometimes a loud "cherrr".

This species, which regularly migrates to the northern parts of Australia, sometimes in immense numbers, from its Asiatic breeding grounds, rarely comes far south.

So far as I can determine this sighting constitutes the first Victorian and the most southern record of the species in Australia.

The Nesting of the Pied Oyster-Catcher

By HAROLD E. TARR, Nunawading, Victoria.

The Pied Oyster-Catcher *(Haematopus ostralegus)* is a bird of the seashore that is difficult to overlook as its markings make it a striking study in red, black and white. The head, neck and breast are black; the under surface, lower back and rump white; wings and coverts black; tail-feathers black with white bases. There is a broad white wing-bar on the greater wing-coverts and secondaries that is very conspicuous in flight. It also has a solid, 3 inch long, scarlet bill and deep pink legs and feet, with no hind toe. The eyelids and the eyes are crimson. In general the bird presents an unusual pied appearance.

The immature birds are brownish-black and the feathers have whitish tips; the whitish under surface is mixed with brown, and the bill and legs reddish-brown.

It is an absorbing sight to watch a flock of Oyster-Catchers on a mud-flat as the incoming tide drives the birds closer together, making them take refuge on a sandbank that is not yet covered with the water. Closer observation will reveal that many of the birds are standing on either one or both legs with their heads turned and their beaks pushed into the scapular-feathers, as if they

were sleeping, but with their eyes open. I have often wondered if this behaviour is related to the birds making certain that they have enough space to fly away should danger threaten. Even when they are feeding in flocks the birds appear to have ample space, should the need arise, for a hasty retreat.

Closely allied races of oyster-catchers range throughout Europe and Asia.

The Pied Oyster-Catcher is found in suitable situations along the coastline of Australia; the islands of the Bass Strait and Tasmania. They mostly occur in small flocks or pairs, feeding at low tide on the beaches, river estuaries or mud-flats well away from habitation. Their food consists of sand-worms, crustacea, mollusca and other marine organisms.

They are very wary birds, flying off and uttering an alarm note when an observer approaches within a quarter of a mile of them. Their flight is powerful and direct, with a regular beat of the wings through a small arc, and mostly they fly low but at other times very high. On alighting they generally walk around sedately but they can run rapidly when necessary.

The flocks tend to disperse before the breeding season commences. Usually this is from July to September in northern Australia, and from October to January in the southern parts. A party of three birds is not uncommon during the breeding season, but I have few observations on these trios, other than that they appear to live amicably together.

For some years I had a mated pair of Pied and Sooty *(H. unicolor)* Oyster-Catchers under observation, but I can make no report on their breeding activities. However, I observed mating taking place between this pair, with the female soliciting the male with a quivering of wings and the uttering of an unusual note that I have since heard from other pairs carrying out the same act. I have also observed male birds soliciting on two occasions, and another record shows that both birds behaved in this manner.

Prior to, and during the breeding season, these birds indulge in what may be termed piping displays. I would think that these displays, which may be carried out by several birds, are associated with some form of excitement, probably courtship. During the piping performance the neck is thrust forward, wing butts elevated, and the beak pointed downwards and open while the piping note is uttered. Some birds run in a swerving course during this behaviour. The bobbing of the bird's head and body, similar to that adopted by other wading birds, generally takes place after this performance. These displays, which are of short duration, sometimes culminate in a different sort of excited ritual. Birds will pick up and drops pieces of grass, seaweed, etc., then bob and curtsy. At other times this piping performance will take place whilst the birds are in flight.

The Oyster-Catchers in southern Australia, where most of my observations have been made, appear to hold a territory of about

An adult Pied Oyster-Catcher at its nest. The two eggs and the nest of broken shells are clearly shown.

Plate 2.

Juvenile Pied Oyster-Catchers squatting on the sand.

Plate 3. *Photos by Harold E. Tarr*

200 yards along the beach when they are nesting. It is an interesting sight to watch a bird flying in a circular course low above this area, while it is uttering its piping note. This flight pattern is common at this time. The birds will tolerate other species of wading birds in their territory, but they will drive away any intruding Oyster-Catchers from the area.

The eggs are laid on the sand-dunes above the high watermark, and sometimes amongst seaweed, but at other times a vantage point amongst *Mesembryanthemum* is favoured. Some nests appear to have shells, seaweed etc. arranged by the birds in the scrape, which is usually about 9 inches in diameter and 2 inches in depth. The females frequently sit on the empty scrapes for some time before they lay. I have known the same scrape to be used on four successive years.

Two eggs are usual in a clutch but occasionally three eggs will be found. The eggs are laid two days apart and incubation commences with the laying of the last egg. Both sexes share in the duties of incubation. From my personal observations it would appear that there is only one clutch of eggs for a pair of birds each season. The eggs are light stone in colour, with irregular shaped streaks, blotches and spots of blackish-brown and underlying markings of inky-brown. In some clutches the markings predominate on the larger end. An average measurement taken of 50 eggs was 60.1 mm x 40.25 mm, with the largest egg being 66.25 mm x 44 mm and the smallest 56.75 mm x 39.5 mm.

At times the eggs are left unattended for long periods and I have recorded hatchings that have taken up to 29 days. The chipping of the egg takes a long time and it is approximately 60 to 70 hours before the young bird is hatched. The adults remove the broken egg-shell.

The accompanying photograph of the bird at the nest took me three days, over a period of five days, to secure. These are the eggs that took 29 days to hatch. The normal incubation period is about 26 days, and the young birds vacate the nest about eight hours after hatching. Both birds attend the young and brood them for about a week. It takes approximately one month for the young birds to attain maturity. The nestlings are a greyish-buff in colour, spotted with black on the back and faint markings of black on the crown and on each wing. The bill and feet are brown.

During a camp on Mud Island, Port Phillip Bay, Victoria, in November 1951, most of the juvenile Pied Oyster-Catchers took to the water at my approach. In the *Emu* (vol. 52, p. 220) I recorded the following observation. "They are strong swimmers although lacking web-feet. In all cases when I attempted to capture one of the swimming birds it dived and swam under water at a depth of about two feet before rising to the surface. The small wings were used as paddles during these diving exercises. I timed twelve of the dives from different sized birds, and the

average duration of submersion was ten seconds. The longest dive was of twelve seconds duration, made by a fairly young bird."

When the breeding season has ended the Oyster-Catchers commence to flock again. Flocks up to 150 birds, composed mainly of juveniles, have been seen on several occasions. These flocks appear to be constantly on the move and can often be heard while they are flying on moonlit nights.

The Pectoral Sandpiper *(Erolia melanotos)* Near Melbourne, Victoria

By F. T. H. SMITH, Kew, Victoria

The first Victorian, and the second Australian, record of the Pectoral Sandpiper was collected near Geelong on January 18, 1952, by W. B. Hitchcock. (Hitchcock, *The Emu,* vol. 52, pp. 281-283.)

Hitchcock states that the bird, a winter male, "was collected more by good luck than management", and after some recent field experience of this species I fully appreciate the implication of these words.

This Sandpiper is not particularly outstanding in the field, and undoubtedly has been overlooked or wrongly identified many times in the past in Australia. This is mainly due to its general similarity to the Sharp-tailed Sandpiper *(E. acuminata)* which occurs commonly in the same haunts during the normal August to March influx.

Indeed the first Australian record of *melanotos,* collected by T. Carter at Albany, Western Australia, in 1910 and apparently labelled *E. acuminata,* was not correctly identified until 1936, when it was recognized by A. Brooks (Brooks, *Auk,* vol. 53, 1936, p. 81). As a result of these specimens and my own long standing interest in the Charadriiformes, I decided that in future I would scrutinize all flocks and individuals of *acuminata* thoroughly in the hope that I might see a Pectoral Sandpiper.

After many false alarms my first definite sighting came on November 14, 1957, when I saw one bird at a small, drying swamp by the Yarra River at Bulleen (Smith, *The Bird Observer,* No. 313, December, 1957). Shortly after this observation, J. N. Hobbs saw one bird at Black Swamp, Wanganella, New South Wales, on December 8, 1957 (Hobbs, *The Emu,* vol. 58, pp. 56-58). Hobbs later reported in *The Emu* further sightings from the same area of New South Wales and, on March 23, 1958, collected a female, one of two birds, "at a small swamp four miles east of Finley, New South Wales". (Hobbs, *The Emu,* vol. 58, pp. 412-413.)

In *The Emu,* vol. 60, pp. 68-69, D. L. Serventy records the trapping and banding of a *melanotos* at Pelican Point, Swan River estuary, on November 1, 1959, and a sight record of one at Reid