

## A 1992 PERSPECTIVE ON THE SWIFTLETS OF CHILLAGOE CAVES

by Mike Tarburton

The swiftlet that sleeps every night of the year in the caves at Chillagoe is a member of the swift family. The 84 species in this family use their glue like saliva to hold their nests together. This is the most aerial of all bird families, for not one member lands during the daytime except during the breeding season when nest building, incubation, and chick feeding duties draw them to earth. Swifts are larger than swiftlets and occupy a larger portion of the earth's surface: Africa, Europe, Asia and the Americas. Swiftlets are distributed from Mauritius and India to Tahiti and the Marquesas.

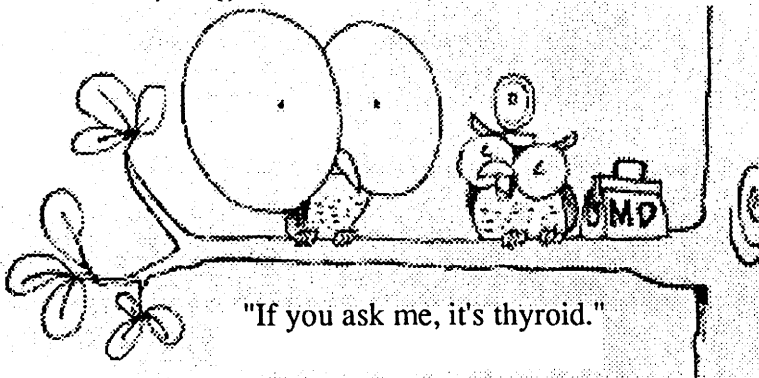
Nineteen swiftlets can echolocate (navigate in the dark by listening to echoes of their "click" calls) and so have been placed in the genus *Aerodramus*. Three swiftlets cannot echolocate and remain in the genus *Collocalia*. They cannot build their nests in the totally dark sections of caves and instead use cave entrances and the lower surfaces of boulders and tree trunks. One other swiftlet (the Giant Swiftlet) is larger than all the rest and is now thought by some to be a swift.

The inhabitants of Chillagoe caves are the same species found in the caves of the Mitchell Palmer limestone outcrops. Their vernacular name as accepted by the Royal Australasian Ornithologists Union is the white rumped swiftlet. This name is more appropriate than that of Grey Swiftlet for there are three other species known by that name and the Northern Grey Swiftlet is so parochial that it ignores the previous fact as well as the fact that the other "Grey Swiftlets" are all found further north than the Chillagoe birds. As White-rumped Swiftlets are found from central Indonesia to Samoa, Fiji and Niue, and as this is the accepted international as well as Australian name we would do well to use it.

The scientific name of the birds at Chillagoe is *Aerodramus spodopygius chillagoensis*. It is slightly lighter and smaller than the other Australian subspecies *A. s. terraeregina* which inhabits coastal strips of rainforest between Iron Range on Cape York and Finch Hatton Gorge near Mackay.

The White-rumped Swiftlet at Chillagoe uses mostly Kangaroo Grass to construct its nest. The occasional gum leaf, other plant materials and feathers are incorporated into its nests. Smooth overhanging rock surfaces are chosen for nest sites. You have probably seen Spotted Pythons *Liasis childreni* (we must not call them Childrens Pythons anymore - in case children get to playing with similar looking but more harmful snakes, according to QNPWS) and Brown Tree Snakes *Bioga irregularis* climbing up walls on cave coral but they cannot reach nests located on smooth overhanging rock. Most Chillagoe nest sites are in total darkness which prevents cats (as if smooth overhanging rock surfaces was not enough) preying on nestlings. However, at some of the Chillagoe colonies there is either a low or narrow entry through which the birds must pass to get from the cave entrance to the colony. At these sites snakes and cats may prey on the birds. Snakes are cold blooded and there is usually never more than one in one cave so few birds are eaten. Most colonies with a snake feeding on them have increased in size during the six years I have been censusing them. Cats on the other hand are warm blooded and in most cases when they start preying on a colony its size is rapidly reduced. Fortunately when there are only 5 - 15 nests left the cat has to spend time hunting elsewhere in order to obtain enough food and the colony will begin to rebuild itself.

While two eggs are the normal clutch size for the White-rumped Swiftlet in the Pacific Islands, only one egg is laid by both Australian subspecies. This hatches in 28 days with both sexes helping with the incubation and feeding of the chick. Even in years when there is plenty of food both parents are fully occupied raising one chick. Someone said there is a lesson in this for us re human family size. In those nests where I added a chick one chick starved or fell out of the nest because it became too weak to hang on any longer while competing for food from parents.



In laying just one egg Queensland birds have fooled naturalists for a long time. It was while running egg and chick manipulation experiments that I inadvertently discovered that a second egg is laid fifty days after the first. By this time the naked chick has grown feathers (they do not have down) and become warm blooded, so it incubates the second egg leaving the parents to care for only a day or two of incubation after it fledges. The two Australian subspecies of White-rumped Swiftlets are the first birds in the world to be discovered to employ baby baby-sitters for incubation. This strategy enables our two subspecies to raise two chicks in the normally short rainy season wherein there is enough food to do so. Without using this strategy our swiftlets would not be able to raise two chicks each year.

Swiftlets do something else that not a lot of other birds do. Most birds moult and breed at separate times and it is thought that they do this because they cannot get up enough food energy to do both together. Swiftlets moult even their main flight feathers while breeding - probably because there isn't enough energy available to do it during the long dry season. Marvellous what can be achieved when you have to.

How long does a swiftlet live? We can answer this question from my 12 year study in Fiji - that is assuming our Queensland and the Fijian subspecies are similar in this respect. Adults taken at random will live another 3.2 years. The longest recorded life of a bird was 12 years.

While cavers are not likely to prey on swiftlets or their eggs their presence can inadvertently reduce the reproductive success in any of the colonies at Chillagoe so be careful. *Chillagoe Karst* suggests cavers keep their visits to the sections of caves with swiftlet colonies in them to a minimum while breeding is in progress: August to January. Actually October to February is a more accurate description of their breeding period. Sudden noise or bright light in the breeding chamber causes the brooding birds to fly off their nests immediately without moving their feet from under an egg or chick. This causes some eggs and chicks to fall to the ground where they are eaten by snakes and cockroaches or starve. If a caver is negotiating a narrow passage (vertical or horizontal) between the swiftlet's entrance and the nesting chamber at the time the swiftlets are also trying to use it collisions occur. Such collisions rarely injure the birds but usually cause the birds to drop their bolus of food, which represents a fifth to one half of a chick's daily food intake. If this happens often or during a dry season then chances of chick survival will be reduced.