36. Bird checklist for American Samoa

Common and Samoan name	Scientific name	Tutuila	Ofu - Olosega	Ta'u	Swains	Rose
LAND BIRDS						
Crake, spotless	*Porzana tabuensis*	E		R		
Cuckoo, long-tailed (*aleva*)	*Eudynamis taitensis*	M	M	M	M	M
Dove, friendly ground (*tu'aimeo*)	*Gallicolumba stairi*		R			
Fruit dove, many-colored (*manuma*)	*Ptilinopus perousii*	R	R	R		
Fruit dove, purple-capped (*manutagi*)	*Ptilinopus porphyraceus*	R	R	R		
Honeyeater, wattled (*iao*)	*Foulehaio carunculata*	R	R	R		
Honeyeater, cardinal (*segasegamau'u*)	*Myzomela cardinalis*	R				
Mao (*ma'oma'o*)	*Gymnomyza samoensis*	E				
Kingfisher, white-collared (*ti'otala*)	*Todiramphus chloris*	R	R	R		
Lory, blue-crowned (*sega*)	*Vini australis*	V	R	R		
Owl, barn (*lulu*)	*Tyto alba*	R	R	R		
Pigeon, Pacific (*lupe*)	*Ducula pacifica*	R	R	R		
Rail, banded (*ve'a*)	*Gallirallus philippensis*	R	R	R		
Shrikebill, Fiji	*Clytorhynchus vitiensis*		R	R		
Starling, Polynesian (*miti vao*)	*Aplonis tabuensis*	R	R	R		
Starling, Samoan (*fuia*)	*Aplonis atrifusca*	R	R	R		
Swamphen, purple (*manu ali'i*)	*Porphyrio porphyrio*	R	R	R		
Swiftlet, white-rumped (*pe'ape'a*)	*Collocalia spodiopygia*	R	R	R		
SHORE AND WATER BIRDS						
Curlew, bristle-thighed *(tuli)*	*Numenius tahitiensis*	M	M	M	M	M
Duck, Australian gray (*toloa*)	*Anas superciliosa*	R	V			
Godwit, bar-tailed (*tuli*)	*Limosa lapponica*	M				M
Heron, reef (*matu'u*)	*Egretta sacra*	R	R	R	R	R
Heron, white-faced	*Ardea novaehollandiae*		V			
Plover, golden (*tuli*)	*Pluvialis dominica*	M	M	M	M	M
Sanderling (*tuli*)	*Calidris alba*	M			M	M
Tattler, wandering (*tuli*)	*Heteroscelus incanus*	M	M	M	M	M
Turnstone, ruddy (*tuli*)	*Arenaria interpres*	M	M	M	M	M
INTRODUCED SPECIES						
Bulbul, red-vented (*manu palagi*)	*Pycnonotus cafer*	I				
Dove, rock (*lupe palagi*)	*Columba livia*	V				
Junglefowl, red	*Gallus gallus*	I	I	I		
Myna, common	*Acridotheres tristis*	I				
Myna, jungle	*Acridotheres fuscus*	I				

(continued on next page)

Kingfisher

Common and Samoan name	*Scientific name*	Tutuila	Ofu-Olosega	Ta'u	Swains	Rose
SEABIRDS						
Booby, brown (*fua'o*)	*Sula leucogaster*	R	R	S	S	R
Booby, red footed (*fua'o*)	*Sula sula*	R	R?	S	S	R
Booby, masked (*fua'o*)	*Sula dactylatra*	S	S			R
Frigatebird, great (*atafa*)	*Fregata minor*	R	S	S	S	R
Frigatebird, lesser (*atafa*)	*Fregata ariel*	R	S	S	S	R
Gull, laughing	*Larus atricilla*	S				
Noddy, blue-grey (*laia*)	*Procelsterna cerulea*	R	R	R		
Noddy, black (*gogo*)	*Anous minutus*	R	R	R	R	R
Noddy, brown (*gogo*)	*Anous stolidus*	R	R	R	R	R
Petrel, collared (*ta'i'o*)	*Pterodroma leucoptera*			R?		
Petrel, Herald (*ta'i'o*)	*Pterodroma arminjoniana*	R		R		
Petrel, Tahiti (*ta'i'o*)	*Pterodroma rostrata*	R		R	R?	
Petrel, white-necked (*ta'i'o*)	*Pterodroma externa*	S				
Shearwater, Audubon's (*ta'i'o*)	*Puffinus lherminieri*	R		R		
Shearwater, Christmas (*ta'i'o*)	*Puffinus nativitatis*			R?		
Shearwater, Newell's (*ta'i'o*)	*Puffinus newelli*	S				
Shearwater, short-tailed (*ta'i'o*)	*Puffinus tenuirostris*	*				
Shearwater, sooty (*ta'i'o*)	*Puffinus griseus*	S				
Shearwater, wedge-tailed (*ta'i'o*)	*Puffinus pacificus*	R?		R?		
Storm petrel, white-faced	*Pelagodroma marina*	S				
Storm-petrel, white-throated	*Nesofregetta albigularis*			R?		
Tern, black-naped (*gogosina*)	*Sterna sumatrana*		S		S	S
Tern, bridled	*Sterna anaethetus*	S				
Tern, crested	*Sterna bergii*	S				
Tern, gray-backed (*gogosina*)	*Sterna lunata*	R				R
Tern, sooty	*Sterna fuscata*	S			S	R
Tern, white (*manu sina*)	*Gygis alba*	R	R	R	R	R
Tropicbird, red-tailed (*tava'e'ula*)	*Phaethon rubricauda*				S	R
Tropicbird, white-tailed (*tava'esina*)	*Phaethon lepturus*	R	R	R	R	R

E - extinct (formerly breeding species)
H - hypothetical record
I - introduced
M - migrant
R - resident native
S - seabird visitor
V - vagrant
* recorded at sea

Brown Booby

Sources: Amerson et al. 1982. Wildlife and wildlife habitat of American Samoa, USFWS; Engbring et al. 1989. A 1986 survey of forest birds of American Samoa, USFWS; Grant et al. 1994. Notornis 41:215-217; Steadman & Pregill. 2004. Pacific Science 58:615-624; J. Seamon, pers. comm.

37. The Pacific Pigeon (*lupe*), Samoa's royal bird

The *lupe*, or Pacific Pigeon, is the king of Samoa's birds and in many ways it is the most culturally important bird in our islands. It is our largest forest bird and is the only one able to feed on, and spread, the large seeds of some of our most important rainforest trees. Its cultural significance is revealed by the many Samoan proverbs that relate to the *lupe* and the art of *lupe*-hunting. The importance of *lupe* is also shown by the amazing *tia seulupe* (star-mounds) which are massive stone platforms built by the ancient Samoans, which served at least partly as pigeon-trapping sites.

The *lupe* is a member of a group of birds called the imperial pigeons because of their large size and dignified appearance. Most imperial pigeons live in the islands of the Pacific, although a few reach the mainland of Asia and one occurs in Australia. These birds are closely related to the much smaller fruit-doves, like the *manutagi* (Purple-capped Fruit Dove) but are only distantly related to the common pigeon that waddles around the cities of the world. The *lupe* is found from the islands north of New Guinea east through Fiji, Tonga, Samoa, Niue, and the Cook Islands. Interestingly, throughout most of this wide range, it is usually found on small islands and atolls, not on large 'high islands'. This is most striking in Fiji, where *lupe* are found on the small islands of the Lau group, but not on the large islands of Vanua Levu, Viti Levu or Taveuni. A closely related imperial pigeon replaces the *lupe* on those high islands.

Lupe are a common sight in forested areas of American Samoa and can be seen flying high over villages or bays. They even visit *moso'oi* and *poumuli* trees near houses, if those houses are not too far from forests. Even when not seen, they announce their presence with easy to hear calls: a low, rising and falling moo like that of a cow, or a loud, rolling prrrrrhhh. One of the benefits of American Samoa's ban on hunting *lupe* (and *pe'a*) after the cyclones in the early 1990s is that they become less scared of people, giving us better chances to see and appreciate these spectacular birds.

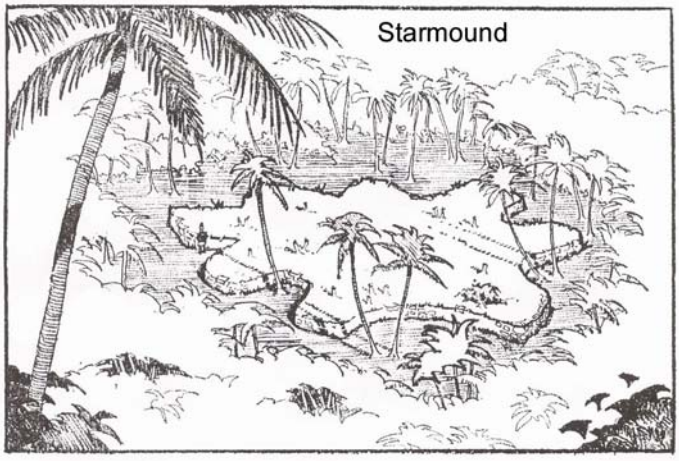
Their nests are hard to find. During all our time in the forests, we have seen only a few. We have also seen evidence of nest-building (for example, *lupe* flying with sticks in their bills) on several other occasions. All these observations were during the months of January through September. *Lupe* nests are open platforms of twigs, with no lining. They are usually placed in dense clumps of leaves high up in trees, making them very hard to see.

These birds lay only a single white egg. Both parents help incubate the egg and feed the chick once it hatches. All members of the pigeon family have an amazing ability: they feed their young a sort of “milk”. This is a nutritious liquid that is a combination of digested food and other substances secreted by special glands in the bird's digestive system. Both male and female pigeons make this milk, so both parents take an equal part in feeding the young. Information from related species of imperial pigeons suggests that *lupe* eggs take about 27 days to hatch, and that the young spend about 28 days in the nest after hatching. It seems like *lupe* could nest more than once a year, but most young birds are seen from July to August, so most nesting probably occurs at just one time each year.

Lupe eat many different rainforest foods, and not just fruits from favored trees like *atone, ma'ali, malili, mamala, mamalava, moso'oi* or *aoa*. They also eat fruits from vines such as *mamalupe* (pigeon's

mouthful) and low shrubs like *toitoi*. *Lupe* eat leaves from many different trees, including *au'auli, a'amati'e* and *ifi*, although in almost all cases they like the young leaves best. This makes sense, since young leaves are probably the most tender and easy to digest, and may have fewer poisonous chemicals than old leaves. *Lupe* also like flowers on occasion, both from trees like *ala'a* or *ma'ali* and from shrubs such as *ti*.

Obviously, the *lupe* is not a picky eater. This may explain why it is such a widespread and successful bird, since it will eat food from both coastal and mountain areas. In fact, after Cyclone Val in 1991, many *lupe* on the coast near Vaitogi survived by eating the fruits of *toitoi*. Thus, in times of limited food, it can find food where other birds might not. At other times, *lupe* may eat unusual foods (like leaves and flowers) to get certain nutrients, just the way people sometimes take vitamin pills to supplement their regular diets. *Lupe* are also able to eat some fruits that smaller birds cannot, and so may be important for spreading these trees to new areas or even among different islands.



Since the *lupe* is such an adaptable bird, and has been able to recover both from human activities like hunting and from natural disturbances like the tropical cyclones in the early 1990s, it may seem surprising that there are many fewer now than in earlier times. The most dramatic evidence for this are the many *tia seulupe*, or star mounds, that were built by ancient Samoans. A survey discovered the remains of over 60 *tia* in the eastern part of Tutuila alone. Each *tia* is a massive stone platform with one or more arms extending from it. Pigeon-catching huts were built on top of the platform, and village chiefs competed to catch the most birds, using a tame *lupe* as a decoy, and a long-handled net to sweep up the flocks of pigeons that were attracted. Early missionary accounts tell how whole villages would spend weeks camping out in the forest around the *tia*, and that pigeon-catching season was a time of feasting and partying. *Lupe* must have been very abundant to support this elaborate cultural activity. While the *tia* certainly had ritual and religious importance in addition to their use as pigeon-catching sites, the latest studies suggest that pigeon-catching was central to their role in ancient Samoan society. A well-preserved star mound, with explanatory signs, can be visited in Ottoville, next to the Fatuoaiga Catholic Church compound.

Now, though, the rainforest that once covered the Tafuna Plain have been cut down. This type of lowland forest, with its abundant *mamalava, tava, maota, mamala,* and *aoa* trees, was almost certainly the best habitat for *lupe* in American Samoa. Today, only scattered *aoa* remain, and *lupe* are seldom seen in Tafuna. Even though *aoa* is a valuable food for *lupe*, we can see that it was the whole forest, and not just one kind of tree, that made the Tafuna rainforest so valuable to *lupe*. However, this large area of habitat is gone, and it seems we will never see as many *lupe* as did the first Samoans. Perhaps more than any other animal, the *lupe* is of irreplaceable importance to Samoa, both because of its natural role in spreading rainforest seeds, and its cultural role in the stories, proverbs, and heritage of the Samoan people.

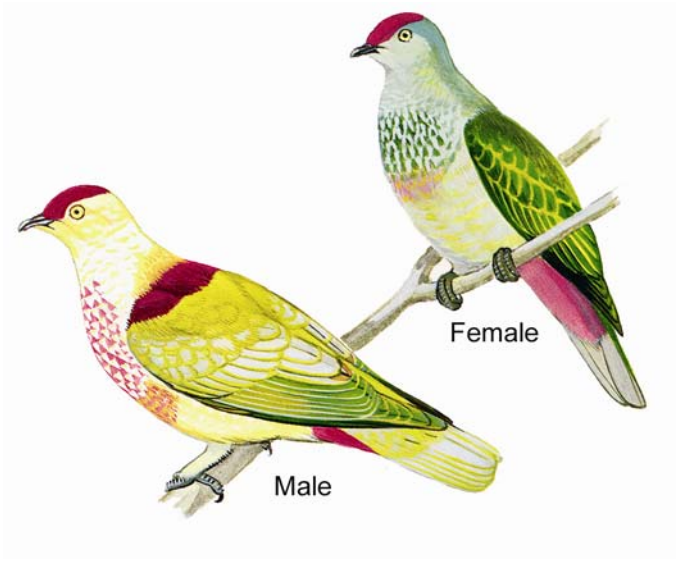
Pepper Trail, Joshua Seamon
DMWR

38. The rare Many-colored Fruit Dove (*manuma*)

One of the rarest birds that nest on Tutuila is also one of the most beautiful: the *manuma*, or Many-colored Fruit-Dove.

The *manuma* here is considered a different subspecies than those from Fiji and Tonga because they have a slightly different color pattern. The male *manuma* is creamy white below and pale yellow above, with a dark crimson band across the back, a crimson patch on the forehead, and a purplish-red blotch on the breast. The female is very different and looks like the much more common *manutagi*, or Purple-capped Fruit-Dove. She is mostly green above and gray below, with a crimson forehead patch. Unlike the *manutagi*, the female *manuma* doesn't have a yellow band on its tail.

The *manuma* was not rare on Tutuila in the 19th and early 20th centuries, according to the journals of the early scientific expeditions. It was usually found in flocks; in 1923 a collector killed 10 birds with a single shot into a feeding tree on Ta'u. However, when the first modern studies of American Samoa's birds were done in mid-1970, only a small number of *manuma* could be found. Follow-up in the mid-1980's confirmed the *manuma*'s rarity. They estimated that the population size on Tutuila was only about 80 birds.



After the cyclones in the early 1990s, even fewer *manuma* were seen, and perhaps less than 50 remained on all of Tutuila. Today, however, *manuma* are regularly seen at some locations on Tutuila, although not in very large numbers. Biologists would call their current distribution rare and local, but they are occasionally sighted at many places around American Samoa. Interestingly, *manuma* are much more common in Fiji, Samoa and Tonga, sometimes being found well away from mature forests.

We know very little about the biology of *manuma* in American Samoa, or why it is less common here than elsewhere. These are social birds, often being seen in small flocks, but they are also very protective of feeding areas, driving other *manuma* away from their spot in the canopy of a fruiting tree. One odd thing is that you rarely see the same numbers of each sex -- almost always there are several more males than females in any flocks. We do know that they seem to have a very strong preference for the fruits of banyan (*aoa*) trees, and in American Samoa it is almost always seen near or in these trees. They are also known (from Fiji and Tonga) to eat *moso'oi*, *o'a* and *magele* fruits, all of which occur in America Samoa. Perhaps there are still so few *manuma* here that they are seldom forced to eat anything but their favorite food, but would eat other fruits if necessary.

It is dangerous for animals to specialize too much on any one food, especially on remote islands like American Samoa. This can be shown with an example from business. While a store that sells only antique cuckoo-clocks might do fine in New York, Los Angeles, or another big market, it would certainly fail very quickly in American Samoa. There isn't enough business here for such a specialized service. Similarly, an island animal that concentrates on only one kind of food may find itself in trouble when that food supply fails. An animal that lives on a continent can move in search of the food it needs,

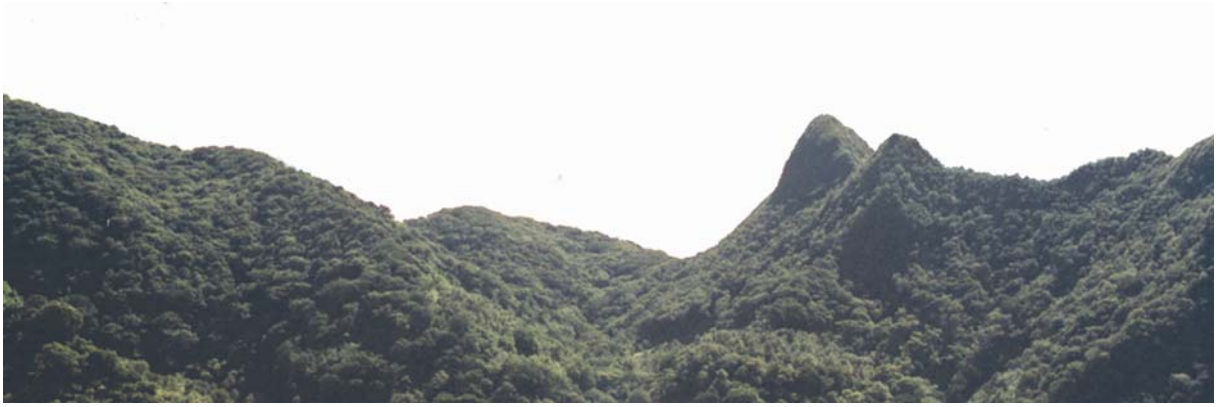
but island animals have nowhere else to go. On larger islands like Upolu, Savai'i or Viti Levu, *manuma* may be able to travel long distances to get the food they like the best. This may be difficult on small islands like those of American Samoa, and means that animals can only specialize on very reliable food trees such as banyan trees (*aoa)*.

These giant banyan trees, which are so important to *manuma*, face many problems of their own. The Tafuna Plain used to have many huge banyans, but most of these have been cut down to make way for the exploding human populations in that area. Moreover, banyans, with their large size and spreading crowns, are very vulnerable to storm damage. Many were killed or severely damaged by Cyclones Ofa and Val in the early 1990s. Even those that survived the cyclones had their leaves and fruit stripped off, leading to a prolonged period of famine for *manuma*.

There are two things that must happen if the *manuma* is to survive and remain a special part of Samoa's wildlife. First, the birds must be protected from hunting. Although the *manuma* is too rare to be sought by hunters, a few may have been killed every year by hunters out for *lupe* and *manutagi*. When a population is as small as the *manuma's*, even a few preventable deaths per year are a significant problem.

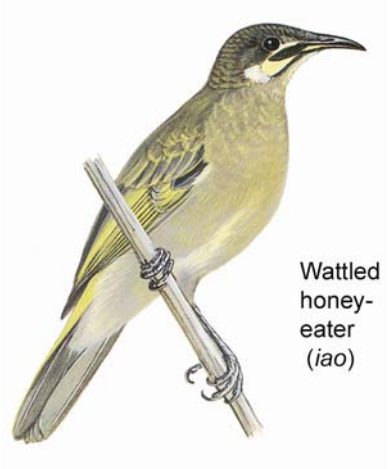
The second thing that must be done if the *manuma* is to survive is to protect banyan trees on which they depend. Without enough banyans to assure a year-round supply of its favorite food, the *manuma* may well become extinct on Tutuila. People need to protect these magnificent trees, which are important food sources for many other Samoan wildlife species, including the fruit bats (flying foxes).

Pepper Trail, Joshua Seamon
DMWR



39. The honey-birds

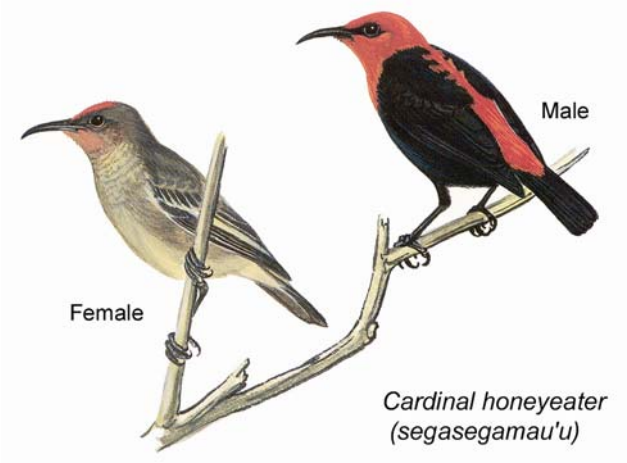
The most familiar birds of Tutuila's villages and gardens are the *iao* (Wattled Honeyeater) and the segasegamau'u (Cardinal Honeyeater). Although they look different, these birds are members of the same *aiga*, the family of birds called the honeyeaters. Honeyeaters are found throughout the Pacific islands, New Guinea, and Australia. As their name implies, most of them include the sweet nectar of flowers in their diet (though none of them eat real honey).



The *iao* or Wattled Honeyeater (*Foulehaio carunculata*) is the commonest forest bird in Samoa. It is also found in Tonga and Fiji. Although not a particularly beautiful bird, with its greenish-brown feathers and yellow flaps of bare skin on the face, its boundless energy and continuous song enliven our islands. Its bold and fearless nature keeps it busy chasing other birds, and its loud alarm calls warn other animals of the *lulu* (Barn Owl) or other danger. Samoan legend tells that when the *iao* calls at night, it means that ghosts (*aitu*) are near.

The *iao* feeds at almost all the flowers of the forest, from small *atone* (nutmeg) flowers to the large crimson blooms of *gatae* (coral tree). Christmastime is the best time of year for *iao*, because the *asi* trees are in full bloom. These white brushy flowers cover the tree crowns and are rich with nectar. At that time, the *iao* get so full of this nectar that they're like kids full of candy and cake at a party -- they rush every which way through the forest, chasing each other and yelling out songs at the top of their lungs. At other times when flowers aren't quite so abundant, they eat a lot of insects as well, and also include some soft fruits and berries in their diet.

Even though the *iao* is our commonest bird, we really don't know very much about its habits. Their nests are beautifully woven cups of grass, typically well-hidden in the dense foliage of a tree. Usually only one or two eggs are laid. Most nesting appears to take place between September and December.



The *segasegamau'u* or Cardinal Honeyeater (*Myzomela cardinalis*) is the prettiest bird of Samoa's gardens. Unlike most Samoan birds, the male and female Cardinal Honeyeater look very different: the male is bright red, with black wings and tail, while the female is a dull gray, with a little bit of red on the rump. These tiny birds (the smallest in American Samoa) always seem to be active, flitting among the *aute* (ornamental hibiscus), *teuila* (ginger), and *nonu* (Indian mulberry) in our gardens, or sampling nectar at flowers high in the forest treetops. Like the *iao*, the *segasegamau'u* is very vocal, though not as loud as its larger cousin. Its sweet warbling songs are familiar sounds in our villages and plantations.

The *segasegamau'u* is even more of a honey-bird than the *iao*. Though it will occasionally eat small insects, it seems very dependent on flower nectar at all times of year. You can see the difference in the

beaks of the two birds: the Cardinal Honeyeater has a very delicate, sharp beak that is perfect for slipping into flowers but not so good for grabbing big bugs. The beak of the Wattled Honeyeater is sturdier, more all-purpose: good both for flowers and insects.

Perhaps because of its love of flowers, the *segasegamau'u* seems happy to live close to people, in gardens and plantations. Although much less common than the *iao* in the forest, it is the honeyeater that you're likely to see around villages. Around villages on Tutuila, that is; surprisingly, the *segasegamau'u* doesn't occur on any of the islands of Manu'a. Outside of American Samoa, the species is found in western Samoa, Vanuatu, and the Solomon Islands, and very close relatives occur in Micronesia and Fiji.

The nest of the Cardinal Honeyeater is a beautiful, delicate cup of fine grass fibers, often decorated with moss. It may be placed high in a tree or almost on the ground in thick foliage. Four to five tiny eggs are laid. The *segasegmau'u* seems to nest in all months of the year.

There used to be a third kind of honeyeater on Tutuila, the very large, blackish *ma'oma'o* or *mao* (*Gymnomyza samoensis*). This is a real mystery bird. Larger than a *fuia* (Samoan Starling), with loud wailing calls, the *ma'oma'o* is remembered by some of the elders of Tutuila, and was collected by scientists here in the 1920s. However, except for a couple of possible sightings in the 1960s and 1970s, it has never been seen since. The *ma'oma'o* is now found only in the remote mountains of 'Upolu and Savai'i, where it is rare and little known. We will probably never know if this bird was once an important part of our forests, or if it occurred here only as a rare visitor from western Samoa. According to legends, hearing the wails and screams of the *ma'oma'o* around a village meant that misfortune or a death was about to happen. Sadly, this prophecy seems to have come true for the *ma'oma'o* itself, which is now in danger of the greatest misfortune -- extinction.

Pepper Trail
DMWR

40. Samoa's starlings

Starlings are a group of birds with a real image problem. Over much of the world, “starling” means just one thing -- the Common, or European Starling. This plump, short-tailed, oily black bird was originally found in Europe, but it has spread across the cool, temperate countries of the world, from the US to China, and from Australia to Argentina. Everywhere it goes, this bird becomes a pest in both cities and the countryside, often driving out native birds and destroying fruit crops.

However, starlings are much more than this one obnoxious species. Most starlings are found in the tropics, and they are a varied, interesting and often beautiful family of birds. In the Pacific, starlings are a characteristic and important part of our native birdlife. In fact, the most unique of all our birds in American Samoa is the *fuia* or Samoan Starling.

Why is the *fuia* so special? Well, not because of its appearance. With its dull brownish-black color, the *fuia* could hardly be called beautiful. No, the *fuia* is special because it is the only American Samoan bird that is “endemic” to Samoa. This is a word used by scientists to describe something found in only one place. The *fuia* is found only in the islands of American and western Samoa. All our other birds are found in at least one other group of islands. Therefore, if the *fuia* became extinct in the Samoas, there wouldn't be a single one left in the world.

Fortunately, there is little danger that the *fuia* will become extinct. It is a survivor, a real Samoan success story. It is the most adaptable bird we have, equally at home in Pago Pago, in small villages, in plantations and in the rainforest. The secret to its adaptability is its eating habits -- a *fuia* will eat almost anything. They gobble down a wide variety of fruit, from the hard seeds of the *mamala* tree to the big stinky fruits of *nonu* bushes, from the leathery fruits of *lau pata* to the soft figs of the *mati*. They also love insects, including big stick insects, caterpillars, and other agricultural pests. Therefore, *fuia* are friends to farmers, and deserve our protection. *Fuia* even eat lizards, and indulge their taste for sweets with visits to lick up the nectar of *gatae* flowers. Because of their broad diet, *fuia* can always find food, and can live almost anywhere there are trees.

As in most Samoan birds, male and female *fuia* look almost the same. The species seems to nest in all months of the year. *Fuia* nests are usually placed in hollows in trees: snapped-off coconut trunks are favorite nest sites. They will also nest among the dense fronds in the top of a coconut, and even use man-made nest sites, like cracked telephone poles. *Fuia* eggs are pale blue.

We don't really know very much about the social life of the *fuia*: for example, do they mate for life? Do they defend territories from other *fuia*? Do they stay in one small area, or do they move all around the island? It would be interesting to know more about this most Samoan of our native birds.

The *fuia* is not our only native starling; it has a small and shy cousin, the *miti vao*, or Polynesian Starling. Although much less common than the *fuia* in Samoa, the *miti vao* has a wider range, being found in Fiji, Tonga, and Niue as well as American and western Samoa. Unlike the *fuia*, the *miti vao* is almost entirely a bird of the forest, rarely seen in plantations, much less villages. The reasons for this aren't clear. It seems to have a broad diet, though not quite as accepting as the *fuia*. It eats both insects and fruit, and is often seen feeding on hard-seeded fruit like *mamala* and *taputoi*, though we don't know

if this is because the *miti vao* prefers such food or because the more aggressive *fuia* drives it away from softer, more nutritious fruit.

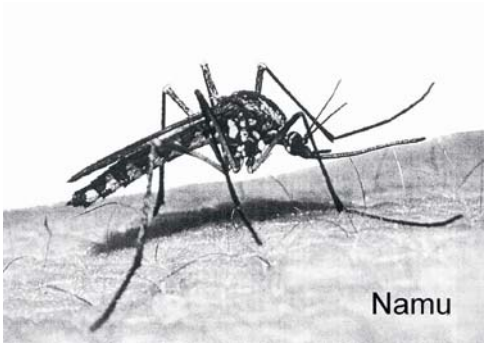
Across most of Tutuila you may have some difficulty finding the *miti vao*. There are a few places where they seem to be more common: Maloata on the west end of the island, between Afono and Vatia on the north side, and along the Mt. Alava Road. Look for a small, short-tailed bird with a grayish back, a pale breast with darker streaking, and white eyes. Its quiet but musical whistles and trills are very different from the harsh screeches and piercing whistles of the *fuia*. *Miti vao* nests are placed in hollows and holes, as are *fuia* nests. They usually lay two pale blue eggs with brown specklings. So few nests have been found here that we really don't know what time of the year this species prefers to breed, or if they may nest at any time. The *miti vao* is a species that apparently declined after tropical cyclones in 1990-91. We can only hope that populations will increase over time, provided that enough good forest remains to give this species the wild habitat it needs.

One interesting thing about the *miti vao* is that there is a very different form of this bird in Manu'a. There, the *miti vao* are very dark on both upperparts and underparts, with heavy dark streaking on the breast. To become so different, the Manu'a birds must have been separated from those on Tutuila for a long time, probably thousands of years.

Unfortunately, the native *fuia* and *miti vao* aren't Samoa's only starlings. Since the 1980's, two other members of the starling family have invaded Tutuila, and are now among our commonest birds. These are the black and white mynas that are common from Pago Pago Harbor to Leone. Two species of mynas are established here, both of which were originally native to India. The Common Myna is brownish black, with a yellow bill and a yellow patch of bare skin around the eye. The Jungle Myna is similar, but is darker and slimmer, with an orange beak and no yellow skin around the eye. Both species have large white patches in the wings and tail. The Common Myna is a major pest in many parts of the Pacific, including New Zealand, Hawaii, Fiji, Cook Islands, and French Polynesia. The Jungle Myna has become established only in Fiji and in the Samoan islands. Both species eat almost anything and are very happy in cities and villages, where they eat garbage and nest under roofs even in occupied buildings. These unwelcome invaders can damage guavas and other fruit crops, can spread disease, and may compete with our native birds in villages. So far, the mynas have not yet spread to the Manu'a Islands. It is important that we prevent their spread, and reserve American Samoa, as much as possible, for our native birds, including our native starlings, the *fuia* and the *miti vao*.

Pepper Trail
DMWR

41. Swiftlets & sheath-tailed bats (*o le pe'ape'a*): a mosquito's nightmare



High above the villages, valleys, and mountains of Samoa flies a deadly predator, as terrifying as a tiger shark -- if you're a mosquito (*namu*), that is. This is the *pe'ape'a*, the only bird in Samoa that lives entirely on a diet of insects.

But wait a minute -- *pe'a* means bat: isn't the *pe'ape'a* a kind of small bat? Well, yes and no. Actually two completely different creatures share the name *pe'ape'a* in Samoa. One is a bird, the common White-rumped Swiftlet that is seen flying by day all over our islands. Like all birds, this *pe'ape'a* has feathers and lays eggs. The other *pe'ape'a*, more properly called *pe'ape'avai*, is a tiny bat, the Sheath-tailed Bat that is active only at night. This animal is now almost extinct in American Samoa. Like all bats, this *pe'ape'a* is a mammal and has fur and gives birth to live young that it feeds milk. The confusion arises because both creatures are tiny, active insect-eaters that are almost always in flight, and look similar as they dart and swoop after their prey.

First let's talk about the common *pe'ape'a*: the bird. It belongs to a family of birds that are truly creatures of the air, the swifts. They have tiny legs and feet, and never land except at nests or in their roosting caves. Capturing and eating food, drinking, gathering nesting material, and yes, even mating, are all done in flight. In fact, it is likely that the *pe'ape'a* is like many other kinds of swifts and actually sleeps while flying. With their long, powerful wings and perfectly streamlined bodies, *pe'ape'a* are beautifully adapted for a life of flight.

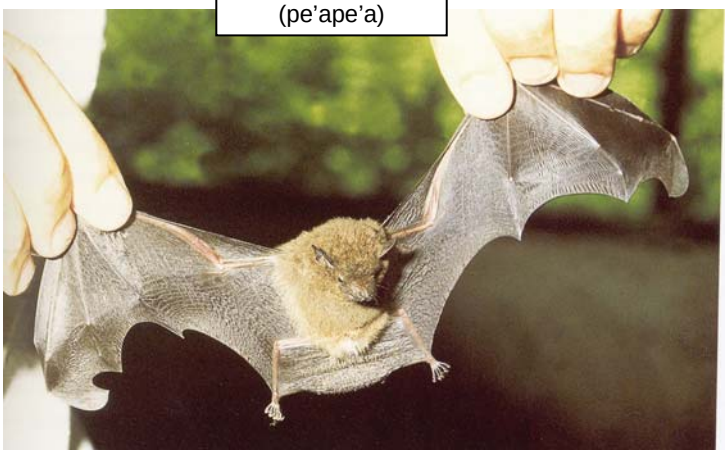
As they fly, *pe'ape'a* are continually hunting for small insects, especially mosquitoes, flies, and flying ants and termites. These are scooped up in the swift's huge mouth, which is made into an even larger trap by long bristle-like feathers around the mouth. The swiftlet is a very useful bird because of all the insects it eats.

When the *pe'ape'a* finally does decide that it's time to land, it heads for a cave or a protected overhang on a cliff. There it flutters in to grasp the rock, usually hanging vertically. These caves and sheltered overhangs are also the nest site for the swifts. The nest is a small platform made of moss and fine twigs cemented together with the bird's saliva, attached to the rock. Some close relatives of the *pe'ape'a* make their nests entirely from dried saliva, which (believe it or not) are collected and cooked up to make that famous delicacy, bird's nest soup. The nests of our *pe'ape'a* are not suitable for this, so anyone with a taste for bird saliva will have to look elsewhere.

Swiftlets lay one or two white eggs, and appear to nest at any time of year in Samoa. Although most nests are placed where at least a little light penetrates the cave, some are far back, where it is completely dark. How do the swifts find their way in and out? The answer is that these birds, like many small bats, have the amazing ability to echo-locate. They give loud clicking calls, and then listen to the echoes to orient themselves and avoid the walls of the cave. This ability is fairly undeveloped in birds, and the swiftlets don't use it to locate their insect prey, which is why they hunt during the daytime. In many small bats, however, echo-location is incredibly advanced, and is used to hunt tiny insects in complete darkness. One bat with this ability is the Sheath-tailed Bat, which brings us to our second *pe'ape'a*.

The Sheath-tailed Bat (*Emballonura semicaudata*) also feeds on mosquitoes and other flying insects. But unlike the swift, this small bat does not seem to accept sheltered cliffs as roosting or breeding areas, inhabiting only deep and protected caves. There are few such caves in American Samoa, and therefore few good homes for the bat. Ever since Cyclone Ofa in 1990, the known bat caves on Tutuila have been almost deserted. Cyclones Ofa and Val swept water and debris into several caves, and the days of strong cyclone winds may have made it impossible for the bats to find food. Unless more bats survive in caves that we don't know about, the long-term survival of this useful and fascinating animal in American Samoa is doubtful. There is little we can do to help the bat except to stay away from their caves to avoid disturbing the few surviving animals. Sadly, the Sheath-tailed Bat seems to be endangered throughout most of its range, including in western Samoa and the Marianas, as well as here.

Sheath-tailed bat
(pe'ape'a)



And what about the swift? Although the population of these birds was reduced by cyclones in 1990-91, the species seems to be in no danger of extinction. It is still possible to see flocks of hundreds of swifts swirling together in areas where winds collect large numbers of insects, for example in Malaeimi Valley and in such highland areas as Aoloau and Afono Pass. There is every reason to believe that these birds will always enliven the Samoan sky -- and strike terror into the hearts of mosquitoes everywhere.

Pepper Trail
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