

A Preliminary Revision of Threatened and Near-threatened Nocturnal Birds of Prey of the World

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The stated object and aims of the World Working Group on Birds of Prey and Owls (of the International Council for Bird Preservation [ICBP]) is to further the conservation of raptors (both diurnal, i.e., *Falconiformes* and nocturnal or *Strigiformes*) in all parts of the world. In particular it will use its best endeavors to prevent the extinction of species, subspecies and individual populations and thereby to maintain the diversity of living forms on the earth.

Toward these ends we offer this preliminary revision of species of *Strigiformes* with the intent that it will A) present most of the literature on the rarer and lesser known species of this very unique Order of birds and B) prompt others more knowledgeable than ourselves to contribute toward a more final revision of species of owls that bear special attention, action and protection.

The last comprehensive publication of endangered species which included owls was by King (1981) and much has happened to diminish owl habitats and presumably certain owl populations in the intervening years. The excellent treatment of threatened birds of Africa and related islands (Collar and Stuart, 1985) covers that area very well but the intent, here, is to bring together as much information as is possible in a single document on all species of owls in all parts of the world and then to distribute the information as widely as possible in order to encourage species specialists to come forward with information that they might possess, on threatened or little-known species, in order that those species might gain from this new information being brought to light.

We have included our recommendation, in uppercase letters, at the end of the status designation section for each species/race. Collar and Stuart (1985) indicate that the third edition of the ICBP/IUCN Red Data Book will be presented on a regional basis, i.e., 1) Africa and "its" related islands (completed in Collar and Stuart [1985]), 2) the Americas, 3) Europe and Asia and 4) Australasia and the Pacific Ocean. The order of appearance of these volumes may not be as outlined above (Collar and Stuart, 1985). One might logically ask why then is a work dealing with just one taxonomic group necessary if the globe is going to be treated on a regional basis? In reply we would point out that a) this work concentrates on the scientific aspects of species of *Strigiformes*, i.e., conservation aspects are only treated superficially, if at all, and b) it is presented as a working document with the aim of calling attention to the taxonomic group in order to identify species that need to be researched most immediately as stated above.

*With substantial input from regional contributors. See text for listing.

This process was started prior to the Eilat Conference and, as a result, researchers working on rare or little known species presented their findings at that conference which are published in this document. It is hoped that a similar procedure will lead to similar results in the future, with owl species of the tropics being of greatest concern for future meetings. Further, this document will, hopefully, serve as a "shopping list" for researchers, both generalists and specialists, when journeying into those areas where rare or little-known species are known or expected to be found. Finally, it is hoped that this document will assist those compiling the regional works and give them the benefit of the most recent information on *Strigiformes* as provided by specialists of that group.

Collar and Stuart (1985) indicated that subspecies would be excluded in all ICBP/IUCN Red Data Books (that volume included) and that this was forced by time, man-power and subjectivity considerations. We have not done so here, but, that should in no way be construed as meaning that we feel that that is an unwise or unjust practice. We have kept subspecies considerations because there are cases where the taxonomy is very uncertain and where a population, if a species, may be in trouble or if a race of another species may still place the entire species in a special category. A case in point would be the Nduk Eagle Owl considered a subspecies of *Bubo poensis* by some, e.g., *B. poensis vosseleri* / "Nduk" subspecies of Fraser's Eagle Owl (*Bubo poensis*), e.g., Amadon and Bull, (in press [citing Olney, 1984]) or a valid species, e.g., Collar and Stuart (1985) state that this owl is moderately distinct in its appearance and "(probably) significantly distinct in its calls." It appears that too little is known at this time to make any definitive statement about that population. Clark and Klem (1986) have pointed out that where a population has differences that are recognizable it suggests a reduction in gene flow with the species elsewhere and thus represents a unit of evolution. For these reasons we have treated subspecies as well. A careful examination of the TAXONOMIC HISTORY AND STATUS (only treated very briefly) section for many of the "species" reveals that there is much work left for that particular aspect of owl biology especially of numerous insular populations of the genus *Otus*. We did include the secondary / "popular" literature to indicate that we were aware of it but our "decision", with regard to the taxonomic status (see Table 2) of each "species" [quotes are used to indicate that the population in discussion may or may not be a valid species and perhaps not enough is presently known to determine which is the case with any certainty] was based on A) evidence as presented by the original researcher(s) and B) evidence provided by subsequent researcher(s) with first hand experience with the "species", preferably with live individuals in the field. We do not subscribe to "plebiscite" taxonomy but sense that the secondary literature or those "listings" that propose taxonomic changes without any evidence to support their "proposed" changes may be having an effect.

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During the World Conference on Birds of Prey and Owls at Eilat a meeting of owl biologists and those interested in working toward the revising of the Red Book listing of Endangered (= Threatened) Owl Species was held. A procedure was agreed upon and we would like to review here the procedure as outlined at that meeting.

PROCEDURAL OUTLINE FOR RED BOOK REVISION

I. Establish a preliminary list.

A. Be liberal and let the burden of proof fall on those who claim the species has a healthy population (within reason).

B. Set up a regional contributor list of those in the best position to make regional contacts and track down the local literature.

C. Regional contributors will supply the co-editors with local journal titles along with the name of the editor and mailing address who will in turn submit a call for information in the local journals. D. Clark and Mikkola will help with the literature and act as co-editors for the listings as provided by the regional contributors.

II. Publish preliminary list (this is it) in WWGBP Bulletin, requesting feedback.

III. Based on feedback from above documents finalize Red Book Data for Strigiformes section for publication by IUCN/ICBP.

Those attending the meeting and agreeing to the above mentioned working procedure, the country they are from [] and the region that they agreed to act as a regional coordinator for () are: M. Brazil [England] (Insular Asia and Japan); R.J. Clark [USA] (North and South America); L. Fasce [Italy] (central Europe); M. Juillard [Switzerland] (western Europe); H. Mikkola [Finland] (Africa and Europe); N. Mooney [Australia] (Australasia); L. Severinghaus [Rep. of China] (Taiwan and adjacent islands). In addition Penny Olsen has been contributing material and working with owls in Australia. Other researchers are welcome to join us in this effort. Please address all correspondence to Clark.

TABLE 1. *IUCN Red Data Book categories of threatened species (after Meyburg, 1986).*

EXTINCT

Species not definitely located in the wild during the past 50 years (criterion as used by CITES).

ENDANGERED

Taxa in danger of extinction and whose survival is unlikely if the causal factors continue operating. Included are taxa whose numbers have been reduced to a critical level or whose habitats have been so drastically reduced that they are deemed to be in immediate danger of extinction. Also included are taxa that are possibly already extinct but have definitely been seen in the wild in the past 50 years.

VULNERABLE

Taxa believed likely to move into the "Endangered" category in the near future if the causal factors continue operating.

Included are taxa of which most or all the populations are decreasing because of over-exploitation, extensive destruction of habitat or other environmental disturbance; taxa with populations that have been seriously depleted and whose ultimate security has not yet been assured; and taxa with populations that are still abundant but are under threat from severe adverse factors throughout their range.

RARE

Taxa with small world populations that are not at present "Endangered" or "Vulnerable," but are at risk. These taxa are usually localized within restricted geographical areas or habitats or are thinly scattered over a more extensive range.

INDETERMINATE

Taxa known to be "Endangered," "Vulnerable," or "Rare" but where there is not enough information to say which of the three categories is appropriate.

OUT OF DANGER

Taxa formerly included in one of the above categories, but which are now considered relatively secure because effective conservation measures have been taken or the previous threat to their survival has been removed.

INSUFFICIENTLY KNOWN

Taxa that are suspected but not definitely known to belong to any of the above categories (except "Out of Danger"), because of lack of information.

TABLE 2. "Species" listing of owls researched for Red Book listing consideration (Note: Binomials and common names first listed are according to Marshall and King (1988) unless otherwise noted by credit and are those preferred by these authors). The listing (phylogenetic order) of subjects treated in this article may serve as a contents listing for the species treatments.

Species/Common Name

Tyto soumagnei/Madagascar Owl.
Phodilus prigoginei/Congo Bay Owl.
Otus ireneae/Sokoke Scops Owl.
Otus hartlaubi/Sao Tome Scops Owl.
Otus elegans botelensis/Lanyu Scops Owl/considered a race of the Ryukyu Scops Owl (Marshall and King, in press).
Otus magicus beccarii/Biak Scops Owl/considered a race of the Moluccan Scops Owl (Marshall and King, in press).
Otus insularis/Seychelles Scops Owl (Collar and Stuart, 1985)/considered a race of the Moluccan Scops Owl *O. magicus* by Marshall and King (in press).
Otus rutilus capnodes/Anjouan Scops Owl/considered a race of the Madagascar Scops Owl (Marshall and King, in press).
Otus pauliani/Grand Comoro Scops Owl (Collar and Stuart, 1985)/considered a race of the Madagascar Scops Owl *O. rutilus* (Marshall and King, in press). *Otus marshallii*/Cloud Forest Screech Owl.
Otus petersoni/Cinnamon Screech-owl (Fitzpatrick and O'Neill)/considered as a race of *O. colombianus* the Colombian Screech Owl by Marshall and King, (in press).
Otus nudipes newtoni/Virgin Islands Screech Owl.
Pyrroglauis podarginus/Palau Owl/considered *Otus podarginus* by Marshall and King, (in press).
Mimizuku gurneyi/Mindanao Owl.
Jubula lettii/Maned Owl.
Bubo vosseleri/Usambara Eagle Owl (Collar and Stuart, 1985)/considered as a race of *B. poensis*, Fraser's Eagle Owl by Marshall and King, (in press).
Bubo blakistoni/Blakiston's Fish Owl.
Scotopelia ussheri/Rufous Fishing Owl.
Strix butleri/Hume's Owl (Mikkola, 1983).
Glaucidium albertinum/Albertine Owlet (Collar and Stuart, 1985)/Prigogine's Owlet (Marshall and King, [in press]).
Xenoglaux loweryi/Long-whiskered Owlet.
Athene blewitti/Forest Spotted Owlet (Ali and Ripley, 1969).
Uroglaux dimorpha/Papuan Hawk Owl.
Ninox novaeseelandiae undulata/Norfolk Boobook Owl.
Ninox ochracea/Ochre-bellied Hawk Owl.
Ninox squamipila natalis/Christmas Island Owl (Kent and Boles, 1984)/considered a race of the Moluccan Hawk Owl by Marshall and King (in press).
Sceloglaux albifacies rufifacies/North Island Laughing Owl (Williams and Harrison, 1972).
Sceloglaux albifacies albifacies/South Island Laughing Owl (Williams and Harrison, 1972).
Asio clamator oberi/Tobago Striped Owl.
Asio flammeus ponapensis/Ponape Short-eared Owl.
Asio flammeus portoricensis/Puerto Rican Short-eared Owl.
Nesasio solomensis/Fearful Owl.

Abbreviations:

RDB = Red Data Book; E = Endangered; V = Vulnerable; R = Rare; I = Indeterminate; K = Insufficiently Known; O = Out of Danger; SC = Of Special Concern; CITES = Convention on International Trade in Endangered Species; I = Listed in Appendix I [Appendix I shall include all species threatened with extinction which are or may be affected by trade. Trade in specimens of these species must be subject to particularly strict regulations in order not to endanger further their survival and must only be authorized in exceptional circumstances]; II = Listed in Appendix II [Appendix II shall include: (a) all species which although not necessarily now threatened with

extinction may become so unless trade in specimens of such species is subject to strict regulation in order to avoid utilization incompatible with their survival; and (b) other species which must be subject to regulation in order that trade in specimens of certain species referred to in sub-paragraph (a) of this paragraph may be brought under effective control] US = Endangered Species Act (1973); States = States of USA: E = Endangered; T = Threatened (Nilsson, 1985).

Tyto soumagnei/Madagascar Owl

DISTRIBUTION: Collar and Stuart (1985) state "this owl is known with certainty from rain-forest only in eastern central Madagascar."

HABITAT: Humid rainforest and areas outside heavily forested regions but it "is not known to occur in grassland" (as stated in Burton [1973]) Collar and Stuart (1985).

POPULATION: Totally unknown. Last collected in 1934 (Collar and Stuart, 1985) and one unconfirmed, but considered reliable, sighting was reported in 1973 (King, 1981).

STATUS DESIGNATION: E (King, 1981); I (Collar and Stuart, 1985); I RDB, CITES I (Nilsson, 1986). INDETERMINATE suggested by Collar and Stuart, (1985). EXTINCT (?).

TAXONOMIC HISTORY AND STATUS: Although called the Madagascar Grass Owl (Burton, 1973; Grossman and Hamlet, 1964) Collar and Stuart (1985) state that although this species was originally placed in a distinct genus, i.e., *Heliodius*, "this species is clearly a small, dark reddish-orange barn owl *Tyto* and although it may have been found outside heavily forested areas it is not known from grassland.

Phodilus prigoginei/Congo Bay Owl

DISTRIBUTION: Known only from the type-specimen collected at 2,430 m in the Itombwe Mountains in eastern Zaire (Prigogine, 1971).

HABITAT: Collected in a grassy clearing in montane forest (Prigogine, 1971).

POPULATION: Totally unknown but probably rare as there have been numerous attempts to locate it (Prigogine, 1973).

STATUS DESIGNATION: I (Collar and Stuart, 1985); I RDB, CITES II (Nilsson, 1986). INDETERMINATE as suggested by Collar and Stuart (1985).

TAXONOMIC HISTORY AND STATUS: Prigogine (1971, 1973) considers it a valid species. It has been also called Prigogine's Owl (Prigogine, 1973) and the African Bay Owl (Burton, 1973).

Otus ireneae/Sokoke Scops Owl

DISTRIBUTION: Ripley (1966) states that it was "known only from the type taken at an altitude of 200 ft. a.s.l. in brachystegia woodland in the Sokoke Forest, near Kiligi, eastern Kenya" and subsequently four additional specimens (all males) were collected (Ripley and Bond, 1971).

HABITAT: While the type is from *Brachystegia* woodland, Britton (1980) notes that "all subsequent records are from *Cynometra*/Manilkara forest on red magarini sands where it is reasonably common though absent from forest with a canopy below 3-4 m in the dry northwest, and inexplicable absent from contiguous forest on white soils." Ripley and Bond (1971) reported the stomach contents of the latter four specimens as arboreal, leaf-feeding insects likely to occur in vegetation off the ground.

POPULATION: Britton and Zimmerman (1979) stated that "the estimated population of 1300-1500 pairs within the forest reserve is probably minimal since two duetting birds were recorded as a single territory" and then Britton (1980) stated the population at "1300-1500 pairs."
STATUS DESIGNATION: R (King, 1981); E (Collar and Stuart, 1985); E RDB, CITES II, US E (Nilsson, 1986); E (U.S.F. & W.S., 1987). ENDANGERED (= THREATENED).

TAXONOMIC HISTORY AND STATUS: Species status is undisputed, e.g., Burton *et al.* (1973); Marshall (1978); and Marshall and King, (in press). Eck and Busse (1977) have incorrectly treated it as a race of *Otus icterorhynchus* and although Ripley (1966), in originally describing it suggested that "this owlet represents a species closer in pattern to *Otus icterorhynchus* of the evergreen rain forest of West Africa and the Congo than any other" he further states that "if related to *O. icterorhynchus* this would place it as an isolated relict species dating back to a moister pre-Pleistocene period, perhaps a Pliocene connection with lowland evergreen forest inhabitants of western Africa..." It has also been called Mrs. Morden's Owlet (Ripley and Bond, 1971) and Morden's Scops Owl (Brown, 1971).

Otus hartlaubi/Sao Tomé Scops Owl

DISTRIBUTION: Sao Tomé Island, in Gulf of Guinea, off west coast of Africa (Marshall and King, in press). Presence on Principe is unsubstantiated (de Naurois, 1975).

HABITAT: "Near sea-level in secondary forest collected it in secondary forest at about 400 m elevation (highest density) and in mist forest at 1300 m" de Naurois (1975).

POPULATION: Unknown but not considered rare by de Naurois (1975).

STATUS DESIGNATION: R (Collar and Stuart, 1985); R RDB, CITES II (Nilsson, 1986).

TAXONOMIC HISTORY AND STATUS: Species status seems secure. Marshall (1978) suggests that this species "is related to nothing in Africa" and is, according to its song, "right alongside Indonesian *Otus magicus*, *O. mantananensis* and *O. manadensis* in the small island scops-owls."

Otus elegans botelensis/Lanyu Scops Owl

DISTRIBUTION: Restricted to Lanyu [= Orchid] Island off Taiwan (Severinghaus, 1986; see also this publication).

HABITAT: Wooded areas, especially mature forest (Severinghaus, 1986; see also this publication).

POPULATION: 150 - 230 individuals (Severinghaus, 1986; see also this publication).

STATUS DESIGNATION: E (King, 1981); E RDB, CITES II (Nilsson, 1986); VULNERABLE - due to being hunted, habitat loss and limited availability of nest sites (Severinghaus, 1986; see also this publication).

TAXONOMIC HISTORY AND STATUS: The racial status of this form of *Otus elegans* Ryukyu Scops-owls seems secure (Marshall, 1978).

Otus magicus beccarii/Biak Scops Owl

DISTRIBUTION: Known only from the island of Biak (formerly Misori [Peters, 1940]) off the northern coast of Irian Jaya, Indonesia (King, 1981).

HABITAT: Ripley (*in litt.*) collected it in evergreen forest and Marshall (1978) noted that he found it in no disturbed vegetation but located it [a single pair] in "coastal swamp forest bounded by heavily forested limestone cliffs." Ripley (*in litt.*) returned to Biak in 1960 for one or two days "and could glean no indication of the presence of the species." He further states "the view that I obtained of forest at that time was good. No one, however, can hazard a guess today about lowland forest in New Guinea due to the incursions of Japanese lumber contractors." Mikkola wrote in June of 1987 that "he had passed Biak Island where a rare Papuan Scops Owl has been living. Has been, I say, because did not see any decent forest left on that island anymore.

Japanese foresters have been harvesting there together with Indonesians, and they seem to know their business. All trees away before the Government is in 1988 banning the entire export of raw wood from the country." Collar (*in litt.*) has indicated that Biak "is 'twinning' with another island, Pulau Supiori, and although Biak is indeed in bad shape, Supiori is - or was recently as 1982 - almost pristine." He further points that ICBP had sent a person there to check out Biak in July 1982 and that *Otus beccarii* was not observed but he [the observer] stated "in view of my records of calls and the information derived from villagers I suspect that *Otus beccarii* is fairly widespread in moderate numbers from sea level to at least 1000 feet." It is apparently unknown, for certain, if the species exists, or ever has on Pulau Supiori. Mayr and de Schanensee (1939) list stomach contents (only 3 specimens known in collections) as insects.

POPULATION: Unknown.

STATUS DESIGNATION: I (King, 1981); I RDB, CITES II (Nilsson, 1986). We suggest INSUFFICIENTLY KNOWN until its taxonomic position is secure and its presence on Biak and/or Pulau Supiori has been satisfactorily established and numbers have been determined.

TAXONOMIC HISTORY AND STATUS: Marshall (1978) and van der Weyden (1975) consider it a race of the polytypic species *Otus magicus*, the Moluccan Scops Owl while Mayr and de Schanensee (1939) consider it a valid species.

Otus insularis/Seychelles Scops Owl

DISTRIBUTION: Highlands of southcentral island of Mahé, Seychelles.

HABITAT: Secondary forests between 250 and 600 m (Collar and Stuart, 1985).

POPULATION: At least 80 pairs (Watson, 1981) as determined by careful censusing [small constant individual variations in voice allow identifying individuals]. Mikkola (pers. obser.) heard five calling males and saw one pair in two evenings in November 1983.

STATUS DESIGNATION: R (King, 1981); R (Collar and Stuart, 1985); R RDB, CITES II, US E (Nilsson, 1986); E (U.S.F. & W.S., 1987). RARE.

TAXONOMIC HISTORY AND STATUS: Watson (1981) considers it a species while (Marshall, 1978) considers it a race of the polytypic species *Otus magicus*, the Moluccan Scops Owl, based on his experience with numerous forms of this species. It has also been called Seychelles Owl (Grossman and Hamlet, 1964) and Seychelles Island Owl (Greenway, 1967).

Otus rutilus capnodes/Anjouan Scops Owl

DISTRIBUTION: Anjouan Island in the Comoro Group (Peters, 1940) of the western Indian Ocean.

HABITAT: Evergreen forest (King, 1981).

POPULATION: Benson (1960) stated "we got no sign of the presence of *O. rutilus* on Anjouan although they listened carefully for it" and he offered it may be extinct. King (1981) stated that no subsequent information to the contrary has come to hand.

STATUS DESIGNATION: E - "if in fact it still survives" (King, 1981); CITES II, US [E] (Nilsson, 1986); E (U.S.F. & W.S., 1987). EXTINCT (?).

TAXONOMIC HISTORY AND STATUS: The Anjouan Scops Owl is considered a subspecies of the Madagascar Scops Owl by Marshall (1978) and Peters (1940). Also called the Comoro Scops Owl (Greenway, 1967).

Otus pauliani/Grand Comoro Scops Owl

DISTRIBUTION: Restricted to the island of Grande Comoro in the Comoro Islands (Collar and Stuart, 1985).

HABITAT: Evergreen forest (Benson, 1960). The species is presumed to occur at the forest/heath intergradation zone on Mount Karthala (M. Louette, in press) 1984 as cited in Collar and Stuart, 1985).

POPULATION: Numbers are presumably low, since at the time of discovery calling birds were listened for without success elsewhere (Collar and Stuart, 1985). Due to lack of information INSUFFICIENTLY KNOWN. Report of "Otis [sic] *pauliani* ... limited to a few tens of pairs ... limited to high altitude stands of virgin forest" (Anonymous, 1986).

STATUS DESIGNATION: R (Collar and Stuart, 1985); R RDB, CITES II (Nilsson, 1986).

TAXONOMIC HISTORY AND STATUS: Marshall (1978) lists this as *Otus rutilus pauliani*. Benson (1960) was inclined to regard this "as belonging to a species on its own" but as Collar and Stuart (1985) indicate, the "discoverer of this form was inclined to consider it a full species, because of its distinct morphology and voice but deferred to other opinion ... after further experience of the species of which it was treated as a race (the Madagascar Scops Owl *Otus rutilus*) he re-emphasised the distinctiveness not only of its voice but also of its habitat (montane as opposed to lowland). The only other person to have heard it also considers it a good species."

Otus marshalli/Cloud Forest Screech Owl

DISTRIBUTION: The eight specimens of this species known were all collected at elevations of from "1,920 to 2,240 m on the slopes of the northern Cordilera Vilcabamba in the Departamento de Cuzco," southcentral Peru (Weske and Terborgh, 1981).

HABITAT: Found in mid-elevation undisturbed cloud forest (Weske and Terborgh, 1981).

POPULATION: Weske and Terborgh (1981) suggested that "availability of habitat and frequency of capture suggest that a substantial population of the new owl exists." A total of 12 birds of this species were mist-netted and four of them [three were banded] were released.

STATUS DESIGNATION: Because of the lack of information it must be classified as INSUFFICIENTLY KNOWN.

TAXONOMIC HISTORY AND STATUS: All published information is confined to the article originally describing them (Weske and Terborgh, 1981).

Otus petersoni/Cinnamon Screech-owl

DISTRIBUTION: "This small owl is now known from ten specimens and four localities in the cloud-forests of extreme northern Peru and southern Ecuador" specifically the departments of Piura (Playon), Cajamarca and Amazonas and Cordillera del Cutucu (southern Ecuador) at elevations between 1690 and 2450 m (Fitzpatrick and O'Neill, 1986).

HABITAT: Forested eastern foothills of the Andes in stunted, humid, mossy, cloud forest; however one specimen was mist-netted in "second growth" at about 1695 m (Fitzpatrick and O'Neill, 1986).

POPULATION: Unknown.

STATUS DESIGNATION: Because of the lack of information it must be classified as INSUFFICIENTLY KNOWN.

TAXONOMIC HISTORY AND STATUS: All published information is confined to the article originally describing them (Fitzpatrick and O'Neill, 1986). Marshall and King (1988) list it as a race of *colombianus* without substantiation.

Otus nudipes newtoni/Virgin Islands Screech Owl

DISTRIBUTION: Peters (1940) lists the range for this species as Puerto Rico, and the Islands of St. Thomas, St. John and St. Croix, Greater Antiles. Raffaele (1983) notes that it has also been reported or collected from Virgin Gorda and Tortola. Wiley (1986b) states the Virgin Islands race has been confirmed only from Vieques, St. Thomas, St. John and St. Croix.

HABITAT: The nominate race, i.e., the Puerto Rican Screech-Owl, prefers dense woodlands and forests, but will inhabit small thickets and groves of large trees in urban areas (Wiley, 1986b).

POPULATION: Wiley (1986b) states that this race is "very rare or extinct." Nellis (1979) reported visual observations of a Screech Owl on 21 January 1971 and 14 November 1972, both on the Island of St. Croix. This would be within the expected range of *O. n. newtoni*.

STATUS DESIGNATION: R (King, 1981); R RDB, CITES II (Nilsson, 1986) We recommend INSUFFICIENTLY KNOWN even though the species, as a whole does not now seem to be in danger. The loss of it from a number of islands, presumably owing to it being a secondary cavity nester thereby requiring sizeable trees with cavities for nesting (Wiley, 1986a), represents a substantial loss to the population. Because of human population build-up and continued deforestation in the area more needs to be known of the species.

TAXONOMIC HISTORY AND STATUS: The validity of the species and races is undisputed. Also known as Newton's Owl (Greenway, 1967).

Pyrroglauis podarginus/Palau Owl

DISTRIBUTION: Peters (1940) lists records for Babelthup and Koror [Palau Islands] Eck and Busse (1977) lists Anguar also [no basis stated] and Marshall (1949) found this species on the island of Peliliu as well.

HABITAT: Rain forest, woodland and portions of mangrove lagoons (Marshall and King, in press; Marshall, 1949).

POPULATION: Marshall (1949) estimated [by counting singing territorial males] there to be about 66 pairs on Koror and four pairs in a patch of natural woodland on Peliliu. Marshall and King (in press) note that it was "saved from extinction by eradication of the introduced coconut beetle, which kills with its 'rhinoceros' horn when swallowed whole by the owl."

STATUS DESIGNATION: Formerly E, presently delisted to Recovered (U.S.F. & W.S., 1987).

TAXONOMIC HISTORY AND STATUS: *Pyrroglaux podargina* (Yamashina, 1938) is listed as *Otus podargina* by Burton (1973), Eck and Busse (1977), Grossman and Hamlet, (1964) and Marshall and King, (1988) all without supporting evidence. It is also referred to as Palau Scops Owl Burton (1973), Eck and Busse (1977), and Grossman and Hamlet, (1964).

Mimizuku gurneyi/Mindanao Owl

DISTRIBUTION: Southern Philippines, including Mindanao, Siargo, and Dinagat; however, not on Marinduque as frequently reported (du Pont, 1972).

HABITAT: Lowland rain forest and second growth forest (Marshall and King, in press).

POPULATION: Marshall and King (1988) consider it "common for so large a bird, whose extensive foraging make it ... widely spaced."

STATUS DESIGNATION: CITES I, USE (Nilsson, 1986); E (U.S.F. & W.S., 1987). Marshall and King (1988) state that Robert Kennedy, Ben King and Joe Marshall regard it as common. King (*in litt.*) commented that he had gotten play-back response from several *Mimizuku* at locations from 3,000 and 4,000 ft [915 and 1,219m] and there were a fair number of forest patches at this altitude. He (King) states that, "it is true that ALL forest birds of Mindanao are seriously threatened because of rampant destruction of forests, but most montane species are, as yet, not seriously endangered" (*in litt.*).

TAXONOMIC HISTORY AND STATUS: Colston and Curry-Lindahl (in press); Eck and Busse 1977); Ford (1967); and Peters (1940) accept it as a valid genus and species. Peters (1937) did acknowledge some probable affinity with *Otus* but recommended it for a monotypic genus. Burton (1973) and Grossman and Hamlet (1964) list this species as the Giant Scops Owl *Otus gurneyi*.

Jubula lettii/Maned Owl

DISTRIBUTION: West Africa and the Congo basin (Amadon and Bull, in press).

HABITAT: Dense lowland primary forest (Colston and Curry-Lindahl, in press). It has never been seen "outside rain forest, gallery forest or forest clearings" (Grossman and Hamlet, 1964). Breeding habits and calls are unrecorded (Grossman and Hamlet, 1964).

POPULATION: Unknown and Prigogine (1971) seems to be the only one to have listed it as "relatively common."

STATUS DESIGNATION: INSUFFICIENTLY KNOWN meaning that it might belong in any category other than OUT OF DANGER but cannot be placed in any particular category because of lack of information (Meyburg, 1986).

TAXONOMIC HISTORY AND STATUS: Considered valid genus and species by Ford, 1967. Burton (1973) and Prigogine (1971) list this species as *Lophotrix lettii*.

Bubo vosseleri/Usambara Eagle Owl

DISTRIBUTION: Endemic to the Usambaras [mountains] in NE Tanzania at 900 - 1500m at Amani and Mazumbai (Britton, 1980).

HABITAT: Evergreen, montane forest (Collar and Stuart, 1985). Brown (1971) lists the breeding cycle as unknown, i.e., the nest has never been found.

POPULATION: Unknown.

STATUS DESIGNATION: R (King, 1981); R (Collar and Stuart, 1985); R RDB, CITES II (Nilsson, 1986). INSUFFICIENTLY KNOWN.

TAXONOMIC HISTORY AND STATUS: Considered a subspecies of *Bubo poensis* by some, e.g., Amadon and Bull (in press [citing Olney, 1984] and Britton (1980)) or a valid species, e.g., Collar and Stuart (1985) state that this owl is moderately distinct in its appearance and "(probably) significantly distinct in its calls." It appears that too little is known at this time to state for certain for either case. As a species it is called also the Nduk Eagle Owl (Burton 1973 and White 1974).

Bubo blakistoni/Blakiston's Fish Owl

DISTRIBUTION: Soviet far east, Sakhalin, s. Kuril Islands (Flint, *et al.*, 1984), Eterofu, Kunashiri and Shikotan (Brazil, *in litt.*). Also Heilungkiang province (mainland China) w to the Great Khingan Mountains, and possibly in North Korea (Brazil, *in litt.*).

HABITAT: River plains and islands in mixed taiga. Riparian forest along both slow and fast moving streams (see Brazil, this publication, for details).

POPULATION: Very rare, included in the Red Data Book (Flint, *et al.*, 1984). Population in Japan may be as high as 80 - 100 birds but probably no more than 20 breeding pairs; population elsewhere unknown (Brazil, *in litt.*, see this publication for details).

STATUS DESIGNATION: VULNERABLE (Brazil, *in litt.*).

TAXONOMIC HISTORY AND STATUS: Listed as *Bubo blakistoni* by Amadon and Bull, (in press), Eck and Busse, (1977) and Ford, (1967) it was known formerly as *Ketupa blakistoni* (Burton, 1973 and Grossman and Hamlet, 1964).

Scotopelia ussheri/Rufous Fishing Owl

DISTRIBUTION: Restricted to the rainforest zone of West Africa between Ghana and Sierra Leone (Collar and Stuart, 1985).

HABITAT: Forested waterways (Amadon and Bull, 1988).

POPULATION: Collar and Stuart (1985) summarize the locations for the approximately two dozen specimens known to have been collected.

STATUS DESIGNATION: R (Collar and Stuart, 1985); I RDB, CITES II (Nilsson, 1986). RARE.

TAXONOMIC HISTORY AND STATUS: Validity of the species seems undisputed.

Strix butleri/Hume's Owl

DISTRIBUTION: The coast of Baluchistan, in Saudi Arabia and from Syria to Sinai in the Middle East.

HABITAT: Desert, especially in steep walled wadis where water is present (Mendelssohn, Yom-Tov and Safriel, 1975).

POPULATION: Etchecopar and Hue (1967) wrote of this species "to the best of our knowledge, this owl has never up to the present time been observed alive" and "a very rare species about which practically nothing is known." Since that time the bird has been photographed in the wild (Leshem, 1981) and nesting behavior has been observed (Subah, 1983; not seen).

STATUS DESIGNATION: Insufficiently Known.

TAXONOMIC HISTORY AND STATUS: Listed as Hume's Tawny Owl (by Amadon and Bull [in press]; Etchecopar and Hue, 1967; Leshem, 1979; Leshem, 1981; and Mendelssohn, Tom-Tov and Safriel, 1975) it is thought to be a desert form of *Strix aluco*. Mikkola (1983) summarized what was then known of the species and called it Hume's Owl noting numerous differences between the two. More research is needed as its breeding biology is apparently yet to be described.

Strix occidentalis caurina/Northern Spotted Owl

DISTRIBUTION: Southwestern British Columbia, w Washington and Oregon and nw California (Forsman, *et al.*, 1984).

HABITAT: Unlogged old-growth forest or in mixed forests of old-growth and mature timber (Forsman, *et al.*, 1984).

POPULATION: Dawson, *et al.* (1987) states that it is likely that there are between 4,000 and 6,000 individuals in the Pacific states, i.e., for this particular race.

STATUS DESIGNATION: We suggest VULNERABLE based on population declines of 0.8 percent per annum for Oregon and 0.45 percent in California were the primary reason for decline is harvest of old-growth forests (Forsman and Meslow, 1986).

In addition, it appears that "Barred Owls are displacing spotted owls (Forsman and Meslow, 1986)."

TAXONOMIC HISTORY AND STATUS: There are three races, based mainly on slight coloration differences of plumage, described for the species but these have not been verified by "substantive studies" (Forsman and Meslow, 1986).

Glaucidium albertinum/Albertine Owlet

DISTRIBUTION: Eastern Zaire and Rwanda (Collar and Stuart, 1985).

HABITAT: Known only from "a few localities in lowland and montane forest" (Collar and Stuart, 1985).

POPULATION: Not known, however, Collar and Stuart, (1957) suggest "the small number of collected specimens from an area which has been well explored by ornithologists is an indication that it is rare."

STATUS DESIGNATION: R (Collar and Stuart, 1985); R RDB, CITES II (Nilsson, 1986).

TAXONOMIC HISTORY AND STATUS: Prigogine (1983) showed this species, which was once thought to be a race of the Chestnut Owlet *Glaucidium castaneum*, to be a new species *Glaucidium albertinum*.

Xenoglaux loweryi/Long-whiskered Owlet

DISTRIBUTION: "So far as known, the upper subtropical zone of the valley of the Ri'o Mayo on the eastern slopes of the eastern cordillera of the Andes in the Departamento de San Marti'n northwest of Rioja" (O'Neill and Graves, 1977).

HABITAT: Subtropical, cloud forest at about 1890 m (O'Neill and Graves, 1977).

POPULATION: Unknown.

STATUS DESIGNATION: Because of the lack of information it must be classified as insufficiently known.

TAXONOMIC HISTORY AND STATUS: All published information is confined to the article originally describing it (O'Neill and Graves, 1977).

Athene blewitti/Forest Spotted Owlet

DISTRIBUTION: Formerly along the foothill of the Satpuras from ca Long. 73°30' to 84° E between 21° and 22° N. Lat., northcentral India (Ali and Ripley, 1969; Ripley, 1976).

HABITAT: Heavy moist deciduous jungle and groves of wild mango; partial to the neighborhood of streams (Ali and Ripley, 1969), patches of tropical moist deciduous and subtropical wet forest (Ripley, 1976).

POPULATION: Last collected in 1914, photograph in Burton (1973) reported as this species [taken in 1968] is difficult to identify for certain, (Ripley, 1976). Ripley feels that this species "is already extinct" (*in litt.*, 1986). EXTINCT (?).

STATUS DESIGNATION: I (King, 1981); I RDB, CITES I (Nilsson, 1986).

TAXONOMIC HISTORY AND STATUS: Species designation seems secure but other common names have been applied, e.g., Forest Owlet (Amadon and Bull, in press) and Forest Little Owl (Burton, 1973 and Nilsson, 1986).

Uroglaux dimorpha/Papuan Hawk Owl

DISTRIBUTION: Peters (1940) lists the Island of Japen and all of New Guinea; however, Weston and Weston (1973) noted that its distribution was confirmed "from the Vogelkop Peninsula and Japen Island in Irian Jaya and the Central District, Milne Bay and Collingwood Bay areas of south-eastern Papua New Guinea, and possibly the Makang district to the north."

HABITAT: Forests (Amadon and Bull, in press); however, Weston and Weston (1973) state "preference for habitat cannot be stated when there is so little information available on the localities. Confirmed localities cover such a wide variety of habitat from sea-level to the slopes of mountain ranges that one would expect *U. dimorpha* to be more frequently recorded. Range can be stated to be between sea-level and 1,500m."

POPULATION: Unknown.

STATUS DESIGNATION: Insufficiently Known.

TAXONOMIC HISTORY AND STATUS: Earlier placed in the genus *Ninox* it was later placed in a genus all its own (Weston and Weston, 1973). The common name of New Guinea Hawk Owl (Grossman and Hamlet, 1964) has also been applied to this little known species.

Ninox novaeseelandiae undulata/Norfolk Boobook Owl

DISTRIBUTION: Restricted to Norfolk Island (Mees, 1964).

HABITAT: Forest patches (King, 1981).

POPULATION: Concerted efforts to locate a population of this race have lead to the location of one bird (presumed to be a female on the basis of size). Nest boxes were erected in appropriate forest and a male New Zealand Boobook *Ninox novaeseelandiae novaeseelandiae* was introduced in September of 1987 (Olsen, *in litt.*; also Olsen, Mooney and Olsen, *this publication*).

STATUS DESIGNATION: *Ninox novaeseelandiae*, CITES II, Norfolk Island *N.n. undulata*, I (King, 1981); I RDB, CITES I, *N.n. royana* CITES I (Nilsson, 1986). ENDANGERED (= THREATENED).

TAXONOMIC HISTORY AND STATUS: According to Mees (1964) this is a small race of *Ninox novaeseelandiae*.

Ninox ochracea/Ochre-bellied Hawk Owl

DISTRIBUTION: Peters (1940) lists for its, i.e., (*Ninox perversa*), distribution Celebes (except the southern peninsula).

HABITAT: Very little is known of this species but Burton (1973) lists it as "deep virgin forests".

POPULATION: Unknown.

STATUS DESIGNATION: Insufficiently Known.

TAXONOMIC HISTORY AND STATUS: Species status seems unchallenged, however, it is listed in the literature as *Ninox perversa* as well (Burton, 1973 and Grossman and Hamlet, 1964).

Ninox squamipila natalis/Christmas Island Owl

DISTRIBUTION: Peters (1940) states "confined to Christmas Island, 215 miles south of western Java in the Indian Ocean."

HABITAT: Forest (King, 1981). Kent and Boles (1977) indicate that although undisturbed forest habitat is required for breeding that they "are able to obtain food from disturbed areas such as human settlements."

POPULATION: King (1981) suggested an estimate of less than 100, however, Olsen and Stokes (*this publication*) it may be as high as 100 pairs. More research is needed.

STATUS DESIGNATION: *Ninox squamipila*/Indonesian Hawk Owl (Nilsson, 1986) CITES II, *N. s. natalis* Christmas Island Owl, R (King, 1981) R RDB, CITES I (Nilsson, 1986). VULNERABLE (due to proposed development of the island for tourism).

TAXONOMIC HISTORY AND STATUS: One of five recognized races of the Moluccan Hawk Owl (Peters, 1940).

Sceloglaux albifacies rufifacies/North Island Laughing Owl

DISTRIBUTION: North Island [New Zealand] south of a line from Cape Egmont to East Cape (Williams and Harrison, 1972).

HABITAT: In and around rocky areas either in open country or at the margins of scrub or forest (Williams and Harrison, 1972).

POPULATION: Williams and Harrison (1972) state, of the species, that it has not been "officially" seen since 1914. A single record of the voice [presumably of this species and race] was heard by Blackburn (1982) in 1927. The vocalizations were heard for five successive evenings at a location given as Ormond's Camp "which is at the head of the first inlet on the right hand, after passing through the Narrows from Waikaremoana to Wairauoana." The specific site was described as a "high, sheer limestone outcrop with its base surrounded by heavy bush."

STATUS DESIGNATION: Greenway (1967) states of this race that it has been extinct on the North Island since 1889, however, Williams and Harrison (1972) list "one seen near Purangi, Waitara R., about 1930." **EXTINCT (?)**.

TAXONOMIC HISTORY AND STATUS: Williams and Harrison (1972) state that although two subspecies are currently accepted "such acceptance rests more on the basis of theory than fact."

Sceloglaux albifacies albifacies/South Island Laughing Owl.

DISTRIBUTION: Much of South Island [New Zealand] mostly east of the Southern Alps (Williams and Harrison, 1972).

HABITAT: In and around rocky areas either in open country or at the margins of scrub or forest (Williams and Harrison, 1972).

POPULATION: Unknown.

STATUS DESIGNATION: The date of the last apparently reliable record of the bird in the wild dictates that it be classed as **EXTINCT**, however, Williams and Harrison (1972) state that the species is probably not yet extinct and that "persistent reports of its continued presence in parts of South Island are still received." Amadon and Bull (in press) list it as probably extinct. Fox (1977) reports "the last sighting of laughing owls in this valley [Haydon Downs] was in the the mid 1950s on Melrose Station, but sightings have been reported by opossum trappers from the Seaward Valley, just over the ridge, in 1975." No further details were given. **EXTINCT (?)**.

TAXONOMIC HISTORY AND STATUS: Williams and Harrison (1972) state that although two subspecies are currently accepted "such acceptance rests more on the basis of theory than fact."

Asio clamator oberi/Tobago Striped Owl

DISTRIBUTION: Known only from the forest of the island of Tobago, NE of Trinidad (King, 1981). A race of a species that is widely distributed from Mexico to Bolivia and Brazil.

HABITAT: Known from both primary and secondary forest especially in lowlands (King, 1981).

POPULATION: Unknown. It was last reported seen in 1971 (King, 1981).

STATUS DESIGNATION: R (King, 1981); R RDB, CITES II (Nilsson, 1986).

TAXONOMIC HISTORY AND STATUS: Known earlier as *Rhinoptynx* it has been recently included with *Asio* (Amadon and Bull, in press and Eck and Busse, 1977). Marshall (1943) commented on the similarity of this species with the Long-eared Owl *Asio otus*, stating from field observations that it "looked and sounded very much like the Long-eared Owl."

Asio flammeus ponapensis/Short-eared Owl

DISTRIBUTION: Ponape Island (Caroline Islands).

HABITAT: Grasslands and fern brakes (Marshall, 1962). It became established after the arrival of man, who created grassland and bracken habitat by cutting down the forest and is indistinguishable from *Asio flammeus sandwichensis* (Marshall, *in litt.*)

POPULATION: In 1930 it was estimated at two dozen or more and Marshall (1962) calculated about twice that many for 1956.

STATUS DESIGNATION: Rare (King, 1981).

TAXONOMIC HISTORY AND STATUS: A race based on the original description by Mayr (1933).

Asio flammeus portoricensis/Short-eared Owl

DISTRIBUTION: Endemic to Puerto Rico (Wiley, 1986a).

HABITAT: Open areas, especially lower montane pasturelands and abandoned cultivated lands (Wiley, 1986a).

POPULATION: Once considered near extinction (Dementiev, *et al.*, 1966) it has responded to habitat improvement and is now found in small numbers in suitable habitat throughout the island (Wiley, 1986b).

STATUS DESIGNATION: Possibly Recovered?

TAXONOMIC HISTORY AND STATUS: A race based on the original description by Ridgway (1882).

Nesasio solomensis/Fearful Owl

DISTRIBUTION: Known only from the islands of Bougainville, Choiseul and Ysable of the Solomon Islands (Peters, 1940).

HABITAT: Forests? Amadon and Bull (1988). Grossman and Hamlet (1964) state of this species "a bird of lowland and hill forest, the Fearful Owl probably lives on opossums and birds."

POPULATION: Unknown.

STATUS DESIGNATION: Insufficiently Known.

TAXONOMIC HISTORY AND STATUS: Peters (1937) in describing *Nesasio* as a new genus states "this genus is probably derived from an offshoot of *Asio flammeus* stock, the underlying color pattern of both suggesting this probable ancestry."

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- CITES II, US states [E]--CA; Great Gray Owl *Strix nebulosa*, CITES II, US states, [E]--CA; Long-eared Owl *Asio otus*, CITES II, US states [E]--IL, [T]--IA; Screech Owl (No. Am.) *Otus asio*, US states [R]--NH; Short-eared Owl *Asio flammeus*, CITES II, US states [E]--IL, IN, PA, [T]--MI; *A.f. sandwichensis*, US states [E]--HI, *A. f. ponapensis*, E RDB; Spotted Owl *Strix occidentalis caurina*, CITES II, US states [E]--OR.
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