BIRD OBSERVATIONS IN WESTERN SAMOA

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ABSTRACT

From January to July 1973, and again from January until September 1974, the author worked in Western Samoa and bird observations were occasionally made.

Ashmole (1963) listed 31 species of breeding land birds. Another species must be added since the Mynah *(Acridotheres tristis)* is now well established in the Apia area. A total of 29 species were observed and, of 13 of these, observations give information on breeding (nests found, nest building behaviour, adult with food or dependent juvenile).

Of the Samoan Triller *(Lalage sharpei)* a nest was found for the first time and some information on its ecology is given.

Of a few common species, numerous observations show that they probably breed all year round: the Banded Rail *(Rallus philippensis)*, the White-rumped Swiftlet *(Collocalia spodiopygia)* and the Polynesian Triller *(Lalage maculosa)*. Two introduced species have a seasonal breeding season: the Red-vented Bulbul *(Pycnonotus cafer)* and the Mynah *(Acridotheres tristis)*.

For the other species for which observations on the breeding period were made the information available does not indicate whether breeding is seasonal or not: the Samoan Fantail *(Rhipidura nebulosa)*, the Scarlet Robin *(Petroica multicolor)*, the Wattled Honeyeater *(Foulehaio carunculata)*, and both starlings (*Aplonis tabuensis* and *A. atrifuscus*).

INTRODUCTION

Knowledge of the birds of both Western and American Samoa is reviewed and summarized by Ashmole (1963). She lists 31 species of breeding landbirds for Western Samoa and 17 for the islands of American Samoa. Of the latter, three do not occur in Western Samoa *(Porzana tabuensis, Halcyon chloris* — replaced by *H. recurvirostris* endemic to Western Samoa — and *Clytorhynchus vitiensis)*.

According to Ashmole, *Zosterops samoensis* and *Demigretta sacra* occur in Savai'i only and the introduced *Pycnonotus cafer* occurs in Upolu only. Further it will be shown that *Demigretta* is common both in Savai'i and Upolu and that *Pycnonotus* has now spread to Savai'i and to Tutuila. To Ashmole's list a new introduction must be added since *Acridotheres tristis* is now well established and even *Columba livia* seems to have become feral in the Apia area.

I worked in Apia, from January to July 1973 and again from January to September 1974. Especially during the second period I

made bird observations. Most excursions led me to the forest covered hills above Apia, around Afiamalu and Tiavi falls but I regularly visited other parts of Upolu and went across to Savai'i a few times.

My observations are grouped per species. The species that I have not seen are not mentioned further. These are: Bush fowl *(Gallus gallus)*, the Samoan Ground Dove *(Gallicolumba stairii)* and the Samoan White-eye *(Zosterops samoensis)*. Amongst the six migrating non-marine birds I did not observe the Bristle-thighed Curlew *(Numenius tahitiensis)*, the Bar-tailed Godwit *(Limosa lapponica)* and the Long-tailed Cuckoo *(Urodynamis* or *Eudynamis taitiensis)* (although I observed the latter two species in Tonga).

I have tried to record systematically indications of breeding and moult (visual observations of symmetrically lacking feathers and a few mistnetted specimens).

Possibly the main breeding season — if there is such a thing in Samoa — for many species could fall in the first half of the more humid season (October to December) but I was not in Samoa during that period.

I have also summarized the few observations of marine species (including a breeding observation for *Procelsterna cerulea* for Tutuila).

Since, according to Ashmole, these two latter species are difficult to distinguish, field characteristics of both species are given. *A. tabuensis* is much smaller and has a shorter tail than *A. atrifuscus.*

The Samoan Tooth-billed Pigeon *(Didunculus strigirostris)* still exists but is rare. The Reef-Heron *(Demigretta sacra)* is common both in Upolu and Savai'i and the white colour phase is very uncommon. The Barn Owl *(Tyto alba)* is widely distributed and is active in day time.

The White-browed Rail *(Poliolimnas cinereus)* is not common but its distribution is not limited to marshy areas.

Of the five migratory waders in Samoa only 3 species were observed. The Pacific Golden Plover *(Pluvialis dominica)* and the American Wandering Tattler *(Heteroscelus incanus)* are very common. The Turnstone *(Arenaria interpres)* was observed twice.

Several species of marine birds were observed.

The Fairy Tern *(Gygis alba)*, the Brown Noddy *(Anous stolidus)* and the White-tailed Tropicbird *(Phaeton lepturus)* are common over land and some data on the breeding of the Fairy Tern are given.

Nesting of the Blue-grey Noddy *(Procelsterna cerulea)* and of the Brown Noddy was observed in Tutuila, American Samoa.

MARINE BIRDS

Wedge-tailed Shearwater, *Puffinus pacificus*

Identified a few times when crossing between islands: in March 1973 between Upolu and Savai'i and in August 1974 between Upolu and Tutuila.

Audubon's Shearwater, *Puffinus lherminieri*

On 10 February 1973 at 7 p.m. an individual of this species was found sitting on a small stone wall against a house along the sea at Mulinu'u. The bird was picked up and since it seemed in good condition, released the next day. Its overall length was 270 mm. The wing chord was 185 mm, the bill 26 mm. The plumage seemed fresh and no moult was seen. The bill was black above and grey underneath. The legs and webs were flesh coloured; the outer toe and the outerside of the middle toe were black.

The upperparts were black, underparts white with an incomplete breast band. The colour of the undertail coverts is variable in this species (King 1967). In this specimen they were white.

White-tailed Tropic-bird, *Phaethon lepturus*

This species is common in Samoa and could be observed flying above the island at any time. It was seen to settle on trees close to Apia and at Vanimonimo where it probably breeds.

Frigate Birds, *Fregata sp.*

Single Frigate Birds were observed a few times flying above Upolu. On 21 February 1974, 4 were observed above Alafua.

Black-naped Tern, *Sterna sumatrana*

Although this species is said to breed in Samoa (Ashmole 1963) it was only observed once. On 4 June 1973, 10 were fishing in the lagoon at Mulinu'u with a few Fairy Terns. Apparently they were taking small fishes of which a whole school jumped at times out of the water. A few had mottled grey upperparts and were thus immature.

Sooty Tern, *Sterna fuscata*

Flocks were observed between Upolo and Manono on 8 March 1973 and between Upolu and Savai'i on 8 May 1973.

Blue-grey Noddy, *Procelsterna cerulea*

This species was never observed in Western Samoa but was found nesting in Larson's bay (Tutuila) on a cliff together with Brown Noddies *(Anous stolidus)* on 10 August 1974.

Fairy Tern, *Gygis alba*

A common species above and around Upolu. It breeds at Tiavi falls where adults holding a fish were observed on 9, 10 and 23 February 1974 and on 14 April 1974.

Although Ashmole writes that it was recorded flying around trees at an altitude of over 1000 feet (probably referring to Tiavi falls) between December and April, I have recorded it there also in June, July and August. On 12 March 1974 I saw some above Savai'i.

Brown Noddy, *Anous stolidus*

A common species above and around Upolu. At Tiavi falls this species, also, was always present but adults with fish were not recorded. It was seen nesting on a cliff at Larson's bay (Tutuila) on 10 August 1974.

LAND BIRDS

Pacific Golden Plover, *Pluvialis dominica*

One of the two common waders present in large numbers on mudflats but mainly feeding one by one on lawns (e.g. on the golf course at Fagali'i). It is the only wader which is regularly encountered inland in coconut plantations or on roads up to 1000 feet.

Turnstone, *Arenaria interpres*

Does not seem common and was observed only twice. On 15 February 1973 a group of 25 feeding on mudflats at Faleolo and on 17 February 1974 one with a group of Golden Plovers on the beach at Fagali'i.

American Wandering Tattler, *Heteroscelus incanus*

Also a common wader but usually seen on mudflats, in mangrove and emerging reefs where it hunts prey by sight. On 17 February 1974 one was seen chasing a small fish that jumped out of the water several times but was finally caught.

Reef Heron,*Demigretta sacra*

Surprisingly, Ashmole (1963) noted the reef heron as common on American Samoa and probably on Savai'i but not as occuring in Upolu. On both Upolu and Savai'i this species is common. The grey phase is the only one I observed but Dr Karl Joseph Marshall has observed white phase birds too. This colour phase must be very rare. It hunts by sight on emerging reefs, mangrove, etc.

Grey Duck, *Anas superciliosa*

Probably uncommon since I made only one observation of a Grey Duck flying around Vanimonimo on 1 May 1973. Yaldwyn (1952: 28) stated: " They are reported as widespread but not common throughout Upolu . . . Neither Armstrong nor Mayr record them on Savai'i, but I have seen them on the freshwater lagoon at Safune . . . They are highly prized as food by the Samoans, whose hunting of them keeps the numbers down locally. The shooting season is from July 1 to December 31."

Banded Rail, *Rallus philippensis*

It is certainly true that this species is widely distributed and common as Ashmole stated. On 17 March 1974 I counted 9 along 1.5 km of road in Afiamalu. She thinks it may have two breeding periods, one in March/April, a second one in August. The following observations, however, do not support this but suggest continuous breeding all year round.

9/1/73 — adult and 4 or 5 halfgrown young — Alafua.
23/1/74 — 2 adults and 2 small chicks — Sinamoga.
30/1/74 — adult and young along the South Coast of Upolu.
31/1/74 — adult and young — Apia.
5/2/73 — adult and 4 downy young — Afiamalu (Jan Lint).

20/2/74 — adult and two halfgrown young — Alafua.
— 2 adults and 1 halfgrown young — Alafua.
4/4/73 — Lefaga: twice 1 adult + 1 halfgrown chick; 1 adult and 1 small chick, 2 adults + 1 halfgrown chick.
6/3/73 — 6 eggshells in a nest in a hollow of a rotting log — Togitogina (Katie Maddison).
17/3/73 — Adult and small chick — Afiamalu.
17/3/74 — 2 adults and small chick — Afiamalu.
20/3/73 — adult and one halfgrown juvenile — Alafua.
6/4/73 — adult and downy chick — Alafua.
— adult and 2 halfgrown juveniles — Alafua.
19/6/74 — 2 adults and 2 downy young — Alafua.
On 24 July an adult and an almost fullgrown juvenile were observed on the same place. On both occasions a deep grunting sound was made by the adult.
21/6/74 — 2 adults and 2 halfgrown juveniles — Afiamalu.
21/7/74 — Halfgrown young — Alafua.
November 1973 — Small juveniles (Jan Lint).
December 1973 — 5 eggs in a nest in high grass of a garden in Vaivase (Katie Maddison).
27/12/73 — Copulation of adults — Alafua (Jan Lint).

(I was not in Samoa from August to December 1973 and left in September 1974).

Since most observations were of birds along roads the number of juveniles observed is probably often less than the number of young really present.

White-browed Rail, *Poliolimnas cinereus*

I agree with Ashmole that this is not a common species but I did not observe it in swampy areas.

On 17 February 1974 and 29 June 1974 I saw this small rail in Afiamalu at about 200 m crossing the road towards a humid meadow.

In July and August 1974 one was regularly observed in Alafua. Twice it was observed sitting on top of long grass calling: " (k)i-kiu." A few times it was observed to climb into a small hedge bordering the patch of long grass where it seemed to live.

Purple Swamphen, *Porphyrio porphyrio*

Observed only a few times.

20/2/73 — 1 on a taro patch — Alafua.
30/6/74 — two along the road up in the hills.
10/7/74 — 1 on the road towards Alafua.

Yaldwyn (1952: 29) wrote of its occurrence in 1950: " Generally distributed throughout both islands . . . does extensive damage to young taro crop and is commonly shot for food . . . from July 1 to December 31."

Pigeons

Pigeons were often heard but only rarely seen and identified. All species, except the Samoàn Ground Dove were observed, the Tooth-billed pigeon *(Didunculus strigirostris)* only once. On 17 April 1974 along the cross-island road past Tiavi falls one crossed the road flying. It settled in a small tree along the side of the road. On my approach it flew a bit further in a cluster of bushes where it remained long enough to be filmed. It is a remarkable animal, that, according to, amongst others, Dr K. J. Marshall, is not so rare in the forest. Samoans still hunt it since an American friend told me that a few years ago he ate one in Savai'i.

Yaldwyn (1952: 29) has given other notes on the status of Samoan pigeons and doves in 1950.

Blue-crowned Lory, *Vini australis*

Regularly observed flying above the forest in small groups. Once noted feeding in an inflorescence of a coconut palm (28 May 1973). On 17 March 1974 in a tree covered with red flowers several dozen lory were feeding alongside a large number of Wattled Honeyeaters.

Barn Owl, *Tyto alba*

The owl is the only bird of prey in Samoa and has apparently shifted its activity pattern so that it is also very active in day time. I have recorded it at all times of the day and also a few times at night. It occurs regularly in coconut plantations but seems most numerous in the hills where pastures have been established. During a car drive lasting 3 hours through such country on 16 March 1973 six individuals were counted. According to Samoans, rats take an important place in its diet.

White-rumped Swiftlet, *Collocalia spodiopygia*

This species is very common above Samoa. On 24 June 1974 a nesting cave was visited near Aleisa.

The number of nests was estimated at 50 to 100 and it was estimated that about 1 in 5 was occupied. 10 could be looked into from the ground. They were glued against the wall and at least in part supported by a small ledge. One measured had a diameter of 9 cm and was 5 cm thick. The lower part was brown, the upper half still green moss. The centre was slightly depressed. Twice an adult sat on an empty nest. Four nests contained one egg. Of these three had no adult and one two adults. Four nests contained 1 nestling (one with unopened feather quills, three almost fully grown). The normal clutch-size seems to be one.

The four adults were checked for broodpatch and moult: adult in first empty nest: broodpatch not very developed. Outer primary (P 10) in pin; P 9 almost fully grown — no tail nor body moult. Adult on second empty nest: broodpatch. P 8, 9 and 10 almost full-grown (with quills still attached).

Two adults on one egg: both had a broodpatch. One was not moulting. The second one had P 10: 3/4, central tail feather T1: 3/4.

According to Stresemann (1966), *Collocalia* has a descendant primary moult and a centripetal tail moult, and P 10 and T 1 grow simultaneously. This is corroborated here. Further in this bird moult and breeding overlap.

Armstrong (1932, *fide* Ashmole 1963) found eggs in April and young in February and June and Whitmee (1875, *fide* Ashmole 1963) reported many nests containing one young in November. Possibly the White-rumped Swiftlet breeds all year round in Samoa.

Flat-billed Kingfisher, *Halcyon recurvirostris*

This species, endemic to Western Samoa, is widespread but not numerous on both main islands. It was observed in gardens, villages, coconut plantations, meadows and along the edge of the forest in the hills. It can often be observed sitting on telephone wires.

In Alafua 2 individuals were regularly observed all year round. Often a bird would be seen in the lower branches of a tree diving into the grass, picking-up something and returning to its perch. In Tonga one was seen fishing over the reef where it was close to the forest edge. The call, which Ashmole (1963) described as a saw-sharpening noise, was noted as: a loud " keree-keree-keree " (the first syllable being short, the second somewhat longer and accentuated).

The call is different from that of *Halcyon chloris* in American Samoa in being slower. Yaldwyn (1952: 29-30) remarked on the distribution of these two species.

Polynesian Triller, *Lalage maculosa*

Two species of cuckoo shrikes occur in Samoa, *Lalage maculosa* and *L. sharpei.*

The first one is common throughout the S.W. Pacific and there are 16 subspecies according to Mayr (1945). The second one, *Lalage sharpei*, is endemic to Western Samoa, and hardly anything is known about its habits.

As stated by Ashmole (1963), the Polynesian Triller is a very common and conspicuous bird around villages and gardens. It is also common in forest clearings and along the roads in the primary forest in the hills on both islands. It very often feeds on the ground, hopping around on lawns. Ashmole, quoting Mayr (1945), said that the nest is cup-shaped usually in trees from 5 to 15 feet up. Young have been recorded in December.

I can add some observations on the breeding:

23/1/73: Alafua — a dependent juvenile begging for food and one adult.

18/2/73: Moto'otua — 2 adults feeding one dependent juvenile.

17/3/74: Afiamalu — adult with food.

23/4/73: 2 young in nest in dead flame tree — Moto'otua in my garden (see further).

20/6/74: Adult feeds dependent juvenile — Alafua.

24/6/74: Adult feeds dependent juvenile — Alafua (same place as 20 June).

29/6/74: Along the Cross Islands roads past Tiavi falls: 2 adults and 2 dependent juveniles.

4/7/74: Adult feeds dependent juvenile — Alafua (different place 20 June).

18/7/74: Alafua — one adult on the lawn followed by a begging juvenile hopping behind.

24/7/74: Pesega — adult with food.

28/7/74: Afiamalu — on clearing in forest at the end of a side road of Cross Island Road: 1 adult and dependent juvenile.

1/8/74: Alafua — 1 adult and 1 intensively begging juvenile.

8/8/74: Alafua — 1 adult and 1 dependent juvenile.

The nest which contained two nestlings on 23 April 1973 in my garden was situated at ca. 10 metres up in a horizontal fork in the upper half of the crown of a dead flame tree. The nest was cup-shaped. On 23 April the nest was first seen. The young were estimated to be between 1 - 2 weeks (10 days). Both adults must incubate as the male was mistnetted on 20 April and found to have a well developed broodpatch. Its wing chord measured 95 mm. It was not in moult (a female caught on 9 March 1974 measured 94 mm). On 25 April it was raining very hard and one adult sat on the nest most of the time. Sometimes it was seen to keep its wings open to protect the nestlings. An adult was observed to sleep on the nest until 30 April when the young were already feathered. The two young fledged on 6 May and were fed by both adults in a neighbouring breadfruit tree.

One month later, on 6 June, two Polynesian Trillers were regularly visiting the nest tree. The male, by then moulting its central pair of tail feathers, chased away bulbuls from the vicinity of the nest. On 15 June the same pair flew calling towards the nest. The female sat on the nest. The male hopped around it on the branches and regularly pecked her in the neck. They did not copulate. The male then displayed with open wings and spread tail closely to the female and flew away. (The male was also moulting its wing feathers). The female chased the male with some nesting material in the beak. They both settled in a coconut palm. The female then returned to the nest, still carrying the nest material, and made with the tail half-circular movements towards the male; this is probably an invitation for copulation. When the male did not follow, the female went through some nest building behaviour and flew away. (This same behaviour was also observed in Alafua on 25 July 1973: one triller,

the female presumably, flew towards a low bush and made these same semi-circular movements with the tail, the male following, but no copulation was observed.)

On 30 June the female was incubating on a new clutch. She sometimes brought a fine twig when returning to the nest. She also slept on the nest. On 10 July she was still incubating, but since I then left Samoa for a few months, I do not know what happened later.

The interesting aspect about all this is that after the young fledged the male started to moult but the female did not. Nevertheless, a second clutch was started. The female possibly moulted 6 months later, since on 21 January 1974 I observed a Polynesian Triller in my garden in full tail moult (central feathers almost new, the other tail feathers progressively smaller outwards).

The observations also show that breeding probably occurs all year round: dependent juveniles or adults with food were observed in January (1), February (1), March (1), June (2), July (4), August (2) and nesting was observed between 23 April and 6 May again from 30 June onwards.

Moult clearly is not seasonal since it was observed in January and June/July and the male and female of the same pair moulted at different times.

Samoan Triller, *Lalage sharpei*

Contrary to what Ashmole (1963) wrote, the Samoan Triller is the smaller of the two species of trillers occurring in Western Samoa. This is clear when one compares measurements given by Armstrong (1932).

Everybody agrees that this species is very rare and that its habits are unknown.

To describe what the birds look like I will quote from different descriptions and add my own.

Armstrong (1932: 77) —

" Upper-surface greyish brown, sides of rump white, remiges deep brown, edged with dirty white, tail deep brown, all the feathers except the central pair, tipped with white, the two outer pairs white for the apical third, underside white with many pale-brown cross-bars on sides of breast and flanks . . . bill yellow, tip brownish; iris white, wing 77-81 mm [compare with my measurement of 94 and 95 mm for *L. maculosa*. and Armstrong's 93 ♂ and 90 ♀]. " The bill of *Lalage sharpei* is longer, narrower and more flattened than in *Lalage pacifica* " (Rothschild)."

Mayr (1945: 118) gave a shortened description stating:

" . . . the iris is white, the bill is yellow, the upperparts are brown, and the underparts faintly or more strongly, barred with brown."

Ashmole said:

" This is larger [sic] than the Polynesian Triller and is a much darker bird. The upperparts are brown and the underparts whitish with brown bars."

The latter description is very misleading since *sharpei* is smaller, not darker and has no bars.

My field notes give the following description:

> sitting: a warbler like bird (i.e. much more gracious than the Polynesian Triller) — upperparts uniformly grey brown to brown — throat and breast white, underparts white; flanks *finely* banded with brown — the transition from the brown cheeks to the white throat is sharp and lies just under the eyes.
> Tail short with white endings especially on the outer feathers. Bill orange-yellow, strong but rather fine. Male and female alike. The iris is conspicuously white and forms an excellent field character.
> Flying, it has rather broad wings with conspicuous white endings to the tail feathers.
> The bird is somewhat smaller but much more *gracious* than *L. maculosa.*

On 9 February 1974 I found a nest situated in a forest tree well covered with epiphytes about 5 m inside the forest from the Cross Islands Road on the plateau. It was cup-shaped and covered with mosses and lichens and built almost at the end of a horizontal branch, about 5 m high, and leaning against a vertical fork. Both adults were observed incubating and feeding the young. I visited the nest almost every week. On 17 February, judging by the behaviour of the adults, there were still eggs. On 23 February the adults brought small food items.

From my notes:

> the breeding bird is changed three times in 10 minutes. The orientation of the head is different each time. At 10.20 a.m., after more than 5 minutes absence an adult comes with a small black item in its beak. At 10.28 a.m. it is relieved and again, the bird has a small black item in its beak which it puts under itself. I conclude then that a small nestling must be present. On 2 March one feathered nestling is seen. Both adults feed it. On 10 March a big nestling is seen sitting in the nest. The adults feed green caterpillars (5 times in 30 minutes). On 17 March the nest is empty but an adult calls in the neighbourhood (a short tweet-tweet).

Summarizing: the adults were incubating on 9 and 17 February 1974. The eggs hatched before 23 February and the only young fledged between 10 and 17 March. The nestling stage can then be estimated to be about 3 weeks (estimating that the eggs hatched 20 February and the young fledged 15 March). When approaching the incubating bird it left the nest in silence without any alarm calls. On the whole the adults were rather tame. When the young was

already quite big I took some colour slides of the adults feeding it by standing almost under the nesting tree only partly hidden by the undergrowth.

Other observations about the breeding of the Samoan Triller:

9/2/74: adult with dependent juvenile begging for food with flapping wings.

10/2/74: adult with 2 dependent juveniles that are calling close to the nest described above. The bill of the juvenile is less orange.

Some observations show that the Samoan Triller feeds in the crowns of trees: on 14 April 1974 two were observed feeding on twigs and leaves in the forest in the Tiavi region.

On 30 June 1974 one was seen searching for food amongst leaves. It caught a caterpillar and knocked it against a thicker branch before eating it. This was one of the observations made outside the forest itself in Afiamalu where some trees and bushes are left amongst meadows. That day another two were observed in the crown of a big tree at the edge of a taro clearing in Tiavi.

On the whole, it was observed about every second excursion made in the hills but it did not confine itself to the forest itself since it was observed several times in clearings along the forest edge or on the hills where the forest has long disappeared.

It is not a common bird but is certainly not very rare and has in the Tiavi-Afiamalu region a rarity status comparable to the Samoan Broadbill or the Samoan Whistler.

Red-vented Bulbul, *Pycnonotus cafer*

This species which arrived in Samoa in the early fifties, is widespread in Upolu and has reached Savai'i, where small numbers were observed in the Salelologa and Asau area, and Tutuila. Moult and breeding are discussed separately (Dhondt, in prep.).

Island Thrush, *Turdus poliocephalus*

This species is common in the forest but since it lives in the understorey it is hard to see there. It can, however, easily be watched in taro-clearings, or where the understorey has been destroyed. It looks very much like the male of the European Blackbird *(Turdus merula)* but its legs are bright yellow (like the bill and the eye ring) and gave the impression of being somewhat longer than in *T. merula.* On 1 July 1974 in Afiamalu a call very similar to that of a begging fledgling *T. merula* was heard and it is assumed that fledgling Island Thrush uttered it.

Samoan Fantail, *Rhipidura nebulosa*

A very common and tame bird, as Ashmole (1963) wrote, more numerous on the hillsides than down by the sea. The song is a high, fine phrase reminding me of that of the European Robin *(Erithacus rubecula).* Katie Maddison observed dependent young being fed on 18 April 1973.

On 30 June 1974 I saw a fantail which was moulting the central tail feathers.

Samoan Broadbill, *Myiagra albiventris*

This species was encountered regularly in Afiamalu in small bushes and trees lower than the forest and also in the forest itself. A few times it was seen feeding as follows: the bird flies up from a branch inside the crown of the tree, picks up a food item from the underside of a leaf and settles again on the branch. The tail often quivers after settling. In February, April and June 1974 song was heard which sounded like a fluid " tseweet-tseweet " or " twee-twee."

Scarlet Robin, *Petroica multicolor*

This pretty little bird is quite conspicuous and was noted on each excursion in the hills. Song was recorded especially in February and March but individual birds were also singing at other times. Different individuals would use slightly different song types, a common one being " teetu-teetutui " (the last syllable accentuated and rising again at the end). At the end of August I observed an adult feeding a dependent juvenile and a pair feeding another one.

Maybe breeding is seasonal in this species since Ashmole (1963) reported a nest at the end of August also.

Samoan Whistler, *Pachycephala flavifrons*

This bird, which Ashmole reported as being common, was not encountered more often than, for example, the Samoan Broadbill. It could only be observed well in places where the undergrowth of the forest had somewhat been cleared away. The song is a short melodious phrase that remains at the same height. It reminded me of the song of the European Blackcap *(Sylvia atricapilla)*.

Mao, *Gymnomyza samoensis*

I never saw this species but I think I heard its loud calls twice: once near Tiavi falls on 23 June 1974, a second time in the forest near Tiavi on 30 July 1974.

Wattled Honey-eater, *Foulehaio carunculata*

This is one of the most common birds in Samoa as it is common both in gardens and plantations and in primary forest.

Ashmole writes that the nest is cup-shaped and placed in a fork about ten feet up the tree. No dates on reproduction are given. A few observations on nest building were made in January and February 1974. On 26 January 1974 two adults were building a nest high in the crown of a mango tree in Moto'otua at least 15 m up. One adult was seen to collect cocoons of spiders from the underside of mango leaves and flying into the mango tree where the other one was constantly present.

On 2 February 1974 an adult was watched searching between bushes and on the ground. It carried a dry fibre of about 150 mm towards its presumed nest-site. On 6 February the mango tree was cut down by Public Works Department and the unfinished nest was

found. It was cup-shaped, built from dry roots, fibres and egg cocoons and placed amongst fine twigs. It was woven around the bases of mango leaves. The length of a few fibres measured varied between 80 and 260 mm.

Other observations on breeding:

2/4/73: male with broodpatch — no moult, wing chord: 100 mm — Moto'otua.

14/6/73: adults feed dependent juvenile — Moto'otua.

24/2/74: mistnetted adult male has big broodpatch — wing chord 97 mm — no moult.

A very large concentration of Wattled Honey-eaters was seen on 17 March 1974 where several dozen were feeding, with many lories in a flowering tree (Afiamalu).

Cardinal Honey-eater, *Myzomela cardinalis*

The Cardinal Honey-eater is common in gardens, villages, coconut plantations and along the forest edge in the hills.

On 11 March 1974 a male with a broodpatch and swollen cloacal gland was caught in Moto'otua — no moult — wing chord 67 mm.

On 25 June 1974 a female in Alafua in a worn plumage but with no moult had a well developed broodpatch. The wing measured only 57 mm. Dependent young were also observed that day.

Red-headed Parrot-finch, *Erythrura cyanovirens*

In and above the forest at Afiamalu and Tiavi this species was regularly observed but never in large numbers. Two were observed searching for food on thick branches covered with epiphytes in Afiamalu on 2 March 1974.

One observation along the coast concerns a single individual in a garden in Levili on 20 January 1973.

Polynesian Starling, *Aplonis tabuensis*

The smaller of the two starlings occurring in Samoa is not a common bird. Contrary to what Ashmole (1963) wrote, this species is easily distinguished from the Samoan Starling.

It is much smaller and has a much shorter tail than *A. atrifusus*. From close by we can see the conspicuous yellow iris, the pale line along the edge of the closed wing. The colouration of the underparts is entirely different. In the Polynesian Starling these are pale and streaked with broad dark lines. In the Samoan Starling they are entirely dark.

This species is widespread in small numbers. I have recorded it both in my garden at Moto'otua on 10 March 1974 with a small twig, probably nestbuilding, in coconut plantations on Savai'i and in the primary forest. There it seems to occur also in the lower stages. It was observed once feeding on small fruits. However, I would usually not encounter this species more than once or twice during

any excursion in the Afiamalu region, giving it a rarity status comparable to the Samoan Broadbill or Samoan Triller.

Samoan Starling, *Aplonis atrifuscus*

The Samoan Starling is a common and conspicuous bird all over Upolu and Savai'i. It is a large bird with a conspicuously long tail, which often flies in small parties high above the canopy calling loudly.

It is completely dark brown with a brown iris and black, slightly decurved bill. I do not understand how it could be mistaken for a Polynesian Starling. (Ashmole wrote: " Published descriptions do not seem to be adequate to distinguish this bird from the Polynesian Starling in the field ").

Some observations on breeding and moult:

18/5/73: Saleloga (Savai'i), one flying overhead with food it its beak.
23/6/74: several birds in tail and wing moult around Tiavi falls.
30/6/74: Afiamalu, amongst other birds one is seen with moult in the middle of the wing; another one with food in its bill.
6/7/74: Moto'otua: one flying overhead holding a rather long twig in its bill.

Mynah, *Acridotheres tristis*

This species has recently arrived in Upolu where it can be seen occasionally in small flocks. According to Dr Peter Maddison, it has been in Samoa since at least 1972. He also observed dependent young being fed on 18 February 1973 in Vailele.

I have observed it in the Apia area only:

Moto'otua: 30/1/74: one.
Fagali'i: 7/2/74: 7 in a few old coconut palms.
Vailele: 21/2/74: several feeding amongst cows.
Moto'otua: 5/3/74: 1 adult and two dependent juveniles feeding in a pawpaw tree.
Faleata: 7/3/74: 2 in a coconut plantation.
Moto'otua: 7/3/74: 4 flying by.
Pesega: 13/3/74: 2.
Moto'otua: 16/3/74: 4.

It was remarkable that, during a short period at the end of February and in March, I observed this species quite often whereas afterwards I did not encounter it any more.

Possibly this period coincided with the post breeding dispersal. This new introduction seems well established and will probably spread rapidly as it has done in Fiji.

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PLEASE NOTE:

INDEX TO VOLUME 22, 1975
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