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FIELD NOTES ON THE GREY-TAILED TATTLER.

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Habitat-preference amongst the migratory Charadriiformes is an aspect of study to which little attention has been paid in Australia. That these hardy and resolute birds, which bi-annually traverse half the world, should have reached a high stage of adaptability would appear certain. It is therefore surprising to find that some species restrict themselves in their choice of feeding grounds, a differential distribution that has led to a concept of rarity in the case of some comparatively common visitors. Such is the case as regards the Grey-tailed Tattler (*Tringa brevipes*) in New South Wales, as has been shown by observations made during recent years.

The *Official Checklist of the Birds of Australia* (1926) gives the range of the Grey-tailed Tattler in Australia as "Northern Australia, South Queensland, and Western Australia". Actually the species was known from Sydney a quarter of a century previous to this (North, 1898), but it was not until K. A. Hindwood made frequent observations at Long Reef, a rocky promontory near Collaroy, that the species was shown to be a regular summer inhabitant of coastal New South Wales. These and the observations of the writer have shown that the species feeds in small numbers on exposed coastal reefs, but rarely elsewhere, near Sydney. The extensive mud and sand flats along Cook's River and Botany Bay, areas noted for their wader populations, appear to be unsuitable to the Tattlers, and the species has been recorded only once there in one hundred trips spread over six years.* Likewise, it generally avoids sandy beaches and swampy areas. On the other hand, on certain Hunter River mudflats some ninety miles to the north the observations of A. J. Gwynne over a number of years, and of the writer during 1943-1944, have shown that the species occurs in moderately large numbers.

T. brevipes has been recorded from Mud Island, Port Phillip Bay (Bryant, 1933; Anon., 1933; Reed, 1941), and the Swan River (Serventy, 1938) and Rockingham (Sedgwick, 1942) in south-western Australia. There appears to be little doubt that before the southern coastline has been reached the species has thinned out and that it can be regarded as rare there. It is unknown from Tasmania (M. S. R. Sharland, 1945, p. iii).

Status in the Sydney Area.—K. A. Hindwood, who a few years ago (1942, p. 27) summarized his observations of the species at Long Reef between March, 1941, and February, 1942, has kindly made his full notes available for this paper. These show that the species was present on the reef on the four occasions when observations were made there during 1940, 40 of the 47 trips during 1941, 17 of the 19 trips during 1942, the single trip during 1943, four trips during 1944, two trips during 1946, and two trips during 1947. Single birds were seen on 14 occasions, two birds 21 times, three birds 21 times, four birds six times, five birds twice, six-seven birds four times, and twice "several" were recorded. Thus in the majority of instances either two or three birds were present. During the winter months of both 1941 and 1942, when observations were made, the species was present. In 1941 a single bird was present during May, two birds after June 21, three birds after July 14, and four birds after August 24.

* Strangely enough A. J. North (1898, p. 112) wrote (and referring in error to *T. incana*): "Frequents the flats near the mouth of Cook's River, and the shores of Botany Bay during October and November."

On September 21 the number fell to two, and from then and throughout the ensuing summer and autumn either one, two or three birds were present. Generally the number was constant for some weeks at a time. One or two birds were noted during the winter of 1942, and on October 17 the population jumped to "five or six" birds, probably due to augmentation by migrants from the north. The birds that remained during the winter did not assume breeding plumage.

Long Reef is the finest of its kind in the vicinity of Sydney and is the only area where the species has been consistently observed. The writer and A. R. McGill have noted it four times in twenty trips to the reef at Boat Harbour, near Cronulla, over the last five years (one to four birds). On February 6, 1943, the writer counted seven birds on flats adjacent to the mouth of Cook's River; and Hindwood states that he has recorded single birds once each at Curl Curl Lagoon and the Eastlakes Swamp. A single bird was recorded at Tom Thumb Lagoon, near Port Kembla, on January 6, 1946, by N. W. Chaffer, R. P. Cooper, G. Miller and McGill.

With the exception of Tom Thumb Lagoon, these areas and other wader habitats are frequently visited by observers, and the paucity of records, other than from coastal reefs, indicates a strong preference for that habitat in the Sydney area.

Status on the Hunter River.—Observations and counts of birds were made by the author between October 28, 1943, and May 15, 1944, along Throsby Creek, Hunter River. The creek, which was selected because of accessibility, is shallow and joins the river a few miles from its mouth. Mangroves grow in places; at low tide the water retreats to a series of channels, and medial and lateral mudflats are exposed. Here, where the creek is bounded by the suburbs of Carrington and Wickham, the area was much favoured by waders, the Golden Plover (*Pluvialis dominicus*) and the Grey-tailed Tattler being the dominant species. The Tattlers fed at low tide on the open mudflats or amongst shell-covered stones that had been dumped at places along the water's edge as a safeguard against flooding. At high tide the birds assembled in one of two patches of bare mangrove stumps, perching a few feet above the water and excellently camouflaged against the grey wood. The Plovers, for the most part, fed elsewhere but were frequently located at high tide in an adjacent grassy area or with the Tattlers on the mangrove debris.

A specific route, designed to give a complete count of the Tattlers along this waterway was covered at fortnightly intervals over the period. As observations were not commenced until October 28, the date of arrival of the first birds is not known; the maximum spring count was made on November 25, 1943. The population between December and February was relatively constant at 15 to 25, then a steady increase was noted up to April 16, 1944. Despite the limited nature of the survey, it was interesting to note an increase preceding, and a tapering-off following, these maximum populations.

The spring and autumn populations were as follows:

October 28, 1943	about 12	March 30, 1944	20
November 10	30	April 5	30
November 25	100	April 16	60
December 11	35	April 30	34
March 12, 1944	20	May 7	12
March 23	14	May 15	1

In the spring and autumn a considerable interchange of birds appeared to take place, there being marked differences in the plumage patterns of flocks noted on successive visits. Whether this was due to birds arriving from the south or the more probable explanation of an interchange along the river it is difficult to say. The species did not appear to be represented in the vast assemblage that fed at low tide on sandbanks in the main river, but without doubt the vast marshy hinterland held a population. It is worthy of note that, though only on a limited scale, Throsby Creek is a gathering place at migration time and as such is the most southerly area so far recorded.

Plumage Changes.—Tattlers are amongst the most distinctive of the wading birds, although in eclipse plumage it is not considered that the two species, *Tringa brevipes* and *T. incana** could be distinguished in the field (Serventy, 1944). In *T. brevipes* at this time the upper parts are of a soft even brownish-grey, the breast is pale grey, and the throat and abdomen white. The bill is long and dark-coloured; the legs are a distinctive yellow. A black line joins the eye and the bill, throwing a whitish eyebrow into relief. There is no longitudinal wing stripe and the upper tail is of an even grey tone. They are sleek-bodied, and the wings are long and tapering; their height cannot be appreciated until viewed alongside such a bird as the common Sharp-tailed Sandpiper.

In breeding plumage *T. brevipes* develops barring on the breast and flanks only; *T. incana* over the breast and abdomen. So far as is known, *T. incana* is rare in eastern Australia (Serventy, 1944). During these observations no birds which could have been ascribed to the Wandering Tattler were seen; certainly it may have been present in non-breeding plumage, but it is felt that, once development of the breeding plumage commenced, any Wandering Tattler would have been readily identified. For similar reasons the observations of Hindwood are assumed as being referable to *T. brevipes*.

Towards March faint striations began to appear through the greyish face and breast of some birds. By March 23 ten of fourteen birds observed had light but defined striations through the face, less defined on the lower throat, and dark edging to the feathers of the upper breast and flanks. The black marking between the eye and bill appeared more intense than formerly. There was slight variation amongst the various individuals. Other birds showed little change from the eclipse plumage.

On April 5 notes were made on twenty of the thirty birds counted; all showed distinct and fairly uniform assumption of breeding plumage. Generally the facial, neck, breast and flank markings were more pronounced. A typical bird was described thus: Top of head, brownish-grey; whitish flecking on the forehead. Back of head and neck, brownish-grey, merging into flecking on the sides of the neck. Back, rump and upper tail, grey-brown. Eyebrow, white; distinct dark mark from top of bill to eye and darkish line running through eye to side of head, where it merged with other colouring. Striping on lower face and side of head. Upper throat, white; intense striping on lower throat, and merging into barring of breast feathers. Barred markings well defined on breast and flanks, becoming lighter towards abdomen, which was white. Maxilla brownish-black; proximal portion of mandible dull greyish-yellow, distal portion brownish-black.

Of the sixty birds seen on April 16 almost all were in breeding plumage. One bird, however, showed no trace of breeding plumage, and in a couple of others the face was striped, the throat was white and the upper breast greyish and not barred. The majority of the birds complied with this description: Forehead, sides of face, chin and throat striped; barred markings pronounced on upper breast and flanks. The chin is very lightly striped. Upper parts as before, but with the lower feathers of the back, rump, and upper tail coverts narrowly and indistinctly edged white; feathers of outer edges of under tail coverts transversely marked. Black mark extended from end of bill to eye and threw the eyebrow (white with faint streaking through it) into relief. (I do not agree with Hindwood that this eyebrow becomes more white as breeding plumage is assumed; I consider rather that blackening above and below makes the stripe more prominent.) The eyes were jet black and surrounded by a fine whitish orbital ring.

On April 30 four birds of thirty-four lacked any suggestion of breeding plumage; all others had assumed the plumage described under April 16. Of the four, two were

* For the purposes of the present paper I have followed the *Official Checklist of the Birds of Australia*, Second Ed. (1926) in regarding these as distinct species.

the same shade of grey-brown above as the birds in breeding plumage, but two were slightly more brown in colour. Once previously a bird had been noted with this brownish wash on the back; it is suggested that these are individual aberrants rather than *T. incana*, which species is regarded as being more grey than *T. brevipes* (Stickney, 1943).

The twelve birds recorded on May 7 and the single bird that remained on May 15 were in full breeding plumage.

No birds with the whitish back flecking of the immature were detected during this autumn survey.

General Notes.—The Grey-tailed Tattler has several calls, the flight call being reminiscent of that of the Golden Plover. It has the same plaintive tone and when uttered in full can best be described as "Peeep-peeep-pip-pip-peeep", although just two or three syllables are more frequently used. The species is very vocal in flight.

The Tattlers usually fed in parties of up to seven on the open mudflat, and singly or in pairs when amongst stones, where they could only be discerned with difficulty. The species usually fed apart from other waders, apparently due rather to their feeding grounds being disliked by the other species than a desire for isolation on the part of the Tattlers; they were frequently in company with Silver Gulls (*Larus novae-hollandiae*) and White-faced Herons (*Notophox novae-hollandiae*), but few sandpipers and plovers ventured on to these flats.

The species is for the most part trusting, and on several occasions, by careful stalking, it was possible to get within twelve feet of individuals, making the use of the 16x telescope unnecessary. However, when in larger parties they are more timid. This was the case prior to migration; then, too, the birds were restless and flew and settled as a flock. Natural enemies were probably few, but on one occasion, when a Black-shouldered Kite (*Elanus axillaris*) appeared, the flock took flight and their powerful wings carried them swiftly over the water. They swept up and down stream within a few inches of the surface and refused to settle until the Kite moved away.

The species was found to gorge freely on the small burrowing Semaphore Crab (*Heloeccius cordiformis*). The habit was first detected on March 23, when a small party was observed at the change of tide. Several birds, apparently having finished feeding, were seated on the drying mud with eyes half-closed; another was asleep on one leg. As I focussed on one of the birds running over the mud its neck was suddenly stretched out, its pace quickened, and a small crab, with legs and chelae thrashing, was lifted into the air. The crab was held in the tip of the bill, taken to the water's edge, where it was shaken vigorously, dropped, shaken, and dropped again. Shortly the motions of the crab became less pronounced, and as the bird gulped the morsel down it was apparent that most of the limbs had been removed. The performance was then repeated, and three birds secured five crabs in as many minutes. Always the crabs were taken to the water's edge and washed prior to being eaten. With the hunting so good it was understandable why the majority were sleeping.

Subsequently (April 16) the observations were carried further. On this occasion some twenty birds were feeding on a small muddy "island" at low tide. The legs and chelae were seen to be removed, not by shaking the crab bodily, but by grasping the limbs and shaking until the body flew away, when the bird dashed after the maimed crab and repeated the performance with another limb. Sometimes the crab was thrown up to three feet when the appendage broke. Four or five "shakings" seemed to be sufficient. The bird did not remove all the legs, some of which could be seen as the crab was swallowed. The body casing was definitely not removed. For a time I noted the position of dissection of the crabs and then waded across to the flat, to where the crabs had been carried. Footmarks of a bird bore evidence of many trips to a chosen place, and in three square feet of clear water (half to one inch deep)

fourteen chelae and eleven legs were found. The leg remains were of different lengths, some being complete; in others only the distal podomere was present. Footprints showed where the other members of the party had been feeding, and numerous appendages were found scattered throughout the surrounding water. The incoming tide prevented a full count of the number of crabs that had been eaten, but it was obviously large. It was significant that the majority of appendages found were chelipeds, these being the limbs that could do damage to the bird. The birds had apparently swallowed the majority of other appendages.

On this date, too, Tattlers were seen dipping their bills in the mud, apparently searching for worms, and one area of flat, which had been turned over by boys in search of bait, was very popular.

The crab-eating habit of the Grey-tailed Tattler was again encountered in Jacquinet Bay, New Britain, on April 15, 1945, when a bird in breeding plumage was seen to catch and eat a crab in the same way on the shoreline of broken coral. On this occasion, too, appendages were collected, but it was not possible to obtain a complete crab for identification purposes.

Conclusion.—It can be stated that the Grey-tailed Tattler occurs in moderate numbers during the summer in central coastal New South Wales, but has an irregular distribution. Pending further investigation the species can be considered rare south of Sydney; its occurrence is, however, probably determined by suitable feeding areas.

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