

VICTORIAN WADER STUDY GROUP



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VICTORIAN WADER STUDY GROUP INC.

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EDITORIAL

Amateur naturalists have long been sensitive observers of the natural world and of our relationship with the environment, in many cases meticulously keeping records which have proved to be of immense interest and value to later observers. Traditionally the efforts of amateurs have been welcomed rather than spurned by professional ornithologists and nowhere is this more evident than in Australia. Amateurs, being engaged in so many disparate pursuits bring not only ornithological abilities but also skills of a kind that are invaluable both in the field and in the analyst's study. We see this in our own ranks: we have those who are at ease with the technicalities of electrical phenonema, radio communications, making and repair of equipment: those too who can organise and who can apply statistical and analytical method to the data so assiduously collected. To say nothing of those who can recognise with ease one wader from another and can anticipate, at least to some degree, the likely moves of desirable flocks.

Teamwork is essential for the type of work undertaken. And working as a team extends the individual so that each can undertake and achieve far more than they would attempt or succeed in if left to their own devices.

A little R & D wouldn't go amiss though. In twenty years' time - ten even, our present cumbersome equipment will seem positively archaic. Perhaps it does now. There have, over the centuries been many methods used to catch birds. Surely none have involved gear that is so heavy and unwieldy. Innovative designing flair is required from some bright spark.

SHARING TIME WITH MALAYSIA'S WADERS

By Brett Lane

Wader enthusiasts who have been on one of Clive's north-western Australia extravaganzas will be aware of the heat and humidity in which the majority of our waders spend the non-breeding months. Our northern hemisphere colleagues refer to this aspect of wader behaviour as "wintering"! During migration, Australia's waders pass along the steamy coasts of south-east Asia, refuelling on rich, intertidal mudflats as they go. In early October 1989, I visited the west coast of Malaysia to study the feeding behaviour of migrating Curlew Sandpipers. Heat and humidity weren't the only memorable experiences.

South-east Asia, apart from being hot, is very crowded and undergoing rapid economic change. Development is the aim of all governments, often at all costs. This can have devastating consequences for the natural environment. There is hope however. The Asian Wetland Bureau was established in 1985 by Duncan Parish, working out of a brief case. Now, the group has a team of enthusiastic staff, working in comfortable, air-conditioned offices. They are based at the Institute for Advanced Studies on the leafy campus of the University of Malaya in Kuala Lumpur. This was the first stop on my Malaysian visit.

The Bureau's brief is broad, covering all aspects of wetland conservation and development in almost every country in Asia. It is applying its rapidly acquired expertise to reserve proposals which include the sensitive and sustainable use of natural resources and the protection of wildlife, including waders, in Asia's wetlands. Wetlands, and the resources which they contain, play a far more important role in the daily lives of many more Asians than they do for Australians. Protecting natural values is therefore a very different ball game since the livelihoods of whole villages and towns depend on wetlands.

At the Bureau, I spent time with John Howes and Dave Bakewell looking at maps and obtaining information on likely study sites. I also gathered together equipment for sampling intertidal invertebrates. I had timed my visit to coincide with low tides in the middle of the day, when waders would be feeding. To make the most of my stay, I had to get to my study area the next day. I hired a car, held my breath and braved the hectic traffic of Kuala Lumpur. Compared with Australian traffic, that in Kuala Lumpur is either terrifying or fantastic fun, depending on your attitude.

Since I would get nowhere if I cringed at the kerbside, I threw most, but not all, of my cares to the wind and launched myself westward to the coast. The journey consisted of dodging oncoming overtakers as they appeared around blind corners, trying not to kill manic motorcyclists and avoiding squashing chickens, pigs and wayward dogs in the villages through which I passed.

The rainforest-covered hills around Kuala Lumpur are outliers of the mountain chain that runs down peninsular Malaysia. After driving through these, the country changes to a wide, flat plain.

Most of this is occupied by huge oil palm plantations which have replaced much of the lowland rainforest in the Malay Peninsula. Nearer the coast, rice paddies take over - lush green expanses divided by levees on which there are lines of houses and rattling coconut palms. In some other countries, these paddies are full of herons, egrets and other waterbirds but in Malaysia chemicals have been used widely to control insect pests and few waterbirds remain.

I based myself in a hotel in Kuala Selangor. This is a small town near the mouth of the Selangor River. It consists of two shopping streets, a bus station, two mosques, a park and many small, wooden houses. During the day, the streets are full of people, bicycles, trucks, buses and cars. By night, swifts roost in squealing parties under the verandahs. Philippine Shining Starlings gather in their thousands in the large trees around the park, bursting into screeching choruses from time to time during the night.

My first stop in Kuala Selangor was the hill above the town. It was clothed in large, spreading trees, in which a troupe of grey monkeys lived. Their loud calls carried across the surrounding town and over the mangroves which separated it from the sea. Familiar Brahminy Kites sailed past on cool, tropical breezes. This vantage point afforded a view of the coast, stretching north and south - a vast strip of mangrove forest, fringed by wide mudflats at low tide where I was to spend the next week.

Each day, I drove out to Tanjung Karang, a small town about 15 kilometres north of Kuala Selangor. From here, a short wade through the mangroves brought me to a thin, shelly beach and the wide, sticky mudflats. Waders were in abundance. Redshanks fed in small pools between the scattered mangroves. Terek Sandpipers, like animated wind-up toys, hardly stopping for breath, teetered and ran across the mud in pursuit of small crabs. Mongolian Plovers kept watch for the slightest movement on the mud surface, running, stopping, looking and occasionally pecking. I discovered a flock of 100 Curlew Sandpipers feeding on the flats half way between the mangroves and the sea. I watched them for a week, recording their peck rates, success rates and food items, and noting whether they were feeding on soupy or hard mud or whether they were interacting with other species or among themselves.

At times, this became quite tedious and I would rest my telescope eye and watch the Common Sandpipers. For the whole week I was in the area, Common Sandpipers called loudly to one another across the rough mud at the base of the mangroves where I was sitting. They would often perch on mangroves or on eroded stumps and posts when calling. From time to time, two would meet. They would march down the shore in parallel and about half a metre apart, calling rapidly and loudly. They leant forward as they marched, as if trying to overtake one another, lowered their wings slightly and fanned and turned their tails towards one another. They would continue for some distance and they often disappeared from view in depressions in the mud, only to reappear a little further down the shore, still in tandem and marching towards the sea.

When feeding, waders are not exactly great entertainment but this is one of the most amusing things which I have seen waders doing. It is a very serious matter for the Common Sandpipers however. They are obviously strongly territorial, signalling their ownership of their patch of worms, shellfish and small crabs by calling incessantly and ensuring exclusive access to their food with these noisy parades.

Their patches must have had plenty of food as most birds are generally not territorial unless they have time for the sorts of elaborate antics displayed in this case. They only have time if they don't have to spend all their hours searching for food. The Common Sandpipers of Tanjung Karang certainly offer an excellent opportunity to study territoriality in non-breeding waders.

At times, a Common Sandpiper would perch in a mangrove above my head and scold me loudly. It was perhaps not entirely unjustified as I too was interested in what lay just below the surface of the mud. A thigh-deep walk into the area where the Curlew Sandpipers had been feeding revealed a dense layer of cockles about 5 centimetres below the surface. On one day, I spent three hours up to my thighs in grey, sticky mud taking core samples. Later analysis showed that the cockles, *Orbicularia orbiculata*, occurred in densities of over 1,000 per square metre.

The Curlew Sandpipers had been pulling what looked like small worms from the flats. Interestingly enough, the cockles had long, fleshy siphons on them for feeding and breathing. The Curlew Sandpipers appeared to be eating these, as they would often haul a tough one to the surface before shaking off its siphon. Sometimes, they would almost fall over backwards as they vigorously shook a particularly stubborn one. Whether the cockles re-grow their siphons and this food represents a renewable resource for the Curlew Sandpipers is not known. If they do, the Curlew Sandpipers can be thought of as "cockle grazers".

For the week that I was on the flats at Tanjung Karang, the cockles turned out to be the most popular food among the waders. Redshanks and a couple of Great Knots were also eating cockle siphons, although they appeared to be taking them only from the larger cockles. Lesser Golden Plovers, on the other hand, weren't content with just the siphon and usually ate the whole cockle. So too did the Mongolian Plovers, although they took only the smaller cockles. Although I was unable in the time available to study each species in detail, it was clear that each had its own version of cockle eating.

The waders shared the mudflats with some of the local villagers who spent the day harvesting shellfish from the mud. They wrapped themselves in light clothes and wore broad-brimmed hats for protection against the harsh tropical sun and glare. They spent six hours a day crawling across the flats, picking out long razor clams and cockles, and putting them into string bags. As the tide rose, they washed them, returned to the shore and rode their bicycles into town to sell their catch which dangled precariously from the handlebars as they went.

At the end of the week, I was invited to dinner with a local family whom I had met in one of the restaurants in town. Since they knew I was interested in mudflats, they cooked mudflat cuisine for dinner. The razor clams were delicious - like a cross between lobster and oysters. This was a pleasant way to end a fascinating and rewarding bout of tropical field work. All I had to do was drive back to Kuala Lumpur the next morning. It was a lot easier and much more fun than a week earlier!

I doubt if Australian customs have ever had to query an incoming passenger about a jar of Malaysian mudflat submerged in alcohol but they seemed to take it in their stride. Once home, I analysed the information I had collected and discovered that male and female Curlew Sandpipers, with their slightly different bill lengths, were feeding on different mud types and possibly on different prey. Furthermore, males were beaten up by Mongolian Plovers which foraged on the same mud type. Could they be competing for space and possibly food? Competition has been used to account for differences in the non-breeding distribution of migratory birds. The results from my week at Tanjung Karang may help to explain Mark Barter's finding from our banding results that there are more male Curlew Sandpipers in Australia than females. In this case, one portion of a species' population (the males) may be suffering more competition than the other, hence the difference in their distributions.

Interestingly enough, the male-female differences in Malaysia have their parallel in Victoria. A month later at Werribee, I watched Curlew Sandpipers feeding on the coast. The shorter-billed males appeared to be feeding higher up the shore than the females, and at a much higher rate. Here, they had to contend with hoards of Red-necked Stints trampling all over their feeding areas.

It appears that male Curlew Sandpipers might have harder lives than females. Not only are they beaten up by Mongolian Plovers in south-east Asia, forcing them to fly much further south, but when they reach their destination they have to contend with a bunch of ankle-biters! I am certainly looking forward to my next visit to Tanjung Karang and to testing some of these ideas.

The Bureau is always looking for experienced helpers and trainers for its field surveys and I would recommend a trip to south-east Asia to any wader enthusiast who is also interested in exotic and interesting places.

RARE AND UNCOMMON WADERS IN VICTORIA

Jeff Campbell

Records of rare and uncommon waders in Victoria are scattered throughout the literature and have only once been brought together, in Emison *et al.* 1987, where few details are given. This present paper details records of those species for which only a handful of records exist or are observed on very few occasions in each year in the State. These species are in some cases rare or uncommon in Victoria only, or in other instances in Australia generally. Where only one or two records exist for the State, each is detailed; where several have been made, their general geographic locality is given and the first State record is detailed.

ANNOTATED LIST

Beach Thick-knee *Burhinus neglectus*

Two records only, each of single birds at Mallacoota (East Gippsland). The first was observed and photographed at Goat Island by students of the Mallacoota Central School in early July 1977 and the second was recorded by Hans Beste and Jan McCann on the eastern side of The Entrance in late November 1977 (Anon. 1979).

Little Ringed Plover *Charadrius dubius*

One record only, of a single bird observed and photographed at the north-eastern corner of Lake Connemare (Geelong region) by Fred Smith and Fred Anderson on 28 November 1987 (Smith 1989). The bird was present in the area until 1 January 1988.

Ringed Plover *Charadrius hiaticula*

Two records only. One at Queenscliff (Geelong region) from 19 January 1981 (Lane 1981) and present until 9 May 1981. The second of a single bird at Jack Smith Lake (South Gippsland) from 28 February 1981 to May 1981 (Emison *et al.* 1987).

Oriental Plover *Charadrius veredus*

An uncommon visitor to the Mid-Murray Valley, mainly near Kerang and Swan Hill. Flocks of up to 12 birds have been recorded there, generally in summer (Emison *et al.* 1987). Several records exist of vagrants elsewhere in the State including one record of a group of 59 at Jack Smith Lake (South Gippsland) from 12 February 1983 to late February 1983 by Brett Lane and others (Robinson 1984). The first State record known is from Hill (1903) who states that he had 'seen it on the beach of Corio Bay' (Geelong) during 1903.

Little Curlew *Numenius minutus*

An uncommon visitor to the State, small groups of up to ten birds occur on flat bare plains near lakes in the Mid-Murray Valley (Emison *et al.* 1987). Several vagrants have been recorded elsewhere in the State. The first State record is of a single specimen from Connearra (*sic*) (Geelong district) in 1902 (Hill 1903).

Lesser Yellowlegs *Tringa flavipes*

One record only of a single bird observed and photographed by Fred Smith and Bob Swindley at Reedy Lake (Geelong region) on 9 January 1983 and later by others at nearby Moolap Saltworks until 20 March 1983 (Smith 1983).

Asian Dowitcher *Limnodromus semipalmatus*

A rare visitor to the State, the first record being of one bird observed and photographed by Fred Smith and others at 'The Spit' Werribee Sewage Farm (Geelong region) on 7 January 1973 (Smith 1974). Since that time single birds were recorded each year for several years at various localities around Port Phillip Bay and two birds together at Mud Islands (Port Phillip Bay) on 21 November 1976 (Emison *et al.* 1987).

Pectoral Sandpiper *Calidris melanotos*

An uncommon, although increasingly recorded, species in the State. Mainly recorded in summer although several over-wintering birds have been recorded; has been observed at various localities around Port Phillip Bay and western and north-western Victoria. The first State record of this species was of one bird collected near Geelong by W.B. Hitchcock on 18 January 1952 (Hitchcock 1952a, 1952b).

Cox's Sandpiper *Calidris paramelanotos*

A recently described species (Parker 1982) about which some debate still exists. The first Victorian record, now presumed to be of this species, was of one bird at Laverton Saltworks (Melbourne region) observed by Fred Smith and at the time presumed to be a Dunlin *Calidris alpina* (Smith 1984). Since that time a few birds have been recorded each year in summer, mostly from the western side of Port Phillip Bay (Emison *et al.* 1987).

Baird's Sandpiper *Calidris bairdii*

Two records only, the first of one bird at Lake William (Mid-Murray Valley) on 15 November 1974 (Smith & Swindley 1975). The second record was also of a single bird observed and photographed at Lak Connearra (Geelong district) by Fred Smith and Fred Anderson on 1 February 1986 and later by others during the same month (Smith 1987).

White-rumped Sandpiper *Calidris fuscicollis*

Two records only, the first of a single bird at Lake Murdeduke (Western District) on 25 November 1973 by Fred Smith and others; this bird was later observed and photographed by Smith and many others until 10 February 1974 (Smith 1976a). The second record was also of one bird observed and

photographed at Werribee Sewage Farm (Geelong region) by Fred Smith, Bob Swindley and John Barkla on 9 January 1977 and by the above and others until 27 February 1977 (Smith *et al.* 1977).

Little Stint *Calidris minuta*

An uncommon visitor to the State; the first record was of a single bird in alternate plumage observed by Fred Smith and others at Werribee Sewage Farm (Geelong region) on 22 January 1977 (Anon. 1977). Since that time single birds have been recorded at various localities (e.g. Port Phillip Bay, Geelong region, Western District, Mid-Murray Valley) in most years. Most birds recorded have been in alternate plumage; similarity with the Red-necked Stint *Calidris ruficollis* when in basic plumage means that these birds may well be overlooked.

Long-toed Stint *Calidris subminuta*

An uncommon visitor to the State. Recorded in most regions, mainly in summer, although a number of birds have been recorded over-wintering. The first recorded observation of this species was one of probable Long-toed Stint noted by Fred Smith at Cherry Lake, Altona (Melbourne region) on 4 April 1962 (Smith 1962b).

Buff-breasted Sandpiper *Tryngites subruficollis*

There have been at least seven Victorian records of this species at various localities around Port Phillip Bay and in the Mid-Murray Valley and Western District (Drummond 1985, (Emison *et al.* 1987). The first State record was of one bird observed by Fred Smith at Cherry Lake, Altona (Melbourne region) on 17 March 1962 (Smith 1962a).

Broad-billed Sandpiper *Limicola falcinellus*

An uncommon visitor to the State. Generally fewer than five birds per year are recorded and in some years there are no reports (Emison *et al.* 1987). The first Victorian record was of one bird collected by W.B. Hitchcock at Mallacoota (East Gippsland) 'just prior' to the sighting of 15 birds of this species at the mouth of Skeleton Creek, Laverton (Melbourne region) on 18 February 1953 by Hitchcock and E. McDonald (Wheeler 1955).

Ruff (Reeve) *Philomachus pugnax*

An uncommon, although like the Pectoral Sandpiper, increasingly recorded summer migrant to the State. Now recorded in most districts. The first Victorian record was of one bird collected at Lake Tutchewop (Northern region) in January 1966 (date and collector unknown) (*in* Carter & Smith 1968).

Grey Phalarope *Phalaropus fulicarius*

One record only, of a single bird observed and photographed at Lake Woorinen (Mid-Murray Valley) on 22 February 1976 by Fred Smith and others and later by others until at least 25 March 1976 (Smith 1976b).

Red-necked Phalarope *Phalaropus lobatus*

An uncommon, though increasingly recorded, visitor to the State. The first Victorian record was of a single bird seen by Fred Smith and Howard Jarman at Werribee Sewage Farm (Geelong region) on 22 December 1962 (Smith 1963a). Since that time at least ten birds have been recorded from various sites in Victoria, mainly on the Bellarine Peninsula, on the western side of Port Phillip Bay and at a few inland sites (Emison *et al.* 1987), Saunders & de Rebeira 1987).

Wilson's Phalarope *Phalaropus tricolor*

Several Victorian records, mainly from the western side of Port Phillip Bay (Emison *et al.* 1987). The first State record was of a single bird at Lake Murdeduke (Western District) seen by Fred Smith and Rod Sympson on 6 January 1966 (Smith 1968).

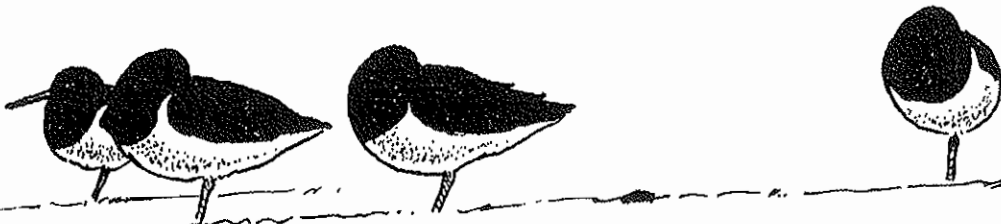
Oriental Pratincole *Glareola maldivarum*

An uncommon visitor to Victoria, mainly in summer. The first State record was of six birds at Werribee Sewage Farm (Geelong region) by Fred Smith on 12 December 1962 and by Smith and others for several weeks thereafter (Smith 1963b).

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— S. DAVIDSON —

BIRDING ON THE CHEAP IN BANGLADESH

Mark Barter

I knew that I was in for an interesting time when I was told to stay in the car, out of sight, whilst my colleagues negotiated the price for two coach seats at the Dhaka coach station for the 160km trip to Noakhali, where we planned to stop for the night on our way to the Ganges Delta.

The Delta is a truly vast area of shallow water containing many islands and associated mud flats; a paradise for waterbirds and, to this stage, under little threat. Recent surveys have shown that the region we planned to visit, a microscopic part of the total delta area, supported many tens of thousands of waders, ducks and herons during the northern winter.

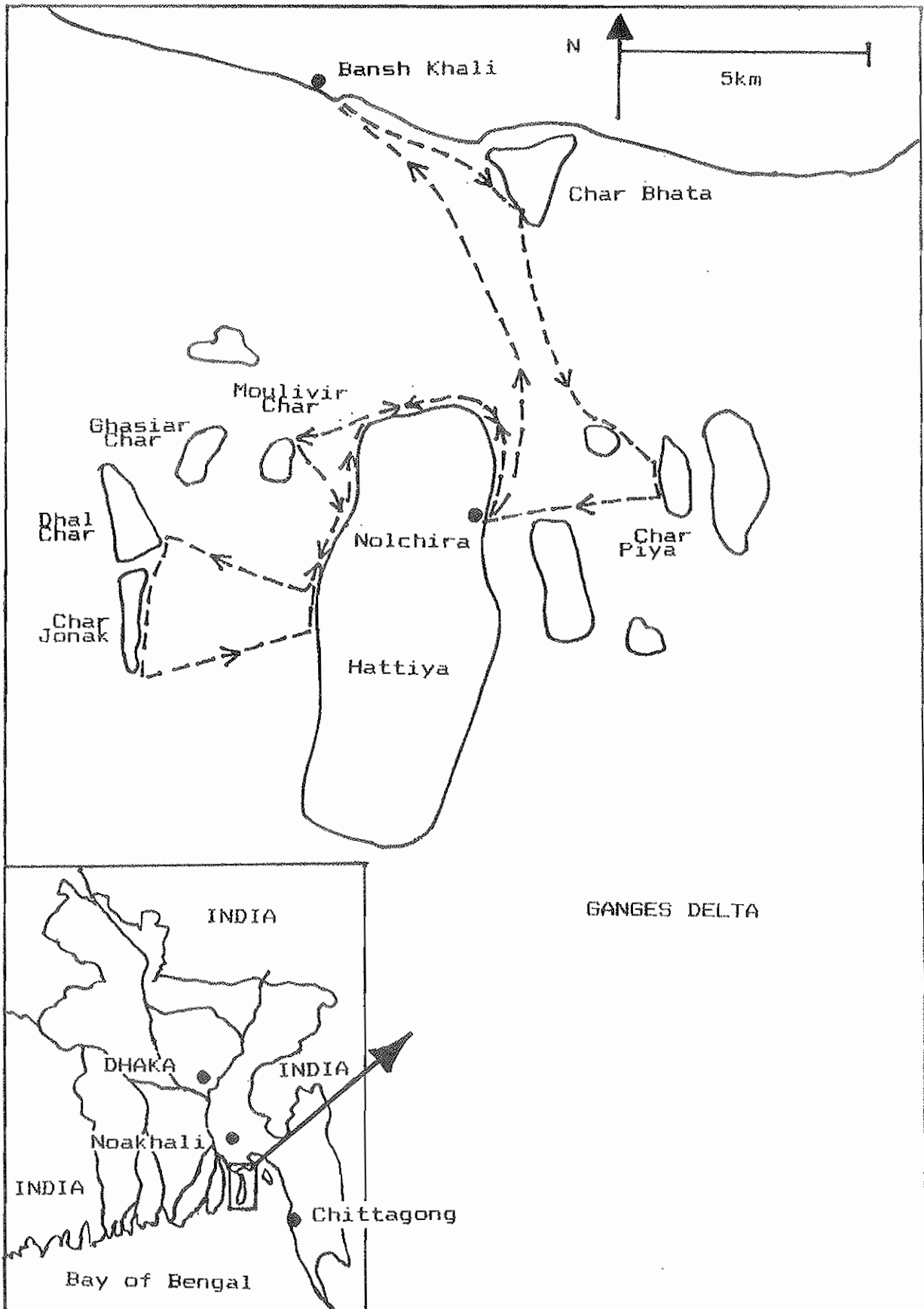
I had managed to combine the Muslim weekend - Friday - with an Australian one to make three days available for the trip. A mid-afternoon start on a February Thursday would give my Bangladeshi ornithologist friend Rashid and I a couple of complete days in the Delta. Nowhere near enough time for a comprehensive coverage but, hopefully, sufficient to get a feeling for the area and its birds.

Fortunately, the peak period for birds coincides with the best weather; lovely sunny days with little wind. The winds start to get stronger from mid-February onwards and boating can become unpleasant and, possibly, dangerous at times after then.

The seats for the six hour journey cost \$2.40 each and we lashed out and bought an extra one each on which to put our rucksacks and equipment.

The journey to Noakhali was relatively uneventful apart from the fact that the coach was completely unroadworthy and that the driver insisted on using every speed hump (and there were many) as a means of trying to get the vehicle and its occupants cheaply into earth orbit. The road which links Dhaka, the Bangladesh capital, and Chittagong, the main sea port, was very narrow and fast driven and the trip was further enlivened by two river crossings (some kilometres in each case) and the constant haranguing of hawkers who would stream on and off the bus at every stop. We travelled mainly through rice paddies and the majority of dwellings were built on low hills to avoid the frequent floods. As a point of interest Dhaka, which is some 100km inland from the Bay of Bengal, is only 1.5m above mean sea level. So every centimetre counts!

Our bus didn't go all the way to Noakhali and I hid again whilst Rashid negotiated for the hire of a baby taxi, a three-wheeled motorized scooter, to take us the 10km into town. I knew that we



needed to use the same kind of vehicle to take us a further 40km the next morning to Bansh Khali the fishing village where we hoped to hire a boat to get us to the Delta and Hattiya Island, our next overnight stop. I was glad that it was only an additional 40km as we bumped our way in the dark along the pot-holed road.

That night we rented a room in a leading Noakhali hotel for one dollar each. The meal was extra and cost 60 cents. So far we had spent \$4 each and travelled 170km, eaten and slept for one night in an hotel!

The next morning, early at six o'clock, Rashid rented a rickshaw each and we went to the town centre to hire the baby-taxi for the trip to the fishing village. Then started the most excruciating experience of my life, even worse than mist-netting in Corner Inlet! Forty kilometres bent double trying to avoid being knocked out by the steel frame holding the canopy just above our heads and the rucksack containing my upright telescope tripod just below my chin - whilst travelling over one of the roughest roads imaginable. I had been looking forward to the early morning bird watching but all I saw was the back of the driver's back for two hours. We got out physical wrecks. To add salt to the many wounds, the constant friction wore two holes in the bottom of my new rucksack and the trip cost \$4 for the two of us. It was starting to get expensive!

It didn't take long to hire a fishing boat. I hid again. We took off around 11am with a crew of four, one of whom's job was to bale constantly so that we didn't sink. He worked like a man possessed. The engine, a single stroke diesel, chugged away very reliably (unlike some I know).

The Ganges Delta is a very shallow stretch of muddy water and a good knowledge of the channels is essential. We were fortunate that high tide was around noon so that we were able to cross uneventfully the mud bars close to the shore and doubly fortunate that the island of Char Bhata, which was the only large wader roost that we found during our short visit, was nearby.

Rashid and I waded through thigh-deep water, and knee-deep mud, to the shore and had an excellent start to our bird watching with an estimated 15,000 birds roosting and feeding around us. The most numerous wader species present were Mongolian Plover, Curlew Sandpiper and Golden and Grey Plovers. Also seen were Oriental ~~...~~
 That night we rented a room in a leading Noakhali hotel for one dollar each. The meal was extra and cost 60 cents. So far we had spent \$4 each and travelled 170km, eaten and slept for one night in an hotel!

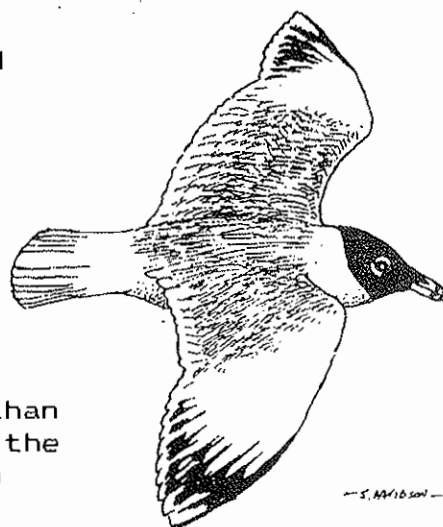
The next morning, early at six o'clock, Rashid rented a rickshaw each and we went to the town centre to hire the baby-taxi for the trip to the fishing village. Then started the most excruciating experience of my life, even worse than mist-netting in Corner Inlet! Forty kilometres bent double trying to avoid being knocked out by the steel frame holding the canopy just above our heads and the rucksack containing my upright telescope tripod just below my chin - whilst travelling over one of the roughest roads imaginable. I had been looking forward to the early morning bird watching but all I saw was the back of the driver's back for two hours. We got out physical wrecks. To add salt to the many wounds, the constant friction wore two holes in the bottom of my

Gulls and the very powerful looking Great Black-headed Gull, much larger than our Pacific Gull.

Hérons were numerous, Grey and Pond, and four species of egret were seen - Great, Intermediate, Little and Cattle, and two ducks - Common Shelduck and Wigeon.

We could easily have stayed longer but wanted to press on so that we had time to look at Char Piya, 7km to the south east, before going on to Hattiya.

The trip to Char Piya took much longer than expected due strong adverse current and the low-powered motor and we only managed an "appetite-wetting" introduction to the extensive mud flats covered in waders, herons and egrets. The most numerous waders seen were Black-tailed Godwit. Some duck were also present - mainly Common and Ruddy Shelduck.



After a "staged" engine failure, or so Rashid suspected as he felt that the crew weren't interested in continuing any further with the sun close to setting, we eventually arrived at Nolchira, on Hattiya Island, in the dark.

We were met by the Range Officer of the Forestry Department who invited us to stay with him. He also offered us the use of his boat, which would be particularly useful as its engine was more powerful than ours and we had much ground to cover the next day. It was also a larger boat and more comfortable.

Hattiya is the largest island in the Delta and has a population of 100,000, who need to be good swimmers as it is only 1.5m above sea level. Thirty thousand islanders drowned in the 1988 cyclone. There is no electricity and we used hurricane lamps and torches to get around. Strange not to be able to flip a switch and see.

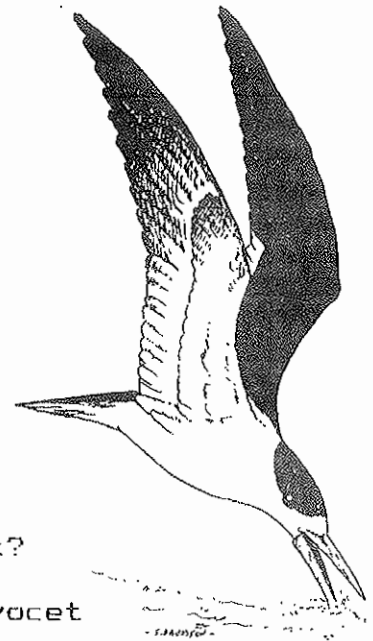
After a good night's sleep, surprisingly free of mosquitos considering all the water around, we breakfasted at six and walked the kilometre to the boat which was magnificently silhouetted in the mist against the rising sun. I should mention that the boat was a good hundred metres inland when we arrived the night before and had been floated on the intervening high tide. No boat harbours or boat trailers in rural Bangladesh!

We set out for Moulivir Char at seven and reached the island by motoring around the northern coastline of Hattiya, being constantly heckled by small children amused at the sight of a balding and greying white man sitting on the cabin top. There was plenty of evidence of the erosion/accretion cycle which operates in the Delta, with many metres of the northern shores of islands

being removed each year and the equivalent amount being deposited at the southern ends. Bad for people, good for birds.

The accretion rate can be very fast and it had had an adverse effect on the flats between Moulivir and Ghasiar Chars where we had hoped to find large numbers of waders. The flats almost didn't exist and the two islands will soon be one. However, there were a few hundred waders and ducks present, and we added Purple Heron, Shoveler and Common Sandpiper to the trip list. The four kilometre walk was enlivened by an aggressive bull water buffalo who was rather protective of his large harem.

The approach to our next stop, the tidal flats of Dhal Char, was through very shallow water and we picked up a small boat, from the Forestry Camp on the west coast of Hattiya, which could be poled ashore by a couple of boatmen. In fact the boat's wide beam meant that we could easily stand up and watch birds without having to get out. We had to move quickly as the tide was rising fast and the smaller waders were already flying overhead to unknown roosts. The polers demonstrated their skills well and we had excellent views of a variety of shorebirds. Perhaps the most dramatic were of 700 Indian Skimmers. Do they flip over on their backs when the lower mandible hits a submerged rock? Additional species recorded here amongst the 12,000 birds were Eurasian Spoonbill, Pied Avocet and Herring Gull. Duck were plentiful.



The final part of the day involved a visit to Char Jonak the next island to the south. As the tide was in by now, there were no waders to be seen - except those flying overhead, but there were thousands of herons and egrets roosting in the outer fringes of the mangroves and many Common Shelduck, and a few Ruddy Shelduck, close to the shore.

The return trip to Nolchira took us back along the eastern and northern shores of Hattiya. The north-east coast consists of beautiful grassy meadows with grazing cattle. Here we saw roosting flocks of Lesser Golden Plover (one of 700), Mongolian Plover and Eurasian Curlew.

We returned just before dark and I had fascinating views of fishermen returning with their day's catch to the waterside villages and smoke wafting across the water from cooking fires, which would be the only source of illumination at night.

Dinner and bed were early as we had to be up at three o'clock for a start at four in order to beat the falling tide back to the mainland. The harbour at Bansh Khali is cut off at low tide and

if we didn't get through a six hour wait offshore would be necessary, the train from Noakhali would be missed and I wouldn't get back to Dhaka that day and for work on Monday morning.

In the end we left an hour late, got lost in the dark and were in serious jeopardy of not making it past the mud bar. My policy of not going anywhere far without a compass paid off handsomely and, as it got light, we were able to estimate our position and the resulting bearing got us going in the correct direction. We made a number of attempts to find the channel with constant depth-poling and finally got through after having to balance the boat to minimise the draft.

Whilst all this was going on there was a constant stream of waders, gulls and terns flying from the Char Bhata roost to the feeding grounds. Nothing we hadn't seen before, but impressive evidence of the ornithological richness of the region.

The return Baby-taxi journey was even worse than we had anticipated. Our earlier experience hadn't done anything to reduce the impact the second time around. To make matters worse, the later start, compared with the southward trip, had allowed time for the settling overnight dew to evaporate and we had talcum-fine dust to cope with as well.

At Noakhali, we switched to rickshaws and made a courtesy call on the Forestry Department District Officer, who proudly showed us the shorebird migration map sent to him in thanks by the Asian Wetland Bureau party that visited the area early the previous year. He offered us the use of the Department boat if we came back - an offer I intend to take up. The sheer size of the area and the problems created by tides mean that a really effective coverage would take at least a week. A good boat, especially one on which we could sleep, would make all the difference.

The train for Dhaka left in mid-afternoon and made leisurely progress through the countryside. The six hour journey in first class cost \$8, meals and drinks included. We were able to do more birding as we wound our way through the paddy fields.

A truly appetite-whetting trip; great birding and very friendly people. I can't wait to return.



MORPHOMETRICS OF THE RED-NECKED AVOCET,
Recurvirostra novaehollandiae

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INTRODUCTION

This paper presents information on the morphometrics of the Red-necked Avocet, *Recurvirostra novaehollandiae*. Special attention is paid to bill curvature which has been found to be useful in sexing other avocet species. It is readily apparent in the field that some Red-necked Avocets have bills which are more steeply curved at the tip than those of others. Often birds with steeper bills are observed feeding in deeper water.

The second section of the paper describes the morphometrics examined; the third presents and discusses the results.

MORPHOMETRICS

This paper uses information from:

- 69 birds cannon netted (on 28th and 29th November 1981 and 7th January 1984; 23, 9, and 37 birds respectively) by the Victorian Wader Study Group at the Austin Road Lagoons, Werribee Sewerage Farm;
- 16 freshly dead birds shot illegally by duck shooters on opening day of the duck hunting season in 1982 at Lake Buloke near Donald in north-western Victoria;
- 11 study skins held in the National Museum of Victoria and the H.L. White Collection.

Immature birds are generally similar to adults but have paler greyer heads and may retain grey juvenile feathers in the scapulars. Hayman *et al* (1986) report that immatures retain juvenile median coverts but do not describe them; these were not recorded (or noticed as being different) on any of the birds studied. Younger immatures have brown eyes and adults have, apparently, red eyes. Birds with red-brown eyes are mostly, if not all, immatures. Eye colour information was recorded only on the first two cannon net catches. It is not known when the eyes become red or if they do so in all birds. Head colour and scapular feathering were used as the age determining characters. Most of the cannon netted birds were in the later stages of primary moult; a few had completed it.

For most birds, straightened and flattened wing length, bill length, total head length, and weight were measured using the methods described in Rogers (1989). Wing length was not measured when the outer primary was moulting. Bill length was not measured on the shot birds.

Bill shape received special attention; points relevant to this paper are illustrated in Figures 1 and 2. Two improvised observations were made for the first two cannon net catches. Bill height was measured using two rulers held at right angles and a subjective assessment made of bill shape; i.e. whether the bill was steeply upturned or relatively flat. This was not a difficult assessment with other birds available for comparison. For all other birds, a tracing of each bird's bill was made. Bill shape, height, and radius at the point of maximum curvature were determined from the tracings; ruler and compasses were used to find the measurements. Radius at the point of maximum curvature was estimated by first identifying this point subjectively and then constructing and measuring the radii from points approximately 5 millimetres to each side of it. The arc was presumed to be circular in this region.

RESULTS AND DISCUSSION

Table 1 presents a summary of each measurement by age of bird and bill shape. Mean (average), standard deviation, minimum and maximum value observed, and the number of birds falling into each group are given.

The results fall into a systematic pattern suggesting that both the ageing and the assessment of bill shape (whether made in the field or from tracings) were generally accurate. Adults are bigger than immatures on wing, bill, and total head length and are heavier. Bill height and radius are similar, suggesting that immatures gain bill shape before adult body dimensions. In general flat-billed birds are larger than steep-billed ones. Note that, other things being equal, a smaller bill radius implies a larger bill height.

The most likely reason for the difference in body size and bill measures is that the steep- and flat-billed birds are from different sexes; no other possibility is immediately obvious. There is only indirect evidence to support this hypothesis. Hamilton (1975) states that males have longer and flatter bills in the American Avocet *R. americana*; Cramp and Simmons (1983) report the same of the Pied Avocet *R. avosetta*. Hayman *et al* (1986) state that no sex differences are known for the Andean Avocet *R. andina* and that the Red-necked Avocet is apparently less dimorphic in bill shape than either the American or Pied. The latter conclusion is perhaps not surprising given the lack of literature on the species. Simpson and Day (1984) reported that females [sic] had longer flatter bills; this was based on much of the information used in this paper which was incorrectly reported by me. The same data and analyses were reviewed and the conclusions better reported by Lane (1987). Yet even here the eye of faith saw more than could confidently be concluded.

In 1982, the National Museum of Victoria and H.L. White collections contained eleven skins of which two were unsexed. Of the six males, one had a broken bill tip, as did two of the three females; for these birds bill height could not be estimated. Five of these birds were consistent with males having longer flatter bills and one was inconsistent. It is possible that

curved bills of skins straighten over time. Cox (1989) suggested this as a possible explanation for the apparent deformity of the bill of the single specimen of Cooper's Sandpiper *Calidris cooperi* collected in 1883. It could also explain the increases over time in bill length of the Dunlin *Calidris alpina* reported by Engelmoer *et al* (1983). Some of the museum skins were collected well over 50 years ago when incorrect sexing of specimens is generally accepted to have been not uncommon. Any bill straightening over time in a collection of mostly male birds would tend to support the view that males have longer flatter bills. The museum skins do not provide definitive support for the sexing of Red-necked Avocets on bill shape.

The difficulty, an unusual one, is that there is no independent direct evidence to inform on which sex is larger or has the more steeply curved bill. Analogy with the American and Pied Avocets suggests that it is the males which have the longer flatter bills. Direct evidence is clearly desirable. Hamilton (1975) used a collection of freshly killed birds which were sexed by dissection but this is not a choice for finding a solution which many would prefer. Perhaps the best opportunity, at least when the birds are breeding, is the assessment of pubic distance (Schmitt *et al*, 1974). This can be examined by gently feeling the bones of the pelvic girdle through the skin. The pubic bones are distended by the passage of an egg and the gap between them will be particularly noticeable in species that lay a relatively large egg. Schmitt *et al* also describe a gauge for obtaining a quantitative measure of pubic distance. Ray Pierce (pers. comm. via D.I. Rogers) has found this technique useful on stilts, also *Recurvirostridae*, in New Zealand. Another possibility worth investigating is wing pattern. Engelmoer and Blomert (in prep.; cited in Engelmoer *et al*, 1987) find that 95% of Pied Avocets can be sexed using the number (e.g. P3, P4) of the innermost primary with a black tip. Red-necked Avocets have a similar wing pattern but there is no information on whether or not they exhibit a similar sexual dimorphism. Laproscopy could also be considered.

The data of Table 1 suggest that bill radius is likely to be the single best measurement for determining sex. There are, however, other explanatory measures of bill shape (Hamilton 1975) which might be helpful for the Red-necked Avocet. For example, Hamilton found that "average bill radius" was the best sex discriminator for the American Avocet but did not illustrate what he meant by the term; radius at point of maximum curvature came second. Whether average or minimum radius or some other measure is necessary or whether one or more of bill shape, pubic distance, wing markings, or eye colour is sufficient is not yet known. Much larger samples and an independent means of determining sex are needed.

Bill tracings are valuable although recording them is always time consuming. The bill has to be traced from the base of both mandibles to the bill tip, taking especial care to record the position of the bill tip (which is not always easy to define as it is so delicate) and not to bend the bill whilst tracing. This is easier said than done even though the species is particularly placid in the hand. Other measurements can also be derived from a bill tracing which make it desirable to do this whenever

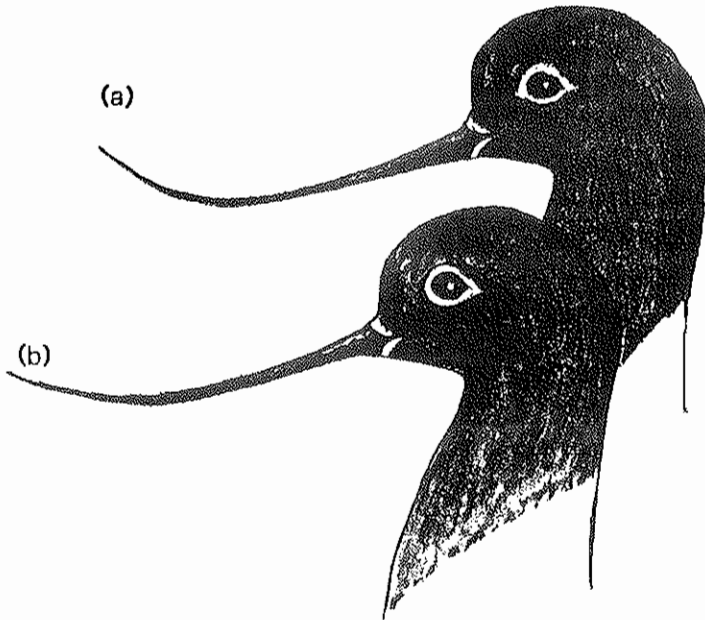


Figure 1. Illustration of Bill Shape Dimorphism (a) steep (b) flat

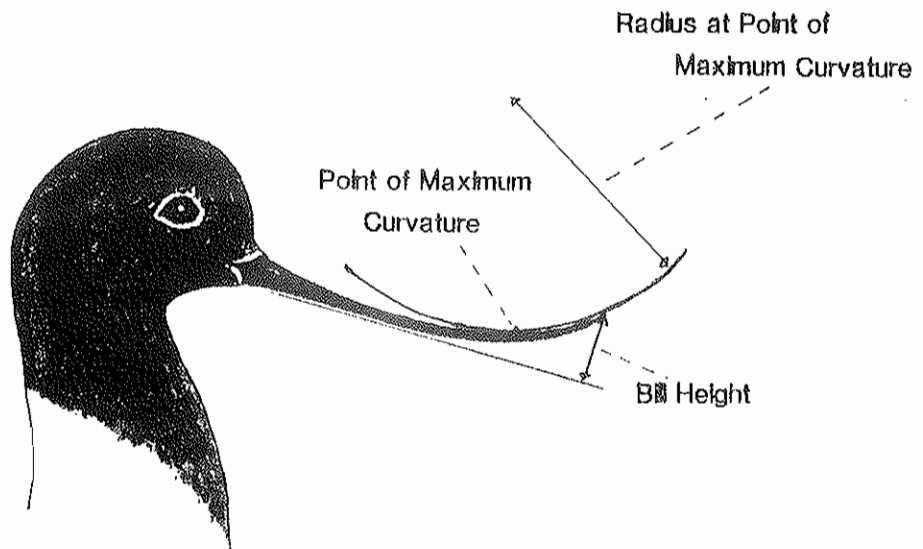


Figure 2. Measures of Bill Shape

possible. The inevitable large measurer error associated with the bill height measurement initially taken in the field makes it undesirable for regular use.

For future field practices on this species, the practical priorities for data recording, in addition to the "standard" data, are:

- bill tracing;
- bill shape assessment;
- plumage description (particularly of wing);
- pubic distance (particularly in breeding season);
- eye colour (an unusual requirement for a wader);
- notes on ageing.

In summary, it seems likely that Red-necked Avocets with long flat bills are males. The evidence to support this is circumstantial. They cannot as yet be sexed with certainty in the field or in the hand on this basis. More work needs to be done to remove the uncertainty.

ACKNOWLEDGMENTS

Thanks are particularly due to Brett Lane who took information from birds illegally shot by others whilst doing survey and count work for the Fisheries and Wildlife Department of the Victorian Ministry of Conservation.

Thanks are also due to Danny Rogers who made many useful comments on a draft of this paper, to Belinda Gillies of the National Museum of Victoria who helped me with using a museum collection for the first time, and to Annie Rogers who drew the figures.

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TABLE 1. RED-NECKED AVOCET MORPHOMETRICS

Bill Shape	Immature					Adult				
	Mean	S.D.	Min	Max	Num	Mean	S.D.	Min	Max	Num
Wing Length (mm)										
Flat	231.4	4.44	223	236	7	235.4	6.96	219	244	16
Steep	231.8	7.63	223	243	5	233.9	6.90	216	242	13
Weight (gm)										
Flat	308.2	16.95	285	330	10	325.9	25.07	270	390	25
Steep	300.2	21.48	270	345	13	322.8	20.79	270	360	18
Bill Length (mm)										
Flat	91.4	3.10	86	97	10	93.3	4.50	83	102	25
Steep	88.6	3.77	81	95	14	89.8	4.28	83	98	18
Total Head Length (mm)										
Flat	126.2	3.77	121.3	133.0	11	129.0	5.80	117.7	138.9	33
Steep	122.6	4.55	116.3	130.7	16	126.8	4.39	117.5	134.6	23
Height (mm)										
Flat	18.9	2.15	16	23	11	18.0	2.51	13	25	28
Steep	20.5	2.16	18	25	15	20.5	1.94	16	25	20
Radius (mm)										
Flat	77.9	4.16	71.0	82.3	5	76.8	9.25	63.0	99.2	18
Steep	57.4	6.86	46.2	68.5	7	59.2	5.90	46.0	69.6	19

SPECULATIONS

Hugo Phillipps

Waders are different, there's no doubt about it. In Australia we have some aberrant endemics such as the Banded Stilt, and resident forms of widespread species such as the oystercatchers. However, the great majority of species encountered here are seasonal migrants from the northern Palearctic region, including one from Japan, with a few from the Nearctic and one from New Zealand. Much of the fascination these birds have for us is concerned with their migrations, and much of the data we collect, such as weights, ages and moult scores, are relevant to migration strategies.

There is a practical reason for this. The VWSG collects much of its primary data by using cannon-nets, which can only be economically employed on species that aggregate in predictable and accessible locations. This tends to exclude most resident waders, with the exception of the oystercatchers and, to a small extent, Red-capped Plovers.

The RAOU has recognised the relative neglect of resident species by instituting a program for increasing our knowledge about them. The VWSG is contributing to this with the long-term colour-banding study of Victorian oystercatchers. However, the capture for banding, morphometrics and recapture of large samples of many other resident waders may depend more on the use of mist-nets. The potential success of this was exemplified during the 1990 North-West Australia Wader Expedition when mist-netting the surrounds of the freshwater Lake Eda at night brought a significant catch of Red-kneed Plovers.

The main reason for the formation of the VWSG originally would have been to create a pool of skilled labour from which to draw cannon-netting teams. Almost all active members of the group live within relatively easy reach of the Victorian coastline between Queenscliff and Ninety Mile Beach. Inevitably, apart from the winter oystercatcher program, almost all our effort with regard to waders is directed towards study of the migrants.

A living organism is a self-replicating genetic package. A species is a collection of such packages that can interchange coding instructions so that the replicas vary slightly from their parents. The genes must code not only for physiology but also for the instincts that guide feeding and reproduction. They must also code for migration strategy.

This, for me, is one of the most extraordinary attributes of the migratory waders. The group of palearctic migrants live in two different worlds, the bountiful boreal summer with its long days of burgeoning life, and the austral

summer with its warm grasslands and productive tidal mudflats. Both habitats are relatively rich in food resources, but they are connected in time by a period of greatly increased stress and danger. It would seem likely that migration strategy has been, and is being, a powerful selective force on wader populations.

Learning from experience may have some limited importance in migration. Travelling in flocks presumably is as adaptive as it is common. It is clear, though, that most of the strategy is genetically coded. We know little of how instinctive behaviour patterns are hard-wired in a wader's brain. We know nothing about how a particular geographical route is mapped there. Yet, much more than in other types of instinctive behaviour, migration demands that the bird has to get it exactly right the first time. Being a couple of degrees out in direction, being a few grams of fat underweight, misreading the weather patterns, can all be disastrous.

Waders do get it wrong occasionally. Vagrants appear far from their usual routes. Palearctic waders have even turned up at Macquarie Island in the subantarctic. One might question, however, whether many of these ever actually make the return trip to their natal breeding grounds to perpetuate their own genes, since their coded map for the return route will have become inappropriate.

It has been found that some, at least, of the migrant species have very little genetic variation. This is an indication that such a species has originated fairly recently from only a few founding members, or that it has been through a demographic bottleneck during which its numbers were reduced severely. It is also likely that the genetic straitjacket of migration allows little latitude for variation, selection being very conservative.

These species have become locked into complex and rigid strategies that are very successful only if nothing goes wrong. New information concerning these species suggests that many are extravagant in their energy expenditure. In both their breeding and wintering habitats food is often superabundant and not usually a major limiting factor. The physical dangers and genetic constraints of long-distance migration form the joint penalty the species pay for year-round access to such a nutritional cornucopia.

This implies that many species of waders may be vulnerable to changes to the environment on their migration routes. A species that habitually uses one estuary as a refuelling stop on passage may be suddenly and drastically threatened by its reclamation, or even by a spill of toxic chemicals at the wrong time of year. An unseasonal storm could wipe out the members of a small population.

Gradual changes may be accommodated. Almost certainly the breeding ranges of many palearctic species have shifted

northwards over the last twenty thousand years or so, in response to global warming since the last ice-age. It may be, though, that the cycle of speciation and extinction is more rapid amongst waders as a group than amongst most other bird families.

We can see plenty of evidence that isolation, possibly leading to speciation, is occurring now within various wader groups. One example is the Bar-tailed Godwit, which appears to have two populations visiting Australia. Measurements and sex-ratios suggest that there is a population breeding in north-eastern Siberia that visits north-western Australia, while the birds that come to eastern Australia and New Zealand breed in Alaska.

If the migration routes of both populations essentially follow the western Pacific rim, then there is a high degree of overlap between them and hypothetical hybrids might well be able to migrate successfully. In this case the populations could be considered separate races. If, however, birds breeding in Alaska travelled straight across the Pacific, it seems likely that those with a hybrid map would suffer increased mortality through navigational confusion. Effective speciation would have occurred.

Another intriguing case is that of the Double-banded Plover. The fact that those birds that migrate to Australia appear to originate from only one part of the breeding range could indicate that genetic separation has begun to occur. A counter argument to this is the evidence that young birds from later clutches of the same population are less likely to migrate. This is a question that possibly only experimental manipulation of clutches is going to answer decisively.

A different perspective on the constraints that accompany the genetic mapping of migration routes can be seen by looking at those species that have lost them. An Australian example is the Red-capped Plover, clearly a descendant of migratory Kentish Plover stock, with which it was once considered conspecific. The genes responsible for triggering and guiding migration may have been inactivated by a mutation.

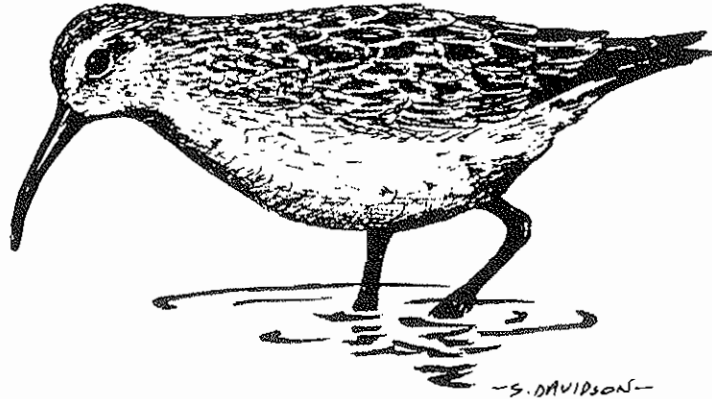
Although this would be the most recent example of such a successful occurrence here, it may also apply to most of Australia's other resident waders. An examination of genetic variability within these species, compared with that within their closest migratory relatives, might illuminate some of the genetic constraints that long-distance migration imposes. It might also tell us whether such sudden evolutionary freedom has been followed by radiation.

Do, for instance, the Hooded Plover, Black-fronted Plover and the Red-kneed Plover form a monophyletic group, or are they descended from separate migratory ancestors? Recent

research by Dr Leslie Christidis and his colleagues at the Museum of Victoria suggests that the Inland Dotterel, usually placed in the monotypic genus *Peltohyas*, is a recent derivative of the migratory Eurasian Dotterel. Such ongoing research into molecular evolution and taxonomy, in this case based on similarities between proteins, is bound to alter our traditional perception of relationships between wader species.

Yes, waders are different. Just thinking about them seems to throw up many more questions than answers.

Acknowledgements are due to Les Christidis for comments and information, to Brett Lane for a stimulating conversation, and to a paper by Mark Barter on variation in Bar-tailed Godwits in 'The Stilt' (1989) 14: 43-48.



WADERS LISTED IN JAPAN AND CHINA TREATIES

Species Common To Both Treaties

Ringed Plover	<i>Charadrius hiaticula</i>
Mongolian Sand-dotterel	<i>Charadrius mongolus</i>
Large Sand-dotterel	<i>Charadrius leschenaultii</i>
Eastern Golden Plover	<i>Pluvialis dominica</i>
Grey Plover	<i>Pluvialis squatarola</i>
Turnstone	<i>Arenaria interpres</i>
Red-necked Stint	<i>Calidris ruficollis</i>
Long-toed Stint	<i>Calidris minutilla</i> including <i>C.subminuta</i>
Sharp-tailed Sandpiper	<i>Calidris acuminata</i>
Curlew Sandpiper	<i>Calidris ferruginea</i>
Sanderling	<i>Crocethia alba</i>
Ruff (Reeve)	<i>Philomachus pugnax</i>
<i>Broad-billed Sandpiper</i>	<i>Limicola falcinellus</i>
Greenshank	<i>Tringa nebularia</i>
Wood Sandpiper	<i>Tringa glareola</i>
Grey-tailed Tattler	<i>Tringa brevipes</i>
Common Sandpiper	<i>Tringa hypoleucos</i>
Terek Sandpiper	<i>Xenus cinereus</i>
Black-tailed Godwit	<i>Limosa limosa</i>
Bar-tailed Godwit	<i>Limosa lapponica</i>
Eastern Curlew	<i>Numenius madagascariensis</i>
Whimbrel	<i>Numenius phaeopus</i>
Little Whimbrel	<i>Numenius minutus</i>
Pin-tailed Snipe	<i>Gallinago megala (sic)</i>
(Not Swinhoe's Snipe but	<i>Gallinago stenura?</i>)
Japanese Snipe	<i>Gallinago hardwickii</i>
Red-necked Phalarope	<i>Phalaropus lobatus</i>
Oriental Pratincole	<i>Glareola pratincola</i>

Species Confined To Japan Treaty

Oriental Dotterel	<i>Charadius asiaticus (sic)</i>
(Not the Caspian Plover but	<i>C.veredus?</i>)
Baird's Sandpiper	<i>Calidris bairdii</i>
Pectoral Sandpiper	<i>Calidris melanotos</i>
Knot	<i>Calidris canutus</i>
Great Knot	<i>Calidris tenuirostris</i>
Buff-breasted Sandpiper	<i>Tryngites subruficollis</i>
Little Greenshank	<i>Tringa stagnatilis</i>
Wandering Tattler	<i>Tringa incana</i>

Species Confined To China Treaty

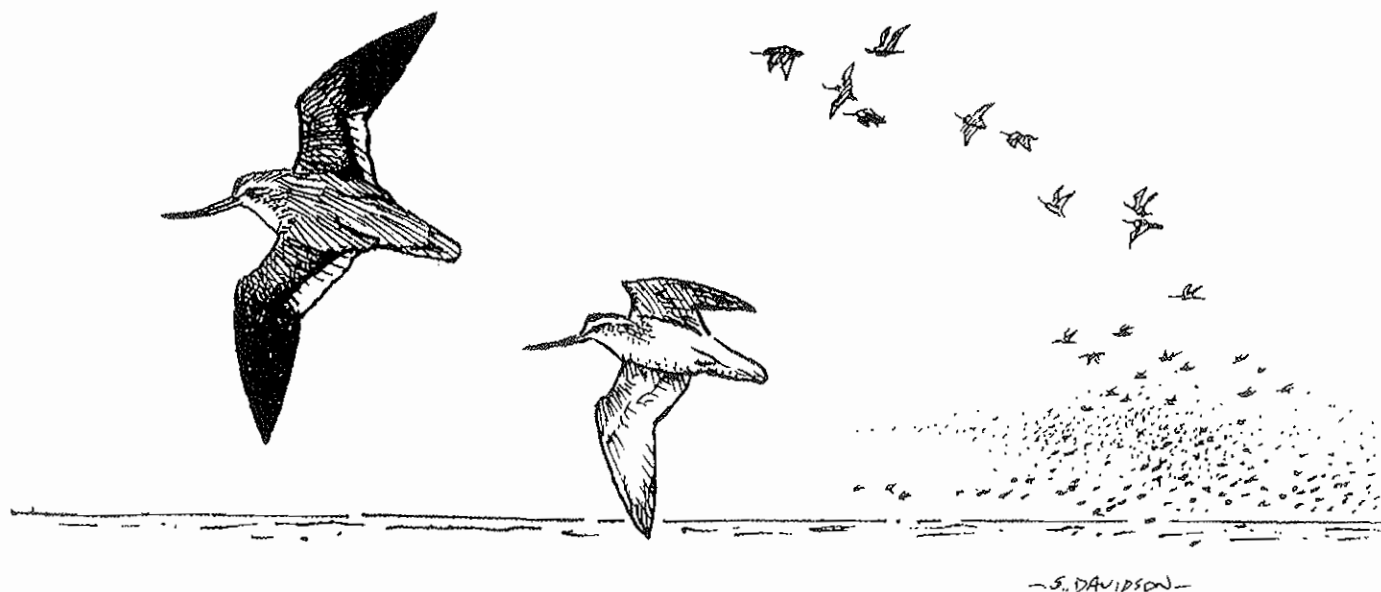
Little Ringed Plover	<i>Charadrius dubius</i>
Caspian Plover	<i>Charadrius asiaticus</i>
Eurasian Curlew	<i>Numenius arquata</i>
Redshank	<i>Tringa totanus</i>

Marsh Sandpiper
Asian Dowitcher
Swinhoe's Snipe
Dunlin
Grey Phalarope

Tringa stagnatilis
Limnodromus semipalmatus
Gallinago megala
Calidris alpina
Phalaropus fulicarius

Both the English and scientific names shown above, save those in parenthesis, are as listed in the Treaties except for the Red Knot which is given that name in the China Treaty. There is provision in both treaties for review of the list of species - but not for review of the treaties themselves. Suggestions for the review of the list in each treaty are invited by the Bulletin editor: a short statement of the reason for the suggested changes would be helpful. It would also be interesting and useful to know what action has been taken in Australia (and in Japan if possible) as a result of the Treaties and what beneficial effect (if any) can be directly attributed to such action.

J.G.D.



MORE DOWITCHERS

Ground Surveys undertaken as part of a long-term project in East Sumatra integrating wetland conservation with land-use planning have revealed a staggering total of 13,000 Asian Dowitchers (*Limnodromus semipalmatus*). Numbers in the Banyuasin Peninsula (where 4,000 were discovered in March 1986), built up to this figure in November 1988. The entire world population had been previously estimated at 8,000 birds.

Source : Asia Wetland News

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VWSG HIGHLIGHTS 1989

1989 was another year of progress and achievement for the VWSG. In the fifteenth year since wader banding commenced in Victoria (9 birds in late 1975) a total of 7,021 birds were caught. This is down from the previous record year but still above the average of 6,640 for the last eleven years, in which the group has been fully active. Overall the VWSG has now banded 75,501 waders in Victoria (61,465 new birds and 14,036 retraps and controls).

Highlights amongst the catches were:-

- * 107 Turnstone at Swan Island, Queenscliff, in November - the VWSG had only caught a total of 163 over the previous 15 years.
- * 41 Eastern Curlew at the Gurdies (a new site to the east side of Westernport Bay). This is the best annual total since 1984 but still only raises the VWSG total to 178.
- * 75 Greenshank at Warneet in March, including 19 retraps from the first catch of 36 there in November 1988. This is the largest catch made of Greenshank in Australia. Unfortunately this site has now been claimed by an adjacent new housing development.
- * Continued successful monitoring of the Double-banded Plover population wintering at Swan Island, Queenscliff, with a catch of 176 in June.
- * Good progress on the Oystercatcher study with a further 203 Pied Oystercatchers (including 58 retraps) and 24 Sooty Oystercatchers caught. A new colour banding scheme in which birds are individually marked was introduced in April with spectacular results (see elsewhere in this bulletin).
- * Unusually good samples of "overwintering" immature Curlew Sandpipers and Red-necked Stints were caught at Stockyard Point, Yallock Creek and Werribee S.F. Populations were high because of the exceptionally good breeding season for both species in the Arctic in the northern summer of 1988.

In contrast to the above successes, no Golden Plover were caught (for the second successive year). Only 17 Red Knot (most disappointing considering our joint study with New Zealand) were captured, and a meager 28 Sharp-tailed Sandpipers (compared with 675 the year before).

Werribee Sewage Farm, and the adjacent spit, was again the principal banding site, closely followed by Queenscliff and Westernport Bay. The total for "Corner Inlet" was much higher than usual because of a large Red-necked Stint catch (1242 in a total catch of 1309 - the group's third largest catch ever) off

Mann's Beach in late January. A total of 33,314 waders has now been caught at Werribee S.F.

There were as usual some exciting overseas recoveries of banded birds. Curlew Sandpiper produced an amazing range with four in China and one each in Hong Kong and the USSR. The latter was 11751 km from the banding site at Werribee S.F. A Red-necked Stint travelled a similar distance from Queenscliff to Siberia.

But perhaps most noteworthy of all was a Turnstone from our first ever good catch. Banded at Swan Island, Queenscliff, in November 1989 it was recaptured in late April in Taiwan during the course of northward migration to its breeding grounds in Siberia. The Taiwanese now have three wader banding stations in operation and have exchanged a number of recaptures with Australia in the past year. This was the VWSG's first overseas recovery of a Turnstone.

The VWSG has regularly been involved with tern banding - both chicks and adults - and has expanded its efforts in this area in recent years. Most banding of Crested Tern chicks continued at Mud Island (1212) and off Mann's Beach, Corner Inlet, (397) and a further 71 Caspian Tern chicks were marked (including 62 in one visit to the colony off Mann's Beach) - all in December 1989. Fairy Terns were also successful in hatching young for the first time for many years in Corner Inlet and 25 chicks were banded off Mann's Beach. A new departure was the banding of two Whiskered Tern chicks on a marsh near Colac in late December (and a further 16 in early January 1990).

A steady stream of recoveries of Crested Terns occurs in their first year, but very few thereafter. Almost all are slow movements eastwards up to the Queensland/NSW boarder. Some of these involved movements of several hundred kilometers within a few weeks of the birds fledging, indicating a rapid post-fledging dispersal. Details are given in the separate recovery lists.

The adult tern banding at Point Wilson, Spermwhale Head, The Lakes National Park, which was commenced in January 1989 (see last years VWSG Bulletin) was successfully continued in 1990 with 521 caught in late January (including 441 Common Terns) and 142 in early March (including 49 Little Terns). Eleven White-winged Black Terns were also caught. There were also some valuable retraps of birds banded elsewhere in Victoria. A separate report is included in this Bulletin.

Once again I would like to conclude this summary of an eventful and productive year by thanking all those who contributed so much - those who carried out the fieldwork and those who facilitated it by granting us permission to operate on their land etc. I hope the achievements are a satisfying reward!

Clive Minton

RECOVERIES OF BANDED BIRDS

PIED OYSTERCATCHER

100-85154	Juvenile	4.6.88	Queenscliff	
	Killed	1.4.89	Lake Connewarre	21kmW
100-81200	Adult	13.6.81	Queenscliff	
	Recaptured	25.6.83	"	
	Found dead	25.2.90	Mud Island	9kmE

The first bird was killed by a Swamp Harrier. The latter bird was nearly 9 years after banding.

There have been many additional movements, some over several hundred kilometres, of colour banded birds (see separate report).

DOUBLEBANDED PLOVER

New Zealand	Adult F	24.10.87	Upper Oreti River, NZ	
C43212	Recaptured	13.6.88	Yallock Creek	2065kmW

This 1988 recapture was omitted from last year's report.

TURNSTONE

051-29700	2nd year	18.11.89	Queenscliff	
	Recaptured	29.4.90	Szo-Tsao, Taiwan	7244kmNNW

This is the first recovery of a VWSG-banded Turnstone and only the third overseas recovery of a Turnstone from Australia.

REDNECKED STINT

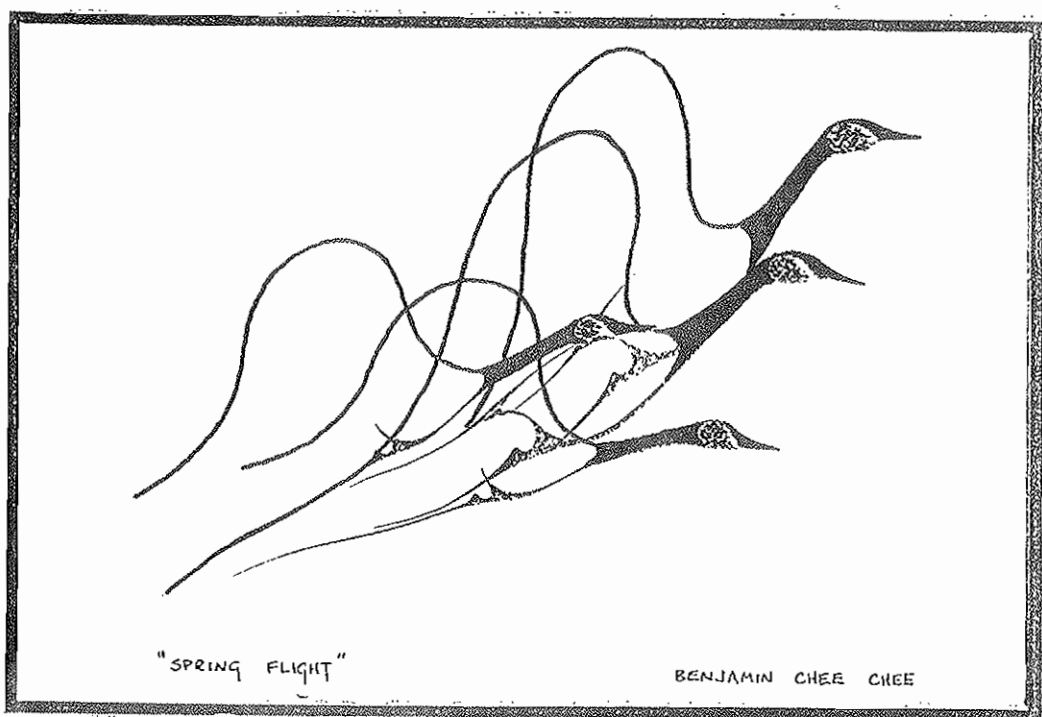
032-74765	1st year	29.3.86	Queenscliff	
	Shot	14.6.87	Kobyaysky, Yakut, USSR	11397kmN
032-40741	Adult	29.1.84	Yallock Creek	
	Killed	17.5.89	near Shanghai, China	8037kmNNW
032-66737	Juvenile	31.12.88	Werribee SF	
	Found dead	24.3.90	Lake Connewarre	19kmS

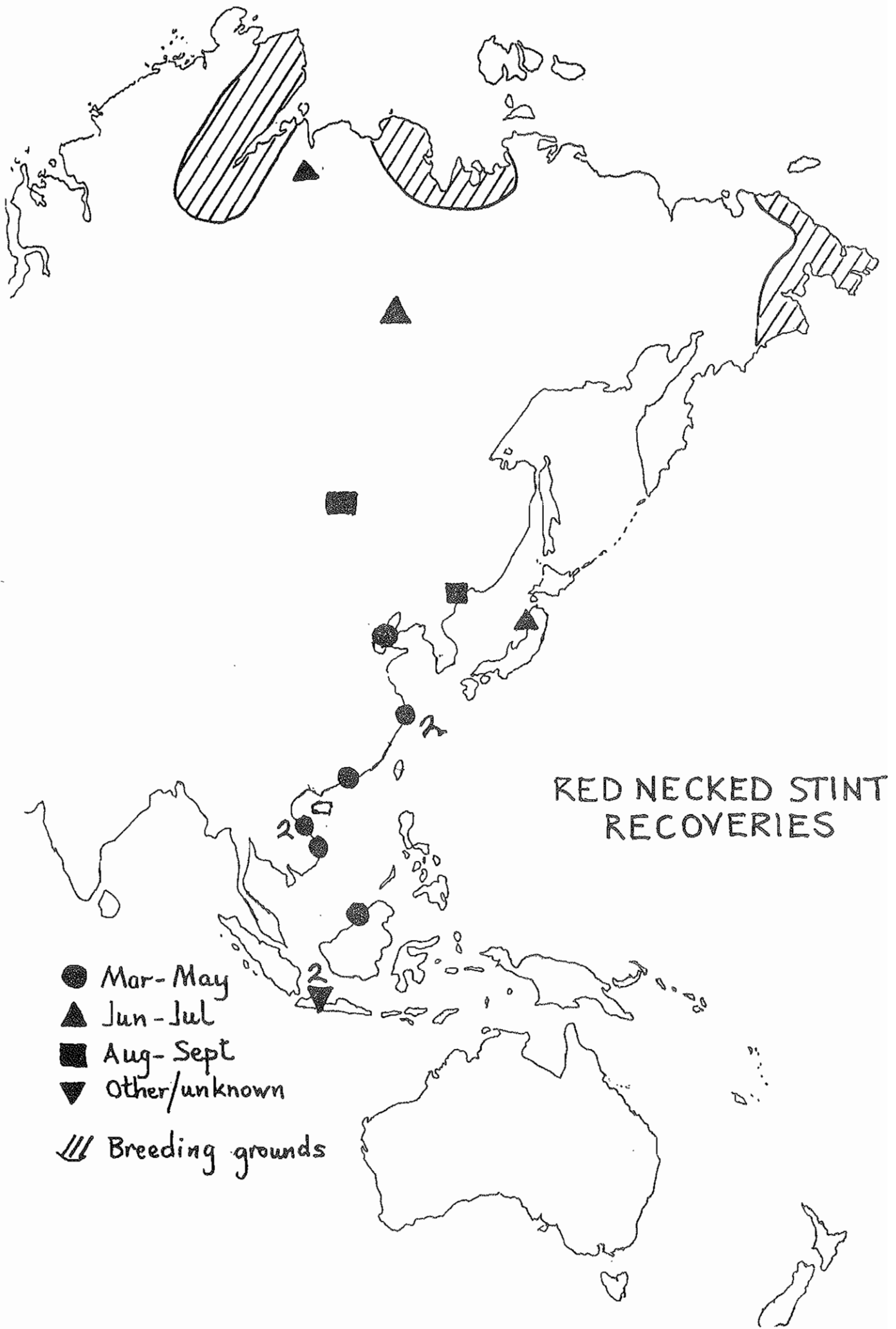
Another very long recovery to the Yakut Region of the USSR (see 1989 VWSG Report). VWSG has now had four recoveries in the USSR and three in China.

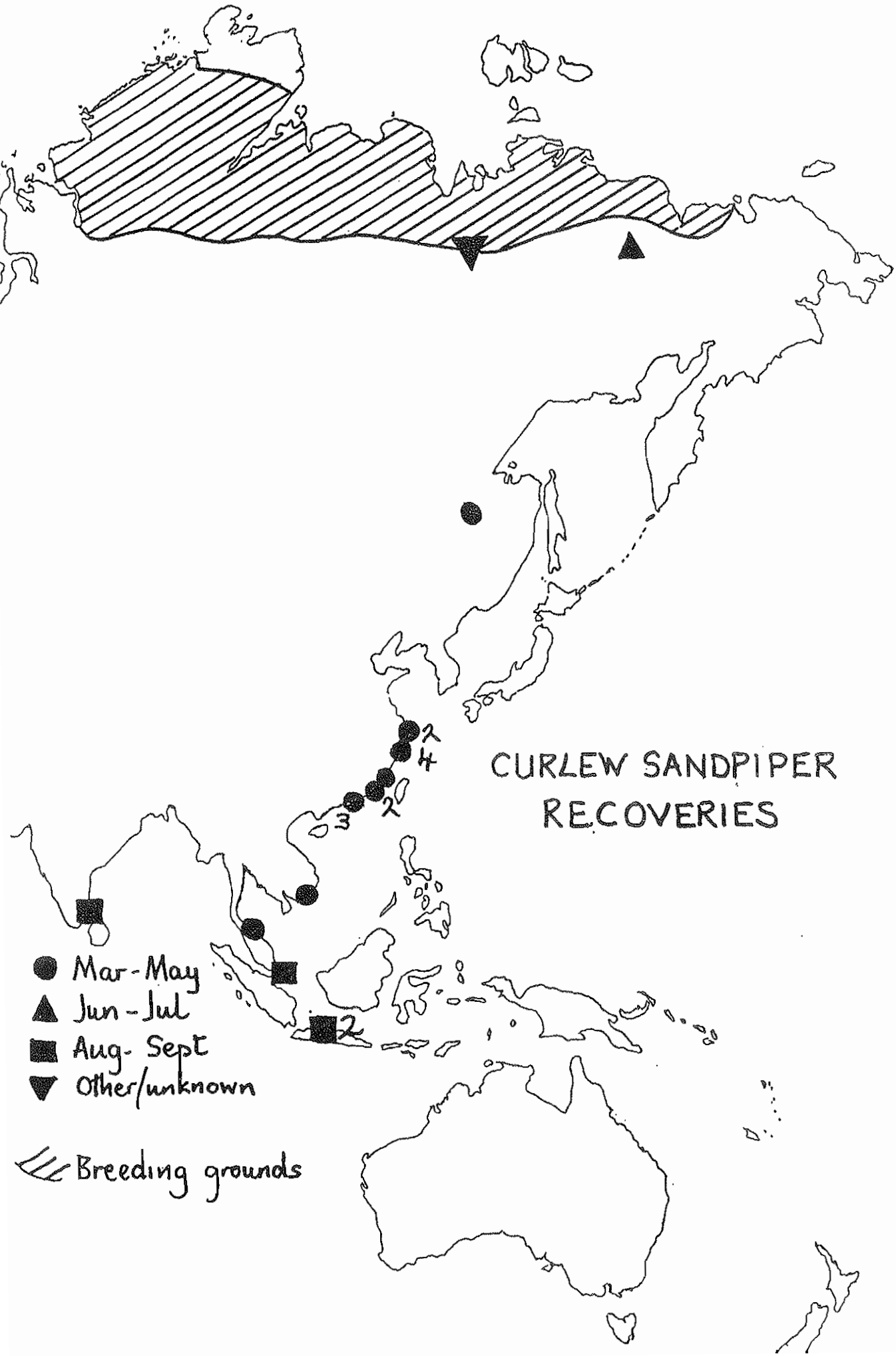
CURLEW SANDPIPER

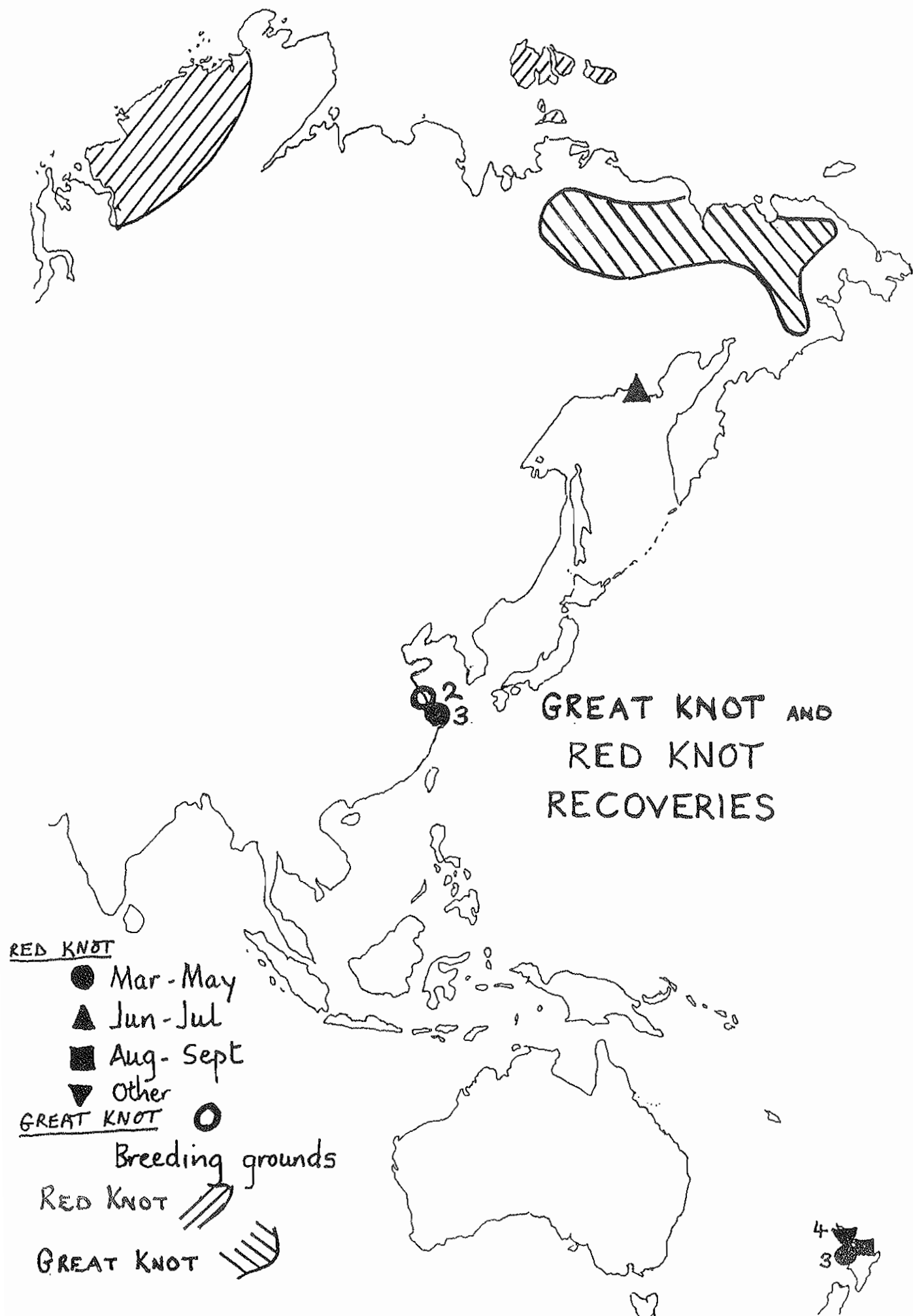
041-10300	Adult Killed	26.12.84 15.6.86	Yallock Creek near Tianjin, China 9002kmNNW
041-43622	Adult Killed	27.2.88 23.8.88	Werribee SF Shandong, China 8599kmNNW
041-31101	Adult Killed	18.1.87 5.5.89	Werribee SF Shanghai, China 7991kmNNW
041-17650	Adult Killed	23.3.86 17.5.89	Werribee SF Yangtze River, China 7991kmNNW
041-58597	Adult Recaptured	1.1.90 4.5.90	Yallock Creek Mai Po, Hong Kong 7479kmNNW
040-97272	Adult Found dead	26.1.80 - - -	Werribee SF Yakut o Verkhoyanskiy, USSR 11751kmN

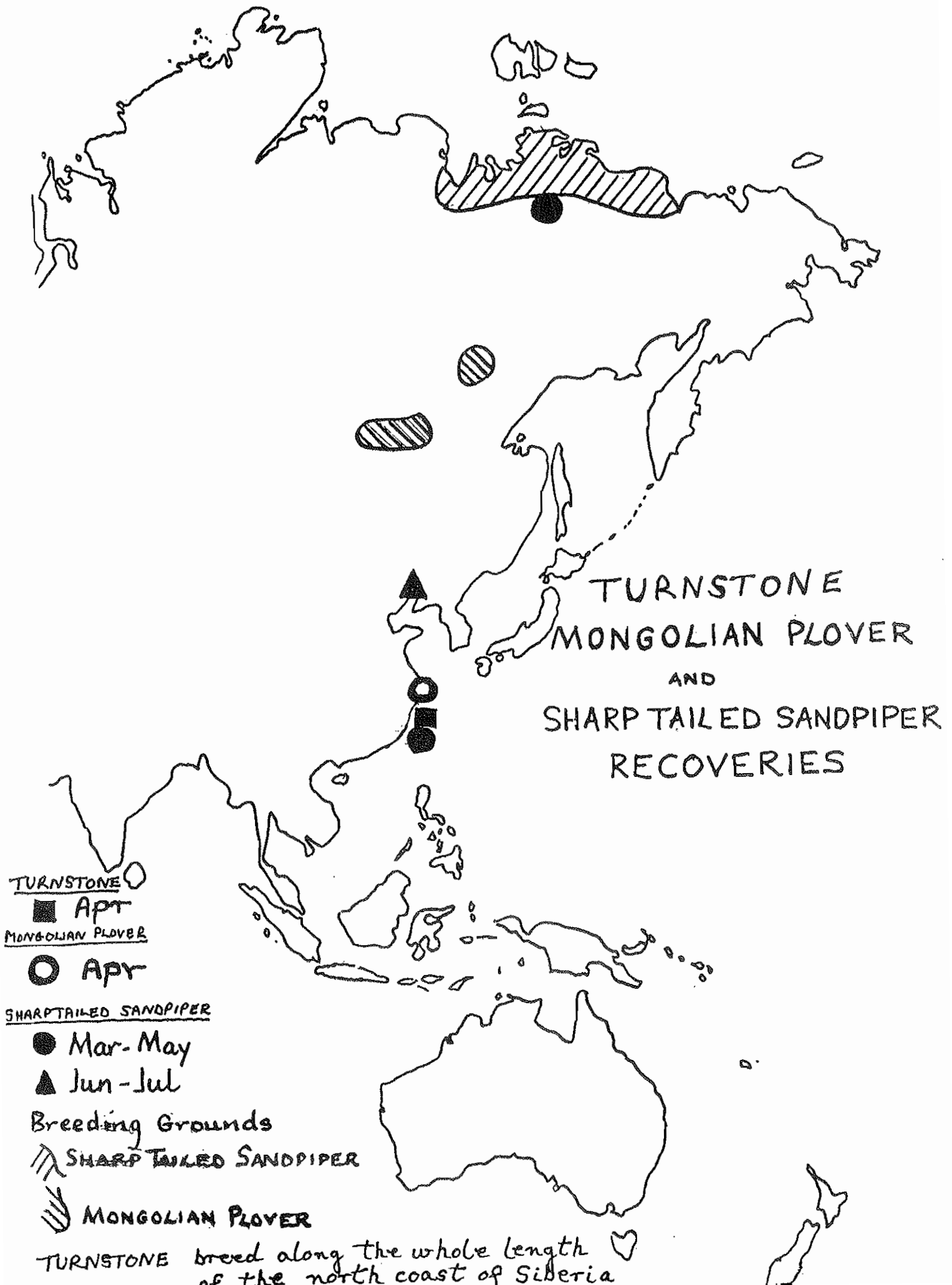
An unprecedented batch of overseas recoveries. The Russian recovery is the longest yet for this species. The four recoveries in China bring the VWSG total for that country to seven. Note that one of these recoveries was in August during the southward migration - most usually occur in April/May during northward migration.











TURNSTONE
MONGOLIAN PLOVER
AND
SHARP TAILED SANDPIPER
RECOVERIES

- TURNSTONE ○
- Apt
- MONGOLIAN PLOVER
- Apr
- SHARPTAILED SANDPIPER
- Mar-May
- ▲ Jun-Jul
- Breeding Grounds
- ▨ SHARP TAILED SANDPIPER
- ▨ MONGOLIAN PLOVER

TURNSTONE breed along the whole length of the north coast of Siberia

MOVEMENTS OF COLOUR-BANDED PIED AND SOOTY OYSTERCATCHERS

There has been an excellent response to requests for information on sightings of colour-banded Pied and Sooty Oystercatchers. Many Pied Oystercatchers have shown movement from their original banding location, with widespread movements within and between Port Phillip Bay and Westernport Bay and as far east as Corner Inlet. The longest individual Pied Oystercatcher movements have been:

<u>Banded</u>	<u>Resighted</u>	<u>Observer</u>
6.8.89. Barry Beach	10.12.89 near Currie, King Island. Flock. Moved 270 km SW.	Dennis Whitchurch
1.3.80. Rhyll	3.1.90, Killarney Beach. Paired. Moved 260 km W.	Sir Edward Woodward
1988 or before. Queenscliff	14.1.90, East of Killarney Beach. Flock. Moved 195 km W.	Sir Edward Woodward
1988 or before. Queenscliff	21.1.90, near Port MacDonnell South Australia. Paired. Moved 325 km W.	Peter Penny
16.4.89. Werribee S.F.	28.7.90, 20 km NW of Port MacDonnell, South Australia. Single Bird. Moved 350 km W.	Peter Penny
20.5.89. Stockyard Pt	4.8.90, Discovery Bay. Flock. Moved 380 km W.	Martin Schulz
1989 or 1990. Werribee S.F.	4.8.90, Discovery Bay. Flock. Moved 280 km W.	Martin Schulz
Barry Beach	4.8.90, Discovery Bay. Flock. Moved 450 km W.	Martin Schulz
1989. Stockyard Pt	4.8.90, Discovery Bay. Paired. Moved 380 km W.	Martin Schulz
1988 or before. Werribee S.F.	6.8.90, Discovery Bay. Paired. Moved 280 km W.	John Starks

It is too early yet to discern any real pattern in the movements or to know if they are regular.

Please keep reporting all sightings of colour banded birds. 'Local' sightings are very important as we try to build up life histories of individual birds so don't just record those which have moved location!

REPORT ON TERN-BANDING AT PT. WILSON, SPERMWHALE HEAD,
LAKES NATIONAL PARK ON 13-14 JANUARY, 1990

INTRODUCTION

This was a continuation of the project commenced in January 1989 (see separate report for last year and the 1989 Victorian Wader Study Group Annual Report pp. 30-33).

CATCHES

Three catches were made, as detailed below.

	New	Retrap	Total
(1st catch)			
13/1/90 Common Tern	185	6	191
Little Tern	14	-	14
Crested Tern	3	1	4
Fairy Tern	2	-	2
	<u>204</u>	<u>7</u>	<u>211</u>
(2nd catch)			
13/1/90 Common Tern	105	4	109
Little Tern	37	1	38
Whitewinged Black Tern	9	-	9
Fairy Tern	2	-	2
	<u>153</u>	<u>5</u>	<u>158</u>
14/1/90 Common Tern	138	3	141
Little Tern	8	-	8
Crested Tern	1	1	2
Fairy Tern	-	1	1
	<u>147</u>	<u>5</u>	<u>152</u>
Totals (including retraps)	Common Tern		441
	Little Tern		60
	Whitewinged Black Tern		9
	Crested Tern		6
	Fairy Tern		5
			<u>521</u>

The first 280 Common Terns were colour banded with the site code for the 1989-90 summer (left leg, red over white; right leg, metal). All of the Little Terns and Fairy Terns were banded with individual colour band combinations.

RESULTS

There were some particularly interesting recaptures of previously banded birds and details of these are included in the commentary below.

Common Terns

Jim Reside and Richard Owen (CFL Bairnsdale) estimated some 1,200 birds present on the Gippsland Lakes. There were 200-500 present on Pt. Wilson throughout both days, these numbers building up within half an hour of net setting and/or catching (the birds and net being removed from the spit immediately after each catch).

441 birds were caught. As in early 1989 these were mostly adults, with only 13 juveniles. There were 13 recaptures from previous years - 11 from Jan/Mar 1989 and two banded on 6th March 1982 off Mann's Beach, Corner Inlet (the other end of Ninety Mile Beach). These birds, banded almost 8 years ago, had presumably returned to their Northern Hemisphere breeding grounds in each intervening year. They were originally part of the only previous catch of Common Terns made by VWSG before the first visit to the Lakes National Park in Jan 1989.

Useful additional moult and biometric data was gathered.

Little Terns

Most of the 60 Little Terns caught were in plumage/moult typical of visiting birds presumed to be from the Northern Hemisphere. There were only three locally bred juveniles. This indicates that the birds breeding at Lakes Entrance had not yet dispersed into this part of the Gippsland Lakes.

It is particularly interesting that the single recapture was of a bird banded at Pt. Wilson as a juvenile in March 1989. Its plumage appeared almost identical to a full breeding adult, indicating rapid maturity.

During the 1989-90 breeding season CFL wardens and other observers have identified 20 individually colour marked birds in the breeding colony at Lakes Entrance which had been marked at Pt. Wilson in March 1989. Also one bird banded as a juvenile was seen in Sydney in Sept 1989.

Fairy Terns

There was a particularly interesting recapture in the 5 Fairy Terns caught. It had been banded nearly 9 years ago, on 15th March 1981, at Queenscliff as an "immature" bird in a flock. This movement lends further support to the view that the lack of breeding Fairy Terns in Port Phillip Bay and Westernport in the last two years is due to the population transferring en masse to the secure new breeding grounds now available to them at Rigby Island, Lakes Entrance, as a result of the immensely successful management and protection measures undertaken by the Department of Conservation Forests and Lands.

Crested Terns

The 6 Crested Terns caught also contained two interesting recaptures. One bird had been banded as a chick in December 1988 off Mann's Beach, Corner Inlet. It was still in partial non-breeding plumage, confirming that this species tends to take at least two years to reach full maturity.

The other recovery was particularly amazing as it had been banded as a chick only four weeks before on Mud Island, Port Phillip Bay. Since it probably took at least two weeks to fledge after banding it had accomplished a journey of around 300 kms. within a fortnight of fledging. It was still accompanied by an adult. This supports other previous recoveries which indicate a quite rapid easterly dispersal of chicks after fledging at the southern Victorian colonies.

Whitewinged Black Tern

It was pleasing, and surprising, to catch 9 of these. They are apparently not normally recorded as early or in such numbers in the Gippsland Lakes and have rarely been banded in Australia.

CONCLUSIONS

The Pt. Wilson site has again proved to be ideal for catching terns, especially the prime objective of Common Terns. As in 1989 comparatively few 'small' terns are present in January - the second catch (with 40 small terns) being deliberately engineered to contain a reasonable sample.

A surprising amount of movement and return data has already been generated indicating the potential of tern banding to produce a good rate of knowledge generation. The complicated moult/biometric/age/population data is also gradually becoming understood.

It is recommended that the project be continued in future years.

ACKNOWLEDGEMENTS

The VWSG is grateful to the many participants for assistance in the fieldwork and to National Parks and Wildlife Service, the Department of Conservation Forest and Lands and Rotomah Bird Observatory for permission and help in a variety of ways.

POSTSCRIPT

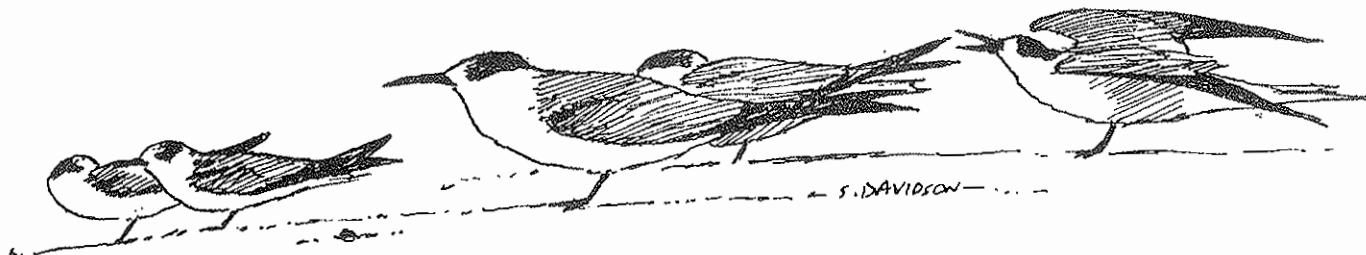
A further visit to Point Wilson, Spermwhale Head, in early March produced the following additional valuable catches of terns.

		<u>New</u>	<u>Retraps</u>	<u>Total</u>
<u>1st Catch</u>				
10/3/90	Little Tern	36	13	49
	Common Tern	5	-	5
	Whitewinged Black Tern	1	1	2
	Caspian Tern	<u>1</u>	<u>-</u>	<u>1</u>
		43	14	57

2nd Catch

10/3/90	Common Tern	78	7	85
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As before all Little Terns were individually colour banded and all Common Terns colour banded with a year/site code.



WADER BANDING TOTALS - VICTORIA - 1989

	NEW	RETRAP	TOTAL
Pied Oystercatcher	145	58	203
Sooty Oystercatcher	22	2	24
Grey Plover	3	1	4
Mongolian Plover	1	-	1
Doublebanded Plover	262	197	459
Large Sand Plover	1	-	1
Redcapped Plover	8	4	12
Ruddy Turnstone	94	18	112
Eastern Curlew	41	-	41
Greenshank	56	19	75
Bartailed Godwit	60	8	68
Red Knot	17	-	17
Great Knot	4	-	4
Sharptailed Sandpiper	28	-	28
Rednecked Stint	4012	1162	5174
Curlew Sandpiper	677	115	792
Sanderling	6	-	6
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	<u>5437</u>	<u>1584</u>	<u>7021</u>

ANNUAL WADER BANDING TOTALS BY VWSG IN VICTORIA

CALENDAR YEAR	NEW	RETRAPS	TOTAL
1975	9	-	-
1976	616	4	620
1977	482	12	494
1978	1296	42	1338
1979	7436	486	7922
1980	6121	1206	7327
1981	4561	869	5430
1982	3774	796	4570
1983	2875	628	3503
1984	4272	1045	5317
1985	4073	1051	5124
1986	7144	2057	9201
1987	5350	1559	6909
1988	8019	2697	10716
1989	5437	1584	7021
Total catches in Victoria to end 1989	<u>61465</u>	<u>14036</u>	<u>75501</u>

Average annual total for 1979 to 1989 period of 6,640.

LOCATION OF WADERS CAUGHT IN VICTORIA

	To Dec 1988	1989	TOTAL
Werribee	31131	2183	33314
Westernport Bay	14898	1407	16305
Queenscliff/Pt Lonsdale	13227	1883	15110
Anderson's Inlet (Inverloch)	5466	51	5517
Corner Inlet	2492	1497	3989
Altona	937	-	937
Bendigo (Sewage Farm)	143	-	143
Seaford Swamp	98	-	98
Mud Island	35	-	35
Geelong (Point Henry)	25	-	25
Seaspray (Lake Reeve)	18	-	18
Toowong	10	-	10
	<u>68480</u>	<u>7021</u>	<u>75501</u>

Totals include 61,465 newly banded birds and 14,036 retraps of 31 species.

VICTORIAN WADER CATCHES
1975 TO 31 DECEMBER 1989

	NEW	RETRAP	TOTAL
Pied Oystercatcher	500	192	712
Sooty Oystercatcher	68	4	72
Masked Lapwing	127	3	130
Grey Plover	72	6	78
Lesser Golden Plover	169	16	185
Redkneed Dotterel	133	11	144
Hooded Plover	15	1	16
Mongolian Plover	66	4	70
Doublebanded Plover	2680	810	3490
Large Sand Plover	16	1	17
Redcapped Plover	474	172	646
Blackfronted Plover	52	4	56
Blackwinged Stilt	13	-	13
Rednecked Avocet	174	1	175
Ruddy Turnstone	249	26	275
Eastern Curlew	176	2	178
Whimbrel	1	-	1
Greytailed Tatler	33	1	34
Greenshank	93	19	112
Terek Sandpiper	22	1	23
Latham's Snipe	54	-	54
Bartailed Godwit	667	54	721
Red Knot	1214	96	1310
Great Knot	308	32	340
Sharptailed Sandpiper	3712	126	3838
Little Stint	1	-	1
Rednecked Stint	38410	10212	48624
Longtoed Stint	1	-	1
Curlew Sandpiper	11924	2240	14164
Sanderling	20	-	20
Broadbilled Sandpiper	1	-	1
<u>31 species</u>	<u>61465</u>	<u>14036</u>	<u>75501</u>

In addition, the Group has been involved in handling a further 22,500 waders during joint operations with local groups in other States. If these are included the VWSG has now been involved in the catching of 98,051 waders.

NUMBERS OF WADERS "PROCESSED" BY WWSG IN VICTORIA
IN EACH MONTH TO 31 DECEMBER, 1989

"Processing" includes measuring wing length, bill length and/or total head length (as appropriate) and weight; also recording full details of primary feather moult (if any). Additional wing moult has been gathered on some birds which were not fully processed. The table below is used to plan fieldwork, with the object of obtaining usable samples (preferably on at least 50 birds) of data for each month of the year for all the main study species.

	J	F	M	A	M	J	J	A	S	O	N	D	TOTAL
Pied Oystercatcher	68	64	82	72	102	152	84	45	2	6	9	20	706
Sooty Oystercatcher	2	-	3	2	-	8	43	14	-	-	-	-	72
Masked Lapwing	4	3	77	-	-	13	-	-	-	3	18	11	129
Grey Plover	1	14	4	3	-	2	-	-	2	35	16	-	77
Lesser Grey Plover	9	26	30	1	-	-	-	-	22	22	40	39	167
Redkneed Dotterel	-	10	-	20	-	44	11	16	12	8	22	-	143
Hooded Plover	-	-	-	-	-	15	-	-	-	-	-	-	15
Mongolian Plover	46	1	6	7	1	2	2	-	-	-	1	-	66
Doublebanded Plover	-	1	95	257	676	695	865	758	1	-	-	-	3348
Large Sand Plover	14	-	-	-	-	1	1	-	-	-	1	-	17
Redcapped Plover	11	66	48	111	192	72	61	14	8	11	10	5	609
Blackfronted Plover	-	7	-	-	11	16	6	9	2	-	4	7	62
Blackwinged Stilt	-	6	-	-	-	-	-	-	-	4	2	1	13
Rednecked Avocet	39	-	-	-	-	-	-	10	2	41	46	36	174
Ruddy Turnstone	17	1	76	27	1	7	-	-	12	7	110	16	274
Eastern Curlew	15	-	1	-	-	15	-	2	8	73	59	5	178
Whimbrel	-	-	-	-	-	1	-	-	-	-	-	-	1
Greytailed Tatler	28	-	-	3	-	3	-	-	-	-	-	-	34
Greenshank	1	-	76	-	-	-	-	-	-	-	36	-	113
Terek Sandpiper	8	1	-	1	2	-	-	1	-	1	-	10	24
Latham's Snipe	29	44	-	-	-	-	-	-	-	1	4	8	86
Bartailed Godwit	72	8	31	1	-	61	-	-	34	52	190	267	716
Red Knot	124	65	56	34	2	43	73	-	8	420	255	174	1254
Great Knot	96	1	3	-	-	4	-	-	15	53	40	129	341
Sharptailed Sandpiper	993	499	93	2	-	-	-	9	518	329	270	910	3623
Little Stint	-	-	-	-	-	-	-	-	-	-	1	-	1
Rednecked Stint	1328	685	3400	1860	330	223	436	316	431	886	2295	1890	14080
Longtoed Stint	-	-	-	-	-	-	-	-	-	1	-	-	1
Curlew Sandpiper	471	771	923	144	205	33	141	308	160	818	555	764	5293
Sanderling	11	-	-	-	-	-	-	-	-	1	6	2	20
Broadbilled Sandpiper	-	1	-	-	-	-	-	-	-	-	-	-	1
													<u>31638</u>

The majority of the birds caught when the WWSG visited other States were also processed including 1327 birds caught in Tasmania (Nov. 1979), 820 birds caught in South Australia (Feb. 1980), 921 birds in New South Wales (Mar. 1981) and 19482 in Western Australia (Aug/Sept. 1981, Aug/Sept/Nov. 1982, Oct/Nov. 1983, Mar/Apr. 1985, Aug/Sept. 1986 and Mar/Apr. 1988).

VICTORIAN WADER STUDY GROUPPROVISIONAL DATES FOR FIELDWORK LATE DEC 1989/MARCH 1990

<u>DATE</u> <u>1989</u>	<u>PLACE & OBJECTIVE</u>	<u>HIGH TIDE</u> <u>DAY</u>	<u>TIME</u>	<u>HEIGHT</u>
Dec 23	<u>Corner Inlet</u> Crested Terns & Caspian Tern chicks	Sat	0740	1.3m
Dec 26-29	<u>Killarney Beach</u> Sanderling & Turnstone (depends on recces)			
	OR <u>Barwon Heads</u> Golden Plover & Greenshank			
Dec 30-31	<u>Werribee S.F.</u> Large catch of small waders (camp Sat night)	Sat Sun	1620 0640	0.7m 0.8m
<u>1990</u>				
Jan 1	<u>Yallock Creek</u> Large catch of small waders	Mon	1640	2.5m
Jan 6-7	<u>Queenscliff</u> Large catch of small waders Large waders (camp Fri & Sat nights)	Sat Sun	0635 1940 0715	1.4m 1.3m 1.4m
Jan 13-14	<u>Spermwhale Head</u> Terns (camp Fri & Sat nights)			
Jan 27-29 (Aust Day w/e)	<u>Corner Inlet</u> Large waders	Sat Sun Mon	1240 1430 1440	1.1m 1.2m 1.3m
	OR <u>Flinders Island</u> Oystercatchers (camp Fri, Sat & Sun nights)			
Feb 11	<u>Yallock Creek</u> Large catch of small waders Masked Lapwings	Sun	1500	2.4m

Feb 18	<u>Werribee S.F.</u> Large catch of small waders Golden Plover - Pied Oystercatchers (set & camp Sat night)	Sun	0845	0.8m
Mar 3-4	<u>Inverloch</u> Small waders, Eastern Curlew	Sat Sun	1730 0515	1.6m 1.5m
or	<u>Killarney Beach</u> Sanderling & Turnstone (Camp Sat night)			
Mar 10-12 (Labour Day w/e)	<u>Corner Inlet</u> Large waders	Sat Sun Mon	1130 1250 1400	1.1m 1.2m 1.3m
or	<u>Spermwhale Head</u> Terns			
or	<u>Flinders Island</u> Oystercatchers.			

DATES FOR FIELDWORK - MAY TO DECEMBER 1990

<u>DATE</u>	<u>PLACE & OBJECTIVE</u>	<u>HIGH TIDE</u>	
		<u>TIME</u>	<u>HEIGHT</u>
Sun May 6	<u>Werribee S.F.</u> Pied Oystercatchers	1208	0.7m
Sat May 12	<u>Queenscliff</u> Pied Oystercatchers & Doublebanded Plovers	1408*	1.6m
Sun Jun 10	<u>Stockyard Point</u> Pied Oystercatchers	1437	2.9m
Mon Jun 11 (Queen's Birth)	<u>Barry Beach</u> Pied & Sooty Oystercatchers	1500	1.5m
Sat Jul 7	<u>Long Island, Hastings</u> Pied Oystercatchers	1214	2.7m
Sun Jul 8	<u>Queenscliff</u> Doublebanded Plovers	1223*	1.4m
Sat Jul 21	<u>Werribee S.F.</u> Pied Oystercatchers & Doublebanded Plovers	1419	0.8m
Sun Jul 22	<u>Yallock Creek</u> Doublebanded Plovers	1235	2.8m

Sat Aug 11	<u>Queenscliff</u> Doublebanded Plovers	1517*	1.5m
Sat Aug 25	<u>ANNUAL GENERAL MEETING</u> At Clive & Pat Minton's house From 10.30 a.m. to late p.m.		
Sun Sep 9	<u>The Gurdies</u> Eastern Curlew	1538	2.8m
Sat Sep 22	<u>The Gurdies</u> Eastern Curlew	1503	2.7m
Sun Oct 7	<u>Queenscliff</u> Red Knot	1330*	1.4m
Sun Oct 21	<u>The Gurdies or Yallock Creek</u> Eastern Curlew or Curlew Sandpiper	1424	2.6m
Sat Nov 10	<u>Werribee S.F.</u> Golden Plover	0929	0.8m
Sun Nov 18	<u>Queenscliff (Swan Island)</u> Turnstone	1304*	1.3m
Sat/Sun Dec 8-9	<u>Inverloch</u> Small waders & Eastern Curlew (Travel to Inverloch & set nets Fri p.m.)	0513) 1707)8th 0557 9th	1.6m 1.4m 1.5m
Sun Dec 16	<u>Mud Island</u> Crested Tern & Caspian Tern chicks		
Sun Dec 23	<u>Corner Inlet, off Mann's Beach</u> Crested Tern & Caspian Tern chicks		
Sun Dec 30	<u>Werribee S.F.</u> Large catch of small waders	1213	0.8m
Tues Jan 1 (1991)	<u>Yallock Creek</u> Large catch of small waders	1230	2.4m

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BANDER'S AID: SUPPLEMENT NUMBER ONE

By Ken, Annie, and Danny Rogers. Now available from RAOU, 21 Gladstone Street, Moonee Ponds, Vic 3039. 75 pp. Price \$9.90 including postage; \$9.00 if collected.

Contains new information on ageing, sexing, moult, measurements, life cycles, and geographical variation for 82 species. Not just for bush bird buffs. Seven wader species are comprehensively covered:

Double-banded Plover	Red Knot	Red-necked Stint
Large Sand Plover	Sharp-tailed Sandpiper	Curlew Sandpiper
Oriental Plover		

Health Hints

Those taking part in fieldwork should be aware of the rare but serious infectious disease psittacosis. The symptoms are said to include an initial feeling like a bad hangover accompanied by severe chills, then high fever (but with a slow pulse rate relative to the height of the fever), headache, persistent cough, malaise, loss of appetite, muscle pain, lethargy and tremors. Infection is said to be through inhalation of dried bird droppings, handling contaminated plumage or tissues, mouth to beak contact, pecks (and pricks from claws?). Less frequently it comes from other infected persons and even from an environment previously occupied by an infected bird. The incubation period ranges from one to three weeks but typically is about two weeks.

Signs of pneumonia with persistent high fever, unusually severe headache, loss of appetite and pulse rate low for the temperature are said to suggest the diagnosis. The doctor should be told of involvement with birds, as some at least of the symptoms are produced by other infections. Prompt action is required.

This is not medical advice although it is believed to be broadly accurate. The intention is to alert people to the need to tell their doctor of any birding activities during the preceeding two or three weeks. One of our members, Lee Duclos contracted psittacosis fourteen days after he had participated in a large Crested Tern chick-banding exercise on Mud Island in December 1988. He was fortunate that an alert specialist Dr Malcolm McDonald at Cabrini Hospital correctly diagnosed his condition so that he could be treated in time. Needless to say, no responsibility can be accepted for anyone relying on this note: medical advice alone should be followed.

There are other afflictions transmissible from birds. Taking care to wash the hands before eating is a basic precaution against many diseases.

Victorian Wader Studies Group Inc
Financial Statement y/e 30 June 1990

INCOME		\$	EXPENDITURE		\$
Subscriptions	1,100.00	(1,130.00)	Printing	300.00	(280.00)
Donations	10.00	(76.85)	Postage	125.10	(129.08)
Sale of Bulletins	10.50		Stationery	27.75	(12.00)
National Parks & Wildlife Service (N.S.W.) - supply of fully made up NET	1,250.00		A.G.M. statement fee	23.00	(23.00)
GRUNDY TV - hire of equipment, supply of fuses, gunpowder etc	200.00		Firing Boxes	78.88	(68.80)
Refund for fuses used on N.W. Expedition 1990	120.00		Fuses	292.80	(468.00)
Proceeds of TRADING TABLE at A.G.M.	61.10	(71.35)	Colour bands & superglue	32.80	(553.40)
Bank interest	93.49		Net mending	30.00	
Cash at bank at 1/7/89	807.80		Dies, taps, bearings	90.06	
Cash in hand at 1/7/89	50.60		Dowelling & Joining	165.90	
			Netting, rope, twine & labour	791.90	
			Equipment & repairs including radios & batteries, electrical, screwdrivers, plasticine etc.	163.45	(89.10)
			Bank Government Duties	3.38	(0.60)
				-----,--	
				\$2,125.02	
			Cash at bank at 30/6/90	1,434.09	
			Cash in hand at 30/6/90	144.38	
				-----,--	
				\$3,703.49	
				-----,--	
				\$3,703.49	

Brenda Murlis, Hon. Treasurer

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