

KIMBERLEY BIRDS

Ron Johnstone, Assistant Curator of Ornithology at the WA Museum, addressed the Society in November 1995. Ron has worked at the museum since 1969 and, with the late Glenn Storr as his mentor, studied Kimberley birds and their migratory patterns. The Kimberley was a great unknown at this time. The first observations of birds were carried out by John Lort Stokes in *the Beagle* in 1838, Julius Brockman, Knut Dahl who worked in Broome and Derby, and the naturalist Dr House around the turn of the century, but not much since then. Ron mentioned J.P. Rogers who collected in southern Kimberley and around Wyndham in the early 1900s, and J. Tunney who used a horse and cart!

In the 1970s the museum, often in collaboration with the Department of Fisheries and Wildlife, began its great series of biological surveys in the Kimberley. When the first expedition ventured into the Mitchell Plateau during the wet season of 1973, the party collected 29 new species of vertebrates. These surveys help build a large data base and collection of Kimberley birds including specimens called endemics. Study skins were prepared by gutting them, filling the abdominal cavity with cotton wool, noting the stomach contents and mounting the lifelike final products on sticks. Ron had sample study skins on display—White quilled rock pigeon and Bee eater to name a few—and one occasionally strayed across to serve as a screen pointer while Ron showed his many beautiful slides.

We heard the Sahul Shelf was uncovered 8,000 years ago and that, with New Guinea having been linked to Australia, the island of Sumba has *Banksia dentata*, eucalypts, limestone and laterite in common with the Kimberley. Sabu and Roti are also very like the Kimberley, with similar birds and vegetation. This colonisation occurred via the island chains but some birds are reluctant water-crossers, like the pheasants. Many are confined to the sub-humid zone in the mangals or mangroves which is the most species rich area in the world. Twenty-four species are confined to the mangals alone. Ron showed us slides of the zonation of mangals along the coast and pictures of the bright red fiddler crabs which provide food for the birds, especially the Mangrove Heron. The Shining Flycatcher and the Mangrove Kingfisher are also confined to the mangals but other Kimberley birds occur right down into the arid Sturt Creek region of the south east Kimberley.

Speaking about the sea birds, Ron mentioned the Leeuwin Current which begins in the Lesser Sundas and is low in salinity and warmer than other water. It has a huge effect on the avifauna of the Kimberley islands, where some seabirds are residents and some migrants. Masked and Brown Boobies, Frigate birds (Lesser and Greater) and the rare Red-footed Booby breed in profusion here, and Pelicans in eastern Indonesia. The Bridled Tern breeds on most WA west coast islands and, although it was rare up to the 1940s, has now expanded its range into South Australia. The Lesser Noddy, which breeds on the Abrolhos and Seychelle Islands, has also been recorded breeding on the Ashmore Reef. Also of interest are huge numbers of migratory waders found at Eighty Mile Beach on the mainland. They breed in the Palaearctic zone and spend the northern winter in Australia, and they can build up their body weight by 30-40% prior to migration.

The sandstones and Vine thickets are important habitats for many and varied birds such as the Black Grass Wren, Torres Strait Pigeon, Great Bower Bird, and the Peregrine Falcon

which has a nest on Mt Trafalgar. Rose-crowned Pigeons, which can be seen in coastal areas and feeding on wild figs, also occur from Timor to Sabu and across to the Gulf of Carpentaria. The White-quilled Rock Pigeon favours the rugged sandstone cliffs.

The savanna woodland consists of tall grasses and eucalypts, and here we find the same birds as the Northern Territory: Partridge Pigeon and Gouldian Finches to name but a few. The latter breed at Beagle Bay and into the Northern Territory and are a spectacular little bird. In the Napier Range area and south, the bird population alters, becoming more like that of the Pilbara with more arid adapted species.

In the South Kimberley Flatlands around the Fitzroy and Ord Rivers, the large trees harbour Blue-winged Kookaburras, Treecreepers and Pheasant Coucals. The birds of the Ord changed as the damming of the Ord River caused the wetlands to rise sharply and attract more waterfowl, especially ducks and egrets.

In the more arid areas are magpies and galahs, which don't penetrate the wetter areas. The Edgar Ranges and desert on the southern edge of the Kimberley sees the last of the Kimberley fauna. This inhospitable area supports only 10 to 12 species in a 20 mile patch. The adjacent Great Sandy Desert has sparse vegetation of Desert oak and spinifex and it supports only a few birds including the nomadic Budgerigar, Crimson Chat, Pied Honeyeater and the Bustard.

Ron also described the storage of 45,000 specimens of birds in shelves in the museum. Little is known still about many species, for instance their distribution, food, breeding behaviour and incubation period. We also heard that, because the bones of birds are too light to be preserved, very few remain as fossils. Ossification of the bones of the skull does, however, enable the age of the birds to be estimated.

The Kimberley as a whole is a hard country in which to do research, and the mangroves are especially difficult and dangerous areas in which to make collections. Although small by world standards, the WA Museum's bird collections are an irreplaceable source of information on our bird fauna. Researchers also take soft tissue from specimens that is frozen and used for modern genetic and biochemical studies. Ron concluded by stressing that there is still much research to be done on many Australian birds and, after the usual questions, joined the members in socialising over a cup of tea.

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