

ICBP (1992). *Putting diversity on the map: priority areas for global conservation*. Cambridge, U.K.: International Council for Bird Preservation.

Putting biodiversity on the map is the culmination of a major exercise in computer-cataloguing and mapping the records of all restricted-range bird species, those whose breeding range is less than 50,000 sq. km. The results are predictably startling: 27% of all known bird species have restricted ranges, 20% are restricted to 2% of the earth's land surface. Areas having two or more such* species are designated as Endemic Bird Areas (EBAs). There are 221 EBAs which embrace 95% of the world's restricted-range species. 76% of all EBAs lie within the tropics, and once again Indonesia gains notoriety: it has the highest number of EBAs (24), the highest number of restricted-range species (411, of which 339 are confined to Indonesia), and the highest number of such species which are considered threatened (95). This sobering analysis emphasizes the very high conservation profile that Indonesia deserves.

It should be recognized that this is an analysis of restricted-range species only, not of the world's endangered birds. Many of the most critically endangered species are thinly distributed over much wider ranges. Some of Indonesia's most critical birds are not even endemic; four Sundanese examples include Spot-billed Pelican, Storm's Stork, White-shouldered Ibis and White-winged Duck. Nevertheless, it is calculated that if only 10% of the area of EBAs was protected, and habitats were lost over the rest, the world would lose about 10% of its avifauna. It is the fragility of tropical habitats, where the greatest biodiversity coincides with areas of greatest land pressures, that led to this global analysis being undertaken,

As this document is likely to be adopted as a guideline for conservation action, it is useful to study the Indonesian situation in a little more detail. The 24 EBAs are listed in the table below, with areas and altitudinal range. The total area designated, which includes the adjacent areas of overlap in Malaysia and Papua New Guinea, is 541,470 sq km. For comparison, the land area of Indonesia is 1.9 million sq km. An asterisk denotes those that are mapped as of critical priority, in terms of "biological importance" and degree of threat (presence of at least nominally protected areas). No less than 16 of the Indonesian EBAs are designated critical, and the rest urgent except for Enggano ("high" priority).

The procedures for designating EBAs and estimating biological richness are described. Numbers of species are tabulated in an appendix. Of particular relevance to the Indonesian situation is the process of delineating areas where endemic species have overlapping ranges. Without access to the detailed data, one might question some of the boundaries. EBAs that cross political borders may be unavoidable, however it is not dear why Sumatra should be combined with Peninsular Malaysia, The latter region has very few endemic species of its own, but one would have expected that the Mountain Peacock-pheasant and Malayan Whistling-thrush would have provided the

justification for the establishment of an EBA for the Malayan Main Range of mountains, separate from Sumatra. This more politically expedient arrangement would also permit prominence being given to the high number of endemic sub-species in the two regions. The methodology does not allow emphasis for regions which have very high levels of endemism at sub-species level only.

Endemic Bird Areas of Indonesia

Flycatcher and Lemon-throated White-eye are restricted to Sulawesi's southern peninsula, where

Area	Code and Name	Size sq. km.	Altitude
E10	Borneo mountains*	27,000	0 - 3,000
E11	Sumatra & Peninsular Malaysia	53,000	600 - 3,000
E12	Enggano	370	0 - 150
E13	Java & Ball mountains*	18,000	800 - 3,000
E14	Java lowlands	16,000	0 - 800
E15	Flores & assoc. islands*	36,000	0 - 2,300
E16	Sumba*	11,000	0 - 1,400
E17	Timor & assoc. islands*	26,000	0 - 2,600
E18	Tanimbar & assoc. islands*	5,600	0 - 1,750
E19	Talaud & Sangihe islands*	1,600	0 - 1,700
E20	Sulawesi mountains*	24,000	800 - 3,000
E21	Sulawesi lowlands	24,000	0 - 1,000
E22	Banggai & Sula islands*	6,900	0 - 2,300
E23	Buru*	8,000	0 - 1,750
E24	Seram*	14,000	0 - 1,750
E25	N. Moluccas*	29,000	0 - 1,750
E26	W. Papuan isles. & Vogelkop lowlands	14,000	0 - 900
E27	Vogelkop mountains*	26,000	600 - 3,000
E28	Geelvink Bay islands*	3,200	0 - 700
E29	N. New Guinea mountains*	11,000	600 - 2,200
E30	N. New Guinea lowlands	32,000	0 - 900
E32	C. New Guinea high-mountams*	6,800	2,700 - 4,600
E33	C. New Guinea mid-mountains	98,000	500 - 3,800
E34	Trans-Fly & Upper-Fly	4,000	0 - 1,000

a separate EBA would incidentally ham isolated an area of very high endemism at sub-species level.

Likewise, Wetar's two endemics (Black-crested Honeyeater and Crimson-headed Myzomela) would have justified an EBA - Opportunities to sub-divide some areas with remarkably high level of endemism may have been missed.

Among the smaller islands in particular, a different method of analysis of overlap might have

created more EBAs and hence greater impact. By definition, single-island endemics escape the net, except where their island habitats are incorporated into larger EBAs (examples would be the Black-chinned Monarch on Boano, the White-tipped Monarch on Tanahjampea, the Damar Flycatcher, and Bali Starling). At this level of presentation, the document does not make clear whether or not their island homes are incorporated into the EBAs covering the adjacent main islands.

Two further examples would be the Sangihe and Talaud islands, and the Kai Islands which appear to be incorporated into the "Tanimbar and associated islands". Again this is unclear, but four endemics (Kai Coucal, White-tailed Monarch, Great and Little Kai White-eyes) would surely justify a Kai Island EBA. In terms of EBAs, Wallacea might be one area where "splitting" would create greater impact than "lumping".

These are not trivial criticisms, because separation of additional EBAs is important to those who wish to influence development planners. Nevertheless, *Putting biodiversity on the map* admirably serves its purpose at a global level. Limitations in the methodology are acknowledged, and over-extrapolation from A& analysis has been avoided. The compilers should resist the temptation to extend the analysis further on the present data-base. The ground-work has now been done, and the next step will be to provide access to the computerized data to those countries that have the facilities to handle it. ICBP now has an Indonesia office that should be assured to achieve a minimum requirement would be to publish supplements, for Indonesia and some other countries, detailing the EBAs in terms of areas, habitats and species, for wide distribution to government and private agencies.

Secondly, the detailed data-base, and the GIS maps, will require continuous updating, amending boundaries, depicting habitat changes, adding locations, in order to emphasize the critical "hot-spots", and in general to provide the type of data that have hitherto been unavailable to development planners. We certainly need to re-evaluate the priority rankings given in Appendix 5. For example, among our 24 EBAs, Enggano is awarded relatively the lowest priority. However, agricultural investors are already eyeing the potential of that island, and conservation could quickly become an urgent issue.

Putting biodiversity on the map is not an end-product. It is a beginning, and the momentum *must* not be lost. To this end, it is a pleasure to report that ICBP-Indonesia is presently engaged in the preparation of a Directory of Indonesian Endemic Bird Areas.

Dickinson, E.G., Kennedy, R.S. & K.C. Parkes. 1991. The birds of The Philippines, an annotated check-list. BOU Check-list No. 12. British Ornithologists's Union, Tring. 507 ; pp. ISBN 0-907446-12-4. GBP 38.00.

To Indonesian ornithologists, The Philippines may seem rather familiar territory. They share a similar physical and climatic environment, a huge number of islands (over 7,000, compared" with Indonesia's often quoted 13,000). high rates of endemism, and alarming rates of forest loss- Total forest cover is now reduced to 24%, compared to Indonesia's 63% as of 1986, a comparison that should engender a sense of urgency for the dangers ahead, rather than, complacency.

A total of 556 species is accepted for the archipelago of which about 30% are migrants^ while over 40% of those known or presumed to breed are endemic. Nearly 70% of subspecies are endemic. Some 15% of residents are classified as rare, and 33% as uncommon One endemic, the Cebu Flowerpecker, was thought to have become extinct, lost together with eight endemic subspecies when Cebu's forests were clear-felled. However, this species has now been rediscovered (see *World Birdwatch* 15 (1), March 1993). Another extinction at a breeding resident is the Sarus Crane.

These losses exemplify two of the three basic causes of extinction that are common t of Indonesia; forest loss on islands (*cf*Caerulean Paradise-flycatcher), and larger species competing for space with burgeoning human populations (*cf*Javan Wattled Lapwing). A third direct cause is mindless over-exploitation: compare the endangered status of the" Philippine Cockatoo with that of at least two of the cockatoos in Wallacea. Other, more/ cheerful comparisons are relevant. Both The Philippines and Indonesia have seen the; discovery of a new species over the last decade: the Panay Striped-babbler and the Tanimbar-Bush-warbler respectively.

The Philippines present biogeographical conundrums at least as fascinating as those of Wallacea. It is tempting to place the islands in the same transition zone as Wallacea, with their Malaysian and Papuasian faunal elements, although they are not generally so; considered. As Map 5 shows, there is a striking lack of a continental shelf, as in Wallacea. However, there are recent land-bridges to Borneo, and 35% of Philippine breeding species, also breed in Borneo. The importance of Palawan is paramount, with its 15 endemics, and with 23 species common to Borneo that do not occur elsewhere in The Philippines. There are also more ancient links to Sulawesi and to Indo-China, though "land-bridge" is not an apt-term in this region of volatile tectonics. It is better to postulate the archipelago as an, I accumulation of microcontinents or "rafts", masked by the volcanic land building that is, associated with the drifting process.

The check-list follows the now generally adopted and successful format of this very useful;series. The introductory chapters run to 84 pages, and include an excellent series of colour plates that illustrate a range of habitats. Plates 5d, 6b and 7a demonstrate the process of slash-and-burn that lead to the wide expanses of denuded grasslands illustrated in 6a and 7d-Particularly thought-provoking are the chapters on biogeography (ECD), geographic variation, and speciation (KCP) and bird conservation (RSK). The chapter on the history of exploration illustrates the thoroughness with which the three authors, all acknowledged experts on Philippine ornithology,

have researched the museum and literature record. Then follows the systematic list that occupies 321 pages. A gazetteer occupies 13 pages, a list of collectors 7 pages, and the list of references 21 pages. This reviewer noted two omissions in the latter: Collar, Round & Wells (1966) and Hamilton (1973).

For each species, world range and Philippine status and habitat are summarized, followed by documentation and distribution of Philippine sub-species- There then follow, as relevant, condensed notes of breeding, seasonality, taxonomy and footnotes. The format is not easy for the reader, although the authors cannot be blamed for the fact that this reviewer, for one, has severe problems in familiarising himself with the many island names. Constant reference to Maps 1-4 and the Gazetteer is necessary. This considerable difficulty would have been avoided if the authors had adopted the island groupings given on pages 49-50 as a basis for listing distribution. This dear format was used for the Wallacean checklist.

The authors refrain from the morphological descriptions and taxonomic discussions that are features of the Wallacean check-list, relying instead on very careful referencing. Some more detailed discussion on species-limits would have been welcome, e.g., *Macropygia*, *Cacomantis*, *Eudynamis*, *Coracina*, *Muscicapa*, and *Dicrurus* because the Philippine populations of these genera are very relevant to the analysis. The decision to split *Orthotomus castaneiceps* from *atrogularis* is noted. Perhaps more significant is the separation of *Muscicapa randi* from *daurica*; Indonesian checklists currently do not separate *segregata* of Sumba.

It was slightly surprising to see the Pheasant-tailed Jacana listed as a resident breeder, despite the lack of breeding data. This species is only a winter visitor to the Greater Sunda region, although it has been listed, perhaps, in error, as resident in southern Kalimantan.

The authors also, as a matter of policy, refrain from admitting unpublished field records, other than their own and some of their colleagues'. Possibly some important records *from* the growing numbers of ornithologists focussing on the Philippines have been omitted as a result of this cautious but wise policy. Surely the time is now ripe for the initiation of a Philippine ornithological Journal to serve as a repository for, and to encourage, the increasing volume of records-

A field guide is also an urgent necessity; Geld workers will struggle with the older books (McGregor 1909-10, Delacour & Mayr 1946), or with the heavy and glossy duPont (1971) which has useful colour plates but provides little help with field characters. [One should also mention here the excellent popular book by Gonzales & Rees, published by the Haribon Foundation in 1981, which deals with 129 species and will be particularly welcome to Filipino Students and visitors]. Although I could find no reference to an impending field guide, one is rumoured to be in preparation. This reviewer makes an appeal for this book to be accompanied by clear distribution maps.

The compilation of check-lists on a scale as large as this is a monumental task. The authors are to be congratulated on its satisfactory completion, which will hopefully lead the way to the more

systematic work that is now so urgently required to meet at least a few of the demands required to conserve the extraordinarily rich diversity of this province*

Hong Kong Bird Report 1991. Published by the Hong Kong Bird Watching Society. G| Box 12460, Hong Kong. Price HK\$ 120 (\$168 airmail). 204 pp incl. 47 colour illus

As usual, the high quality annual report of one of the most active bird societies in Asia] a pleasure to receive. The 1991 report includes, apart from the society activity and the ye; records, detailed descriptions of 13 species new to Hong Kong: Ferruginous Duck, Upland Buzzard, White-browed Crane, Blue-throated Bee-eater, Northern Skylark. Bright-capped Cisticola, Blunt-winged Warbler, Paddyfield Warbler, Japanese Reed Bunting, Singing Bushlark, Japanese Waxwing and Pale Blue Flycatcher.

Near the "frontiers of identification", a 45-page fully illustrated feature discusses the identification and distribution of the seven small *Acrocephalus* warblers recorded from eastern China, and a shorter feature article describes the identification and status of the Russet Bush-warbler *Bradypterus seebohmi*

Papua New Guinea Bird Calls. H & A Crouch. Two cassettes published by the Papua New Guinea Bird Society, Box 1598, Boroko, PNG.

These two 60-minute cassette tapes, non-passerines and passerines, have been available for several years, but it seems useful to bring their attention to ornithologists working in Iran Jaya. They have 74 and 78 species respectively, listed and announced by name only (ill t accompanying list for the passerines also gives location and month/year of recording). Each l recording is very brief, as they are designed for identification purposes only, but some species get only two or three seconds. The recording of the White-shouldered Fairy Wren is especially truncated.

The full range of the avifauna is included, and clearly recordings of some wetland, migrat or widespread species may be less valuable than those of the Papuan land birds. Tor k Sundanese ornithologist, the cuckoo calls were particularly interesting. Who could distinguish the Brush Cuckoo *Cacomantis variolosus* here from the Rusty-breasted Cuckoo *C. sepulcralis*? The Black-capped Koel seems to have strong vocal affinities with the hawk-cuckoos *Cucuculus* spp!

It would be useful if a slim leaflet was issued with the tapes, giving a little more detailed information. There are clearly recognizable second species in the background of sort t recordings, which may be confusing to a novice. For example, which oriole accompanies o] t Rainbow Bee-eater and Emperor Bird-of-paradise? Do all the squawks on the Eclectus s Parrot recording belong to that species? The fact that some cuckoos have two quite different songs may not be obvious to everyone. We learn in the introduction that there may be some doubt about the identity of the *Pitta sordida* and *Pachycephala hyperythra* recordings; the reviewer is familiar with neither bird, but the former does not recall a typical pitta call.

Quality of the recordings is generally good, and they would be a cheap and useful adjuact for a

visitor to Irian Jaya. The price is 20 kina inclusive of postage, but it would be advisable to contact the society about methods of payment.

ALSO RECEIVED

1993 Directory of Country Environmental Studies. An annotated bibliography of environmental and natural resource profiles and assessments. World Resources Institute, International Institute for Environment and Development, and IUCN - The World Conservation Union. Ed: DA Tunstall & M. van der Wansem. Nov. 1992. ISBN 0-915825-88-0. vi + 230.

This is a compilation, for 129 countries, of published-environmental profiles, assessments and policy documents (eg action plans). Authorities sponsoring these reports are, *inter alia*, CIDA, DANIDA, AIDAB, World Bank, IUCN, WCMC and FAO. Eleven titles are listed for Indonesia, with another four in preparation.