Wildlife in Taiwan

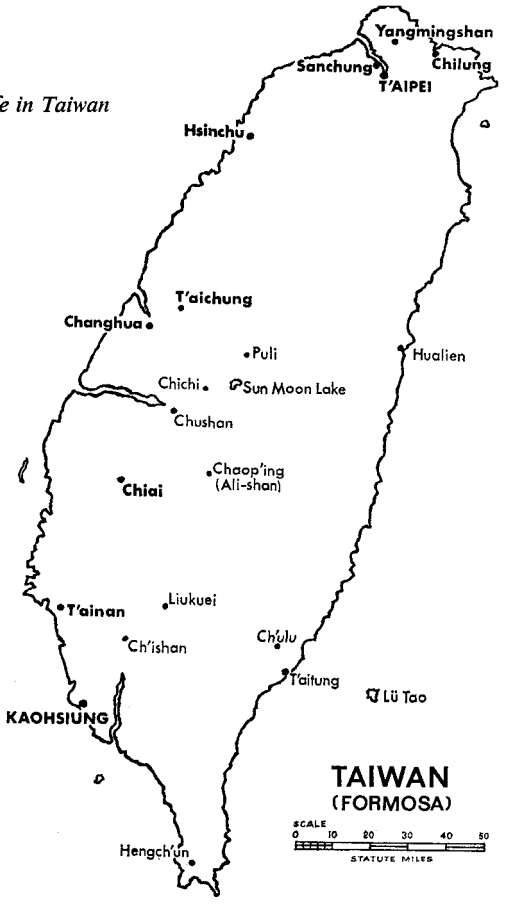
by Philip Wayre

In the spring of 1967 Philip Wayre and his wife took 15 pairs of the rare Swinhoe's pheasant, bred at the Ornamental Pheasant Trust, in Norfolk, of which he is Hon. Director, to Taiwan (Formosa), where this pheasant is endemic, to supplement the sadly reduced wild stock and also provide a captive breeding nucleus for further releases. This article describes the return of the pheasants, and also the wildlife situation in Taiwan, particularly the dangerous demands of the tourist trade for stuffed animals and birds, and for goods decorated with the gorgeous butterflies of Taiwan. These butterflies are being collected in millions to decorate plastic trays and tablecloths.

WE ARRIVED in Taipei on April 27th with 15 pairs of Swinhoe's pheasants. After consultations with Director Liu Yen, of Taipei Museum, and Dr Dien Zuh-ming, it was decided to release six pairs into the wild and keep nine pairs in captivity to form the nucleus of a breeding stock with which to reinforce the wild population from time to time. The site chosen for release in the wild was the Che Chi Experimental Forest at Hsitou not far from Chushan, and two captive pairs were to be kept nearby to interest local people and tourists and to get popular support for the scheme. The Forestry Department agreed to build two breeding aviaries near their headquarters there. Four pairs were to be kept by Mr Koo Wei-fu, a wealthy Taipei businessman with a large nursery and ornamental gardens which he opens to the public. Mr Koo agreed to build four breeding aviaries to our design. For the remaining three pairs to be kept in captivity Dr Dien Zuh-ming recommended Ali-shan, a popular tourist resort high up on Mount Ali (2274 metres), where again the Forestry Department agreed to build two breeding aviaries to our design, sited near the museum to provide added interest for visitors and help to gain popular support for wildlife conservation.

While in Taipei we were received by the Governor of Taiwan, General Huang Cheh. He took a great interest in the Swinhoe's project and also asked for a report of Taiwan's wildlife with proposals for its conservation. Despite the fact that the island is in a state of military preparedness, we were given every facility to travel freely wherever we wished, and passes to travel in the mountains and to shoot film were issued by the garrison commander without too much delay. The whole project was well covered and favourably reported on by the Taiwan national press.

The Che Chi Experimental Forest, where the Swinhoe's were to be released into the wild, is managed by the University of Taipei. The forestry headquarters at Hsitou lie at the end of a twisting mountain road 30 kilometres from Chushan. Here we were entertained by Professor Liu Tang-shui who is in overall charge of the forest, and kindly put the facilities of his department at our disposal, and Director Wu Cheng-yang, who agreed to supervise the building of the release pen and the subsequent management and release of the birds. The forest covers several



hundred square miles of the central mountain range. Softwoods are grown for timber, but much indigenous hardwood remains on some of the upper slopes. The lower slopes and the plains are intensively farmed. At 1200 metres Hsitou is well within the normal range of Swinhoe's pheasant, which was found there many years ago. Its extermination probably coincided with the original felling of the primary forest and the planting of softwoods, coupled no doubt with heavy hunting. Today there is little destruction other than normal forestry operations. There are no aborigines around Hsitou, and we were assured that there was no hunting in the forest, although twice in the mountains we met Chinese hunters with shotgun and dog; both were said to be local farmers from high up the mountains who only used their guns to shoot macaque monkeys raiding their bamboo plantations. We saw no other trapping in the area. We chose a site for the release pen in a young fir plantation, only 100 metres below undisturbed primary forest and less than two kilometres from the forestry headquarters.*

From Hsitou we moved on to Sun Moon Lake in search of further suitable release areas for the pheasants. This is a popular tourist resort in a bowl in the tree-covered central mountain range, 720 metres above sea level and some 45 kilometres south of Taichung, the lake itself forming part of a hydro-electric scheme. However, although there is still some primary forest on the higher slopes of the mountains, the presence of aborigines hunting there made it unsuitable for releasing pheasants, and unlike Hsitou there was no station with permanent staff to manage the birds before and after release.

Sun Moon Lake, however, had other things to interest us. The aborigine 'village' consisted of a cluster of modern type houses with a central walk

*In 1968 the FPS allocated £230 from the FPS/WWF Revolving Fund to pay for a further six pairs of Swinhoe's pheasants, also bred at the Ornamental Pheasant Trust, to be flown to Taiwan to increase the breeding stock. The birds arrived safely at the end of October and were sent to Chushan to be released from the same special pen in the Che Chi Forest under the supervision of Director Wu.

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or wide pavement lined with shops on both sides, those selling souvenirs outnumbering all the others. Stuffed birds and mammals are popular both in Japan and Taiwan, and 90 per cent of the internal trade in stuffed animals is done in this village. From all over the island animals are sent to Taipei for mounting, but the majority end up for sale at Sun Moon Lake – see plate 20. Here the visitor can take his pick from mounted barking deer (muntjac) giant red flying squirrels, ferret badgers, hoary-bellied tree squirrels, pangolins and a wide variety of birds including minivets, grass owls, serpent eagles, scops owls, fairy pittas, blue magpies, shrikes, barbets, white-throated laughing thrushes, white-eared sibias, orioles, and even a few Swinhoe's pheasants. The volume of the slaughter is horrible to contemplate, and yet not once, either here or in the few other shops selling stuffed birds, did we see a mikado pheasant. Apart from relatively isolated cases of killing or trapping by the aborigines, the protection afforded by law to the mikado seems to be effective. But the trade is clearly an unnecessary drain on Taiwan's wildlife and if allowed to continue will undoubtedly contribute to the early extinction of several species. The serpent eagle, grass owl and scops owl are probably especially vulnerable, and the white-headed flying squirrel needs special protection.

Taiwan is renowned for its gorgeous butterflies, and for many years rare forms have been exported to collectors throughout the world. But a new and more serious threat has arisen. The wings of millions of butterflies are removed and placed between two sheets of laminated plastic; hand-painted bodies are then added to give a life-like imitation of the perfect insect. A plastic tablecloth with fifty different butterflies can be bought for as little as NT $70 or 12*s* 6*d* at Sun Moon Lake or in any of the larger towns, and there are also table mats and decorated key rings with a single butterfly inlaid between heavy gauge plastic. Although we saw collectors operating in various parts of the island, especially around Taitung in the south-east, the centre of the butterfly-catching industry appears to be based on Puli, 14 kilometres to the north of Sun Moon Lake. The collectors use butterfly nets and kill the insect with a deft squeeze of the thorax, before dropping them into a small tin strapped round the waist; the dead insects were said to be sent by middlemen to Taipei where the souvenirs are manufactured.

It may be too early to judge whether this comparatively new trade constitutes a threat to the butterflies of Taiwan or whether it should develop into controlled cropping of a natural asset, but it needs careful watching. The increasing use of poisonous chemicals on the farmland is another serious threat to butterflies.

Returning to Taichung we visited a snake restaurant, the Long Heng Snake Office. In China snakes, particularly poisonous species, are believed to possess valuable medicinal properties, and these snake restaurants are to be found in nearly every sizeable town. Brought in by aborigine and Chinese collectors, the snakes are kept alive in crates of heavy duty wire gauze or in tiers of padlocked steel lockers built against the wall outside, until needed for the pot. The species most in demand appeared

to be the hundred pacer, Taiwan banded krait or umbrella snake, cobra, and beauty snake. The first three are all extremely poisonous; the beauty snake is docile and utterly harmless, and its skin, like that of the cobra, is in demand for women's shoes and handbags. We watched cobras being hung up in the street outside the restaurant and skinned alive; the main artery above the heart was severed and the blood collected in a small bowl which was handed to the customer to drink immediately; the fresh blood is believed to be an aphrodisiac, while the gall bladder is thought to be a useful cure for eye ailments. The flesh is commonly made into soup or may be dried and powdered for use in other medicines. Judging by the brisk trade at this restaurant, the number of snakes killed annually in Taiwan for commercial purposes must run into hundreds of thousands, and we were told that the number was increasing with the expanding population.

Our next move was to Ali-shan, in the Ali-shan mountains in central Taiwan, the tourist resort where it had been decided to install two pairs of Swinhoe's pheasants. The village lies at the head of a narrow-gauge railway, built by the Japanese for logging operations. In the last 50 kilometres the track rises from the heavily cultivated lowlands through the sub-tropical forest of the foothills to an altitude of 2273 metres, a tortuous climb through unsurpassed mountain scenery, over cavernous gorges on trestle bridges. The lower slopes were covered with the narrow-leaved Taiwan acacia and the pale green feathery fronds of the young bamboo, interspersed with banyan and dragon's-eye, while in places the orange flowers of the lantern tree lined the track. At 2000 metres the temperate forest begins with cedars, firs and juniper and a shrub layer of rhododendrons, spiraea, deutzia and berberis.

The township of Ali-shan, or more properly Chao-ping, sprawls down the mountainside from the railway, a series of wooden shack-type buildings on rows of haphazard terraces, but there is a new and excellent tourist hotel and a small museum. Mr Ku Yen Kuan, a technical assistant in the Forestry Department, who has worked in the Ali-shan area for 32 years, was especially helpful. A keen and observant naturalist, he has persuaded the local missionaries to teach the aborigine school children not to kill birds, especially the mikado pheasant, which he said had always been scarce, and may have decreased in the past 20 years. It is still seen from time to time, especially between April and July when the wild fruits and seeds upon which it feeds are ripe. For the rest of the year it feeds on insects and tender plant shoots and buds. Because it lives exclusively in the original primary mixed forest, it is confined to the higher slopes. Although officially protected, the mikado is still sometimes shot or snared by the aborigines and lumber workers; in the past it was also taken in long nets strung between trees into which the birds were driven. In 1962 two birds were caught for the Taipei zoo by this method, but none are known to have been caught in the area since then, although one was shot by an aborigine in 1966.

The mikado is still found also in the mixed forest on Tata-shan or Big Ta Mountain, 2663 metres, and also on Ta-shan or Small Ta Mountain,

2480 metres, where there is primary forest and plenty of water but access is restricted for security reasons. It has also been seen within the last year at Diamond Railway Crossroad to the south of Tata-shan and at Ku Shui-shan some 17 kilometres south-east of Ali-shan. The mikado prefers mixed forest with patches of dense bamboo undergrowth and is said to lay its eggs whenever possible amongst the bamboo, sometimes making a rough nest of bamboo stalks several feet from the ground on the trunk or branches of a fallen tree to avoid being flooded in the frequent heavy rain. Mr Ku had never seen a hen mikado with more than two or three chicks, and he thought that small broods might be responsible for the bird's decline. He told us that there were approximately 12 families of aborigines in the Ali-shan area and that meant about 20 hunters.

On May 14th we visited a deer farm in the foothills, 20 kilometres to the north of Chishan, reputed to be one of the largest of the several farms on the island. The herd consisted of 18 sambar stags and 5 breeding females each with a young calf. (It is the sambar which is valued for its antlers and not the sika deer as reported by Ruhle, 1966.) The stag's antlers, which are believed to be an aphrodisiac, are cut off when in velvet and about 8 inches long and sold to the medicine shops in the big cities. An antler of this size was said to be worth about £90, so with a potential turnover of £180 (NT $20,000) per year from each stag it is not surprising they were well cared for. At the medicine shops the velvet-covered antler is cut into thin slices and sold by weight in small packets. The commonest method of using them was said to be as a drink after steeping them in wine for a week or more. We were told that three almost full-term sambar foetuses, which were drying in a basket in the sun outside a shop in the same village and giving off a powerful odour, would be ground up and made into tablets to be used for eye diseases and early morning sickness in women. The foetuses had been taken from pregnant sambar hinds trapped by the aborigines up in the mountains.

At his well-kept pheasant breeding farm in the hills near Chishan, Mr Wu Teh-fui showed us two pairs of Swinhoe's pheasants that had been caught in the central mountains further south. The rest of his stock consisted of pure Formosan ring-necked pheasants with none of the admixture of hybrid game-farm stock imported from Japan which we had noticed in all the other pheasant farms on the island. Wild ring-necked pheasants were quite common in the area largely because Mr Wu owns nearly 500 hectares of land where he prohibits all shooting and trapping. He hopes to persuade the Government to declare the hills round his farm a nature reserve, in which case he would supplement the wild population with birds bred on his farm. The Formosan ring-necked pheasant is a very distinct race and one of the most striking of all the forms of *Phasianus colchicus*. It would be a great pity if the continued importation and release of mongrel game-farm stock from Japan or elsewhere were to jeopardise the indigenous race.

Swinhoe's pheasants are still found wild in the mountains to the west of Taitung which are covered with a dense and luxuriant growth of sub-tropical vegetation complete with swinging lianas, dripping moss and

plants with leaves as big as dustbin lids; some are occasionally trapped by the aborigines and sent down to an animal dealer in Taitung.

Along the east coast villages are numerous. The chief occupation is inshore fishing, using nets from long narrow bamboo rafts with upturned bows rowed by two men standing, each with two oars. Other men wearing lifebelts swim along close to the beach pushing a huge net shaped like a catapult in front of them. It is difficult to imagine that even the abundant marine life of the warm Pacific will be able to withstand cropping on this scale all along the coast for many more years.

In the street market in Taitung we visited the only substantial dealer in live animals we saw in Taiwan. Shops selling other produce quite often offered one or two live birds, mammals, or snakes, but the trade was small. On one such stall we saw some red-bellied tree squirrels, each in a spherical wire cage the size of a small football mounted on a wire axle so that when hung up the cage revolved every time the wretched squirrel moved, on the principle of a wheel in a mouse or hamster cage; their life span in such barbarous cages must be brief.

The animal trader in Taitung buys live mammals, birds and snakes caught by the aborigines over a very wide area of the southern half of the central mountain range. Some mammals, especially deer, are sent alive to Kaohsiung or Taipei where they end up, many of them three-legged having been caught in the jaws of a steel trap, in the numerous restaurants. The time interval between capture and killing for the table is often two to three days. Sometimes they are sika deer trapped deep in the mountains, but sambar are more common and muntjac commonest of all. Both mikado and Swinhoe's pheasants are brought in from time to time. For a pair of the latter the trader was asking NT $1000, about £9 sterling. Other species in stock included a pair of Formosan blue magpies, two baby bare-footed scops owls, a pangolin with a broken hind leg, a Formosan white-headed flying squirrel, two Formosan red flying squirrels and three Formosan macaques, all in fair condition. Since this was the only dealer of any importance we saw on the whole island the trade in live animals would not seem to constitute a threat to the wildlife of Taiwan except where protected or threatened species are involved. The trapping of deer and their subsequent shipment over long distances with badly mutilated legs is barbarous and the Government should act to prohibit this practice.

In the aborigine village of Chulu we met Chief Ho who was able to give much helpful information about the wildlife of the mountains. Members of his tribe are often responsible for the animals sold in the Taitung dealer's shop. Accompanied by an interpreter I trekked into the mountains with Chief Ho and two of his men with three small hunting dogs. All the men had guns, one of them home-made and the others made in Taiwan. They were single-barrelled, smooth bore and about 20 gauge, taking brass cartridges which could be re-loaded by the hunters. The charge was lead shot of various sizes and the wadding was rammed newspaper. In addition one of the men carried three large steel traps for deer while the chief had a bag containing some 200 snares for pheasants.

Normally a hunting trip of this kind lasts several days and the men bivouac at night beneath rough bamboo shelters.

The jungle was dense with rich sub-tropical vegetation, creepers, tree ferns and lily-like plants with huge glaucous leaves. After a gruelling six-hour climb we came to a place at about 800 metres where the chief said we ought to find Swinhoe's pheasant, which came for the nut-like fruits of a certain tree. A huge fallen tree covered with spongy moss lay across the path; the undergrowth was waist high but less impenetrable and a green light filtered through the tree canopy overhead. We were steaming hot and soaked to the skin with sweat and water which dripped off the trees and bushes. The three little hunting dogs began to work the mountainside and within half an hour had flushed seven Swinhoe's pheasants, probably members of one family group as they were all in a comparatively small area. None of the aborigines was able to get a shot at the pheasants as they hurtled downhill between the trees, and despite all the efforts of the little dogs no more were seen. The writer is possibly the first European to see Swinhoe's pheasant in the wild.

Other mammals seen were the Formosan red-bellied tree squirrel, macaque and muntjac. Birds included the Formosan serpent eagle, lesser coucal, tree-pie and bamboo partridge, the latter at 200 metres in a bamboo grove.

The steel traps used for catching deer are also used by the aborigines for taking monkeys which they eat. The men showed us a rocky cliff across the gorge where they told us they trapped the macaques as they gathered during the rains. In a nearby village a macaque chained to a tree outside a shop had had one front leg amputated at the elbow, presumably in a similar trap. The snares used by the aborigines to catch pheasants and partridges are simple but effective. In the large central, almost inaccessible, mountain range behind Taitung, Swinhoe's pheasant appears to be generally but thinly distributed. It would be reasonably secure here, provided its habitat is not destroyed, if the shooting and snaring by aborigines could be stopped.

North of Taitung some of the higher slopes of the coastal range are still covered with indigenous hardwood forest, and the area is said to be fairly rich in wildlife. We did not have time to investigate but a thorough wildlife survey should be made in the immediate future.

Near Carp Lake, 11 kilometres south-west of Hualien, the Forest Officer in a timber yard which handles huge logs of the Taiwan cypress, said to be the best in the island, told us that the mikado pheasant is still found on the higher slopes on Ta-kuei shan (2730 metres) and Mu-kua shan (2426 metres) but rarely seen. The previous year a female followed by four chicks had wandered into the lumber camp early one morning; she was quite tame and allowed them to approach within 20 yards. Another forest worker told us that he has seen mikado pheasants from time to time during felling operations at about 1800 metres.

From Hualien we crossed the central mountain range via the East–West Highway, a most spectacular journey through the impressive Taroka gorge, where the road, which has been blasted and bored out of the rock,

follows the twisting, tortuous course of the thundering, foaming river and climbs to above 1500 metres. Birds are numerous as the mountains are still covered with indigenous forest which, at this altitude, is in the lower temperate zone. The pretty Formosan plumbeous water redstart with its blue upperparts, black cap and chestnut belly and tail was quite common along the road, while tits including the Formosan coal tit, red-headed tit and green-backed tit, were hunting for insects along the edge of the forest. We spent the night at Chu-wun Rest House at an altitude of 2200 metres, with magnificent mountain scenery on all sides and completely isolated. Next morning we watched a troupe of about a dozen Formosan macaques feeding in the low trees and playing on the ground. Accompanied by the rest house caretaker, a keen amateur naturalist who said he had seen mikado pheasant in the area, we went into the forest and saw a single bird which flew across our track to disappear amongst the trees; it was close enough to be easily identified as a female mikado.

At the end of our stay we returned to Hsitou to find that the release pen for the Swinhoe's pheasants had been contructed by the forestry staff. Six males and five females (one female had died) were quickly transferred to their new quarters, where they settled down well. Director Wu Cheng-yang promised to supervise their eventual release and report progress.

Status of Some Species

The following is a brief summary of the status in Taiwan of certain species as far as we were able to determine – scientific names are on page 56.

Formosan macaque: generally distributed in central mountain range; despite shooting and trapping not seriously threatened but in need of some protection.
Chinese pangolin: still generally distributed in the southern half of Taiwan on the lower slopes of the mountains, but not common; constantly hunted and trapped because its scales are believed to be of medicinal value and to have an antitoxic effect; it will be exterminated unless protective measures are taken.
Formosan red-bellied tree squirrel: common throughout central mountain range.
Red giant flying squirrel: still common in the central mountain range up to 2500 metres.
Formosan white-headed flying squirrel: generally distributed in the sub-tropical forest up to 1500 metres in the central mountain range but nowhere common. Much persecuted for mounted specimens and in urgent need of protection.
Formosan hairy-footed flying squirrel: very little information available, but apparently an extremely rare and little-known animal.
Formosan black bear: apparently still found in thinly populated areas of the central mountain range but now rare and decreasing.
Formosan yellow-throated marten: only found in the wildest parts of the central mountain range and now very rare.
Ferret badger: discontinuous distribution in central mountain range but uncommon. One seen near Luikuei had just been killed by a dog in a banana plantation.
Masked palm civet or **Formosan gem-faced civet:** common and generally distributed in the mountains. The aborigines trap and shoot it for its skin and meat.
Clouded leopard: very rare indeed but numbers impossible to estimate since it is nocturnal; if any remain they inhabit the wildest and most inaccessible parts of the central mountain range. Last seen in Ali-shan area ten years ago. Decline

blamed on too many being captured for sale to American zoos.

Wild boar: generally distributed in the mountain forests up to 2500 metres. Regularly hunted by the aborigines.

Formosan muntjac (barking deer): still widely distributed in the mountain forests and frequently trapped or shot by the aborigines. Some protective measures are essential if the race is to survive.

Sambar (Swinhoe's deer): thinly distributed in the mountain forests and regularly hunted by the aborigines, especially from March to May when the stags' antlers are in velvet. Three trapped by the aborigines near Ali-shan in April 1967 were sold in the town.

Formosan sika deer: on the verge of extinction; apparently a few still exist deep in the Taitung area of the central mountain range. At least 150 in captivity, the majority in Taipei Zoo (approximately 50) and on Lu-tao or Green Island, east of Taitung.

Formosan serow: patchily distributed in the central mountain range where it is regularly trapped and shot by the aborigines, especially from September to December. Ten are known to have been taken in the Luchu-shan range 25 kilometres north of Ali-shan in 1966, and three were trapped in the Hualien area in March/April 1960. The aborigines sell the smoked meat to the Chinese who believe it to have special medicinal qualities, and themselves drink the blood by sucking it out immediately after killing the animal (Dien Zuh-ming 1963). Though not uncommon in parts of its range, the small population cannot possibly stand the aborigines' constant toll and without protection it will soon be exterminated.

Formosan ring-necked pheasant: this race is confined to Taiwan and still well distributed in the east and southern half of the island in the plains and low foothills of the mountains, especially near cultivation. Hunting pressure may well endanger its survival. An even greater menace is the importation for sport of mongrel game-farm birds from Japan and elsewhere, which cross freely with the native birds so that in time the pure Formosan race will cease to exist.

Swinhoe's pheasant: never common, and few Europeans have previously seen it in the wild. Partly due to the impenetrable, steep habitat, the bird is difficult to see and without energetic dogs the chances of finding it are remote. It is fairly well distributed in the central and eastern mountain ranges up to 2000 metres and occasionally even higher, though it favours the dense sub-tropical forest rather than the temperate zone. It is almost certainly commoner in the southern half of the island and is much sought after by the aborigines who sell live specimens to the dealer in Taitung and elsewhere. They use the central tail feathers for their ceremonial head-dress and also eat its flesh. Nearly all specimens taken are caught in snares. Without rigid protection coupled with adequate nature reserves it will soon become extinct.

Mikado pheasant: even rarer than Swinhoe's pheasant and confined to the central and eastern mountain ranges above 2000 metres. Essentially a bird of the temperate zone, it is confined to the indigenous forest much of which consists of deciduous trees. It is usually found in reasonably well watered areas especially where there is a dense shrub layer of dwarf bamboo. Once again energetic hunting dogs are absolutely necessary to flush the birds. It is most often seen between April and July when the wild fruits and seeds upon which it feeds – wild strawberry, aster, ferns, etc – are ripe. During the rest of the year it feeds extensively on insects. Despite legal protection, the mikado is still sometimes snared by the aborigines and lumber workers, while odd live specimens occasionally reach the dealer in Taitung. According to well-informed and reliable observers it has been declining steadily in the last 20 years. One bird was seen near the East–West Highway at Chu-wun, 2200 metres; recent sightings include: Ali-

shan area; Ta-shan, Tata-shan, Diamond Railway Crossing and Ku Shui-shan. Hualien area; Ta-kuei shan and Mu-kua shan. As it is already legally protected the only other measure to ensure its survival would be the creation of at least two well-managed nature reserves, where young birds bred in captivity could be released.

RECOMMENDATIONS

The recommendations in our full report include the following:

1. Immediate legislation to control the trade in stuffed mammals and birds.
2. Ecological study of the butterfly populations.
3. Ali-shan area to be made a national nature reserve on the lines of Ruhle's report (1966).
4. Prohibition of import of eggs or live birds of *Phasianus* to preserve the indigenous Formosan ring-necked pheasant.
5. Ecological survey of the eastern coastal range with a view to creating a national park or nature reserve.
6. Inclusion of the area between Pilu and Kuanyuan in proposed national park area (Ruhle, 1966).
7. Immediate total protection for nine species in danger of extinction, including black bear, clouded leopard, Formosan serow, Swinhoe's and mikado pheasants; and close seasons for six, including pangolin, ferret badger, muntjac and sambar.
8. Breeding of threatened species in Taipei zoo to reinforce wild populations.

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Scientific Names of Species Mentioned

Formosan macaque *Macaca cyclopis* Swinhoe
Chinese pangolin *Manis pentadactyla* L.
North Formosan red-bellied tree squirrel *Callosciurus erythraeus roberti* (Bonhote)
Central Formosan red-bellied tree squirrel *C. e. centralis* (Bonhote)
Hoary-bellied tree squirrel *Callosciurus caniceps thaiwanensis* (Bonhote)
Giant red flying squirrel *Petaurista petaurista grandis* (Swinhoe)
Formosan white-headed flying squirrel *P. alborufus lena* Thomas
Formosan hairy-footed flying squirrel *Belomys pearsoni pearsoni* Gray
Formosan black bear *Selenarctos thibetanus formosanus* (Swinhoe)
Formosan yellow-necked marten *Martes flavigula chrysospila* (Swinhoe)
Formosan ferret badger *Melogale moschata* (Gray)
Masked palm civet or Formosan gem-faced civet *Paguma larvais larvana* Swinhoe
Formosan clouded leopard *Neofelis nebulosa brachyurus* Griffith
Formosan wild boar *Sus scrofa taivanus* (Swinhoe)
Formosan muntjac *Muntiacus reevesi micrurus* (P. L. Sclater)
Formosan sambar *Cervus unicolor swinhoei* (Sclater)
Formosan sika deer *C. nippon taiouanus* Blyth
Formosan serow *Capricornis crispus swinhoei* Gray
Formosan blue magpie *Urocissa caerulea* (Gould)
Formosan tree-pie *Crypsirina formosae formosae* (Swinhoe)
Black-naped oriole *Oriolus hicnesis diffusus* Sharpe
Formosan green-backed tit *Parus monticolus insperatus* Swinhoe
Formosan coal tit *P. ater ptilosus* Ogilvie Grant
Formosan red-headed tit *Aegithalos concinnus taiwanensis* Yamashina
Formosan rufous-backed shrike *Lanius schach formosae* Swinhoe
Formosan grey-throated minivet *Pericrocotus solaris griseigularis* Gould
White-eared sibia *Heterophasia auricularis* Swinhoe
Formosan white-throated laughing thrush *Garrulax albogularis ruficeps* Gould
Formosan plumbeous water redstart *Chaimarrornis fuliginosus affinis* Ogilvie Grant
Fairy pitta *Pitta brachyura nympha* Temminck & Schlegel
Formosan barbet *Megalaima oorti nuchalis* Gould
Formosan lesser coucal *Centropus bengalensis lignator* Swinhoe
Bare-footed scops owl *Otus bakkamoena glabripes* (Swinhoe)
Formosan brown wood owl *Strix leptogrammica caligata* (Swinhoe)
South Chinese grass owl *Tyto capenis longimembris* Jerdon
Formosan black-eared kite *Milvus migrans formosanus* Kuroda
Formosan serpent eagle *Spilornis cheela hoya* Swinhoe
Formosan hill partridge *Arborophila crudigularis* (Swinhoe)
Formosan bamboo partridge *Bambusicola thoracica sonorivox* Gould
Swinhoe's pheasant *Lophura swinhoei* (Gould)
Formosan ring-necked pheasant *Phasianus colchicus formosanus* Elliot
Mikado pheasant *Syrmaticus mikado* (Ogilvie Grant)
Taiwan beauty snake *Elaphe taeniurus* Cope
Taiwan banded krait *Bungarus multicinctus* Blyth
Chinese cobra *Naja naja* (Cantor)
Hundred pacer *Agkistrodon acutus* (Guenther)
Taiwan cypress *Chamaecyparis formosensis* Matsumoto
Taiwan acacia *Acacia confusa* Merrill
Small-leaved banyan *Ficus retusa* L.
Longan or dragons eye *Euphoria longana* Lamarck