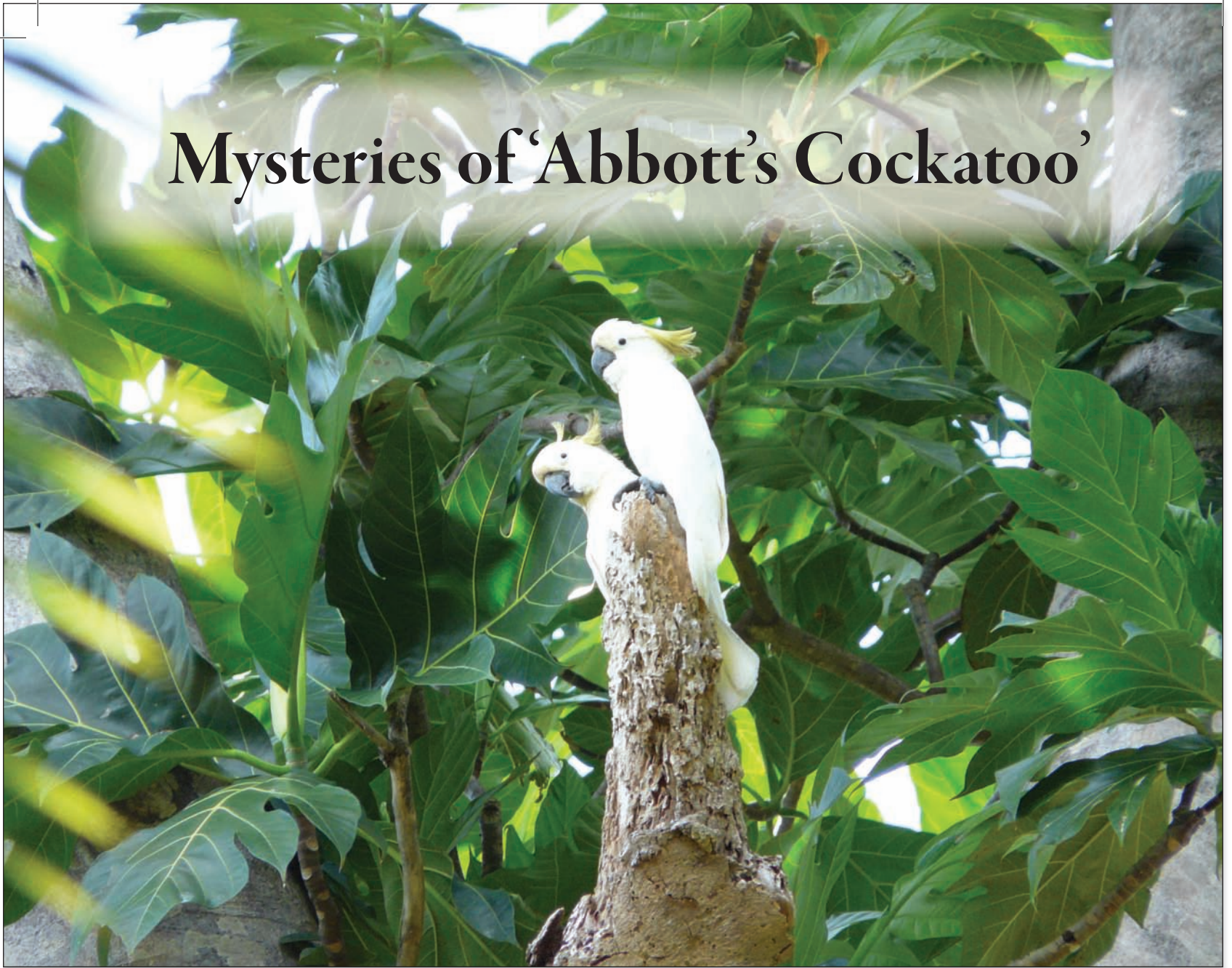


Mysteries of 'Abbott's Cockatoo'



PHOTOGRAPHY BY DUDI NANDIKA / Two cockatoos on a snag.

Initial Studies of *Cacatua sulphurea abbotti*: A Little-known and Highly Endangered Race of Indonesian Cockatoo

By Dr. Stewart Metz, Bonnie Zimmermann, Dwi Agustina and Dudi Nandika

Historical Background: The Mysterious Origin of 'Abbott's Cockatoo'

There are four well-accepted subspecies of *Cacatua sulphurea*: Lesser Sulphur-crested or Lesser Yellow-crested Cockatoos [LSC]. These are the nominate race [*sulphurea*], *parvula*, *citronocrista* and *abbotti*. Although there is a reasonable amount of information concerning the ecology of the first three, little is known about Abbott's Cockatoos. In fact, their origin(s) and past history present something

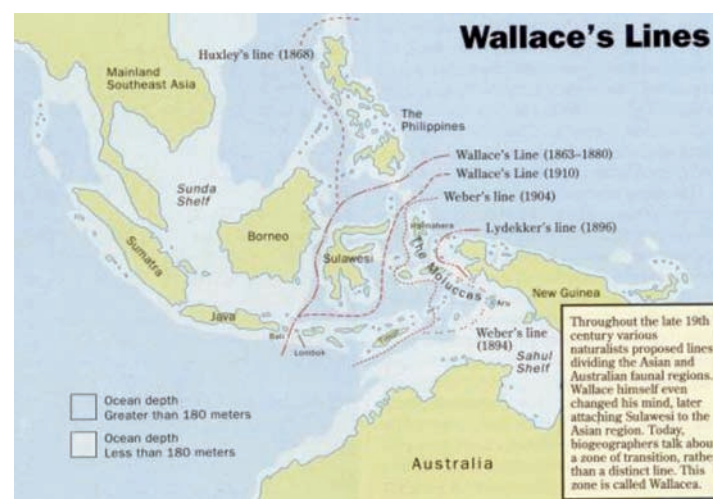
of a conundrum [S. Metz; unpublished]. The Masalembu Archipelago—the only remaining home of this cockatoo in the wild—is located deep in the Java Sea [5°02'–5°37' S and 114°23'–114°38' E]. It is so tiny as to be unidentified on almost all maps. This presents a bit of a geographic quandary. Virtually all the cockatoos and an overwhelming number of the parrots of Indonesia are found, in the wild, in an area generally called “Wallacea,” after Alfred Russel Wallace who defined the bio-geography of this region [see map]. However, the Masalembu Archipelago is far to the

west of Wallace's line, which defines the westward boundary of Wallacea. The reason for and significance of this fact, remain one of several mysteries about this cockatoo.

In 1685, Father Guy Tachard, writing in *A Relation of the Voyage to Siam, 1685* [orig. publ. 1688], described the efforts of five other Jesuit priests and himself to reach Siam (modern-day Thailand) by boat through what they called the "Streight of the Sound" (today called "the Sunda Straits"). Due to inclement weather, they attempted to land on the "Isle of Cacatoua"—"so-called because of the white parrots that are upon that Isle, which incessantly repeat that name." (A common error of naturalists was to say that the word "cockatoo" originates from the sounds they utter; in fact, the word is derived from the Indonesian, meaning "very old brother.") What was the identity of these mysterious cockatoos?

It is possible that the "Isle de Cacatoua" represents Krakatoa (Krakatoa). In fact, one extant theory is that that Krakatoa was given that name due to onomatopoeia—that is, as indicated above, because the sound was said to imitate "the noise made by cockatoos which *used* to inhabit the island" (*italics mine*). If so, these cockatoos might be *C.s. abbotti*; and would comprise the furthestmost westward extent of any known race of cockatoo. Winchester, who wrote the classic book on Krakatoa [*Krakatoa: The Day the World Exploded*, 2003], stated that "parrots belong on the island—or...they did, at least, until that dire August morning in 1883," referring to the massive volcanic eruption there. Since there are no cockatoos on the islands in the Strait today, one might also postulate that any subspecies of Lesser Sulphur-crested Cockatoo endemic to Krakatoa was totally extirpated by such an eruption. It is also possible that the island described by Tachard was one of the Masalembu Archipelago in the Java Sea, and therefore the cockatoos were *abbotti*.

Another historical mystery concerning the origin of this race of cockatoos concerns the the 10th century Loro Jonggrang temple complex in the town of Prambanan, located east of the modern city of Yogyakarta. It is considered to be one of the most beautiful Hindu temples in the world. The central courtyard of this Hindu temple complex features three tall shrines dedicated to the three great Hindu divinities (Shiva, Vishnu and Brahma) and three temples dedicated to the animals that serve them [UNESCO World Heritage Sites]. Extremely detailed reliefs of birds—identifiable as *C. sulphurea*—are also visualized on this temple. Does this mean that the *abbotti* subspecies of LSC cockatoo once existed on Java near Yogyakarta? Or that these represent the *parvula* race which, it has been suggested, might once have existed in Bali [Yellow-crested Cockatoo



"Wallacea" is often defined as the region between Wallace's Line as the western-most border, and Lydecker's and Weber's Lines as the eastern-most boundary. Although too small to be visualized on this map, the sole locus of *C.s. abbotti* in the wild—the Masalembu Archipelago—lies north of Bali and southwest of the southern province of Kalimantan [labeled here as Borneo"]. © Periplus Editions



Map of western Indonesia. The approximate location of the Abbott's cockatoo in the Masalembu Archipelago is indicated by the open arrow.

Cacatua sulphurea in; *Threatened Birds of Asia: The Bird-Life International Red Data Book*]; they certainly exist on the island of Nusa Penida, just to the east of Bali [ibid.], albeit at imminent risk of extinction. These tantalizing questions remain unanswered.

Although Abbott saw the cockatoos in 1907, it was not until 1919 that his description was published by Harry C. Oberholser ["Birds Collected by Dr. W.L. Abbott in Various Islands in the Java Sea," *Proc U.S. National Museum* 54 (# 2232: 177-200, 1919)]. Abbott described these cockatoos



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Cockatoos engaging in pre-copulatory behavior.

as being “in color like *Kakatoe parvulus parvulus*, from the island of Timor, but decidedly larger” and that they existed “*in hundreds on Solombo Besar*” [italics by the author]; which was the former name for Masalembu Island. He obtained “eight specimens; all adult in plumage... The principal individual variation consists in the depth and extent of the yellow on the retrices.” Indeed, the only feature that allows separation of the *parvula* and *abbotti* races is the larger size of the latter.

Modern Day Studies of ‘Abbott’s Cockatoo’

Now fast forward to the 1990’s, when the first modern explorations to study this bird began. Studies in 1994 were carried out by Cahyadin, Jepson, and Arif and involved BirdLife International and the Indonesian government; the report is available in English but is unpublished. In 1998, Elga Putra produced an extensive report about the Abbotti Cockatoo for her thesis; however, it too is unpublished and in Indonesian. In May of 2001, Setiawan et al. produced Technical Memorandum #21 of BirdLife (in Indonesian; unpublished), which included not only *C.s. abbotti* but the *C.s. parvula* on Nusa Penida. An Indonesian NGO involved with the conservation of Abbott’s Cockatoo has been Anggota Kutilang Indonesia; they published a letter in *Kompas*, a major Indonesian newspaper, reminding us about the threats to these cockatoos. Thus information about these cockatoos, is limited and/or out-of-date and furthermore, poorly disseminated outside of Indonesia.

In these reports, the numbers of cockatoos were said seen to have plummeted from the “hundreds” seen by Abbott to 10 or fewer on Masakambing and now extinct on Masalembu




Cockatoos inspecting a nest-hole.

Island. On tiny (500 Ha) Masakambing Island, 7, 5, 6, and 5 individuals were reported in 1995-1999, after which the subspecies apparently received no additional study.

Part of the decline can be likely attributed to loss of forest habitat. Forest had largely disappeared by the time of Abbott's brief visit and currently, only one km. of uncultivated land remains on Masakambing Island. However, the illegal bird trade clearly has played a major role, a factor sometimes exacerbated by the use of methods designed to gather entire flocks at a time. Staff and visitors associated with oil exploration on the island took them as souvenirs. Some of these birds were transported after capture to Bali, Sulawesi and Sumbawa Islands. The head of Masakambing village also described to us, fisherman from Sumbawa "stopping by," trapping the cockatoos with gum using pet cockatoos "as bait," with the aid of local citizens, including children. The visitors were said to return with as many as a thousand birds, although this number cannot be validated. This involvement of local fisherman as well as children suggests an important target for conservation awareness education on Masakambing. While there are some extant local laws theoretically protecting the cockatoos, these were written in Madura (the mainland 155 km. south of Masakambing); therefore, these laws are little known or followed on the islands themselves.

Program of the Indonesian Parrot Project and Konservasi Kakatua Indonesia

Disturbed by the precarious status of this race, the relative lack of ecological knowledge about it, and the fact that studies of the Masakambing cockatoo had been in abeyance for



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a decade, the Indonesian Parrot Project (U.S.-based NGO) and Konservasi Kakatua Indonesia (Indonesian Cockatoo Conservation; our Indonesia-based NGO) decided to launch a project to try to help conserve this beautiful cockatoo. Field studies thus far have been carried out by Dudi Nandika and Dwi Agustina in the summer of 2008, and March, 2009; a third will be carried out in April, 2009 (pending).

To Summarize the First Expedition

Dudi and Dwi found 10 individuals during a total survey of Masakambing Island—four hens and four cockbirds plus two juveniles. This would appear to make this the rarest cockatoo in the world. Because it only exists on a single island, a logical trivial name for it might be the “Masakambing Cockatoo”; we sometimes refer to it facetiously as the “Cockabbott.”

During the first expedition, nine nest holes were observed, but only four appeared active. Interestingly, all nine were located in the northern third of Masakambing Island. Both pre-copulatory behavior and copulation were observed.

Favored foods were determined to be male fruit of “sukun” (*Artocarpus communis*); coconut palm (fruit and flowers of *Cocos nucifera*); “kapuk” or the young leaves and

flowers of the “randu” or “kapuk” (*Ceiba pentandra*); mangrove; and male flowers of ‘lontar’ (*Brassus sudaica*). Consumption of the fruit, flowers and seed of at least six other species of flora was observed. An important cause for their decline likely involves loss of habitat, since over 95% of forest has been removed; however, coconut trees have flourished and the cockatoo has been frequently observed eating coconut. The other favored habitat is mangrove, but mangrove on Masakambing Island is likewise under extreme pressure. The report from this first expedition was completed in 2008: (Nandika, D, Agustina, D. “Study of the Bio-ecology of the Yellow-crested Cockatoo *Cacatua sulphurea abbotti* at Masakambing Island, East Java.”) Formal reporting of the findings of the expeditions will be carried out after the third is completed in April of this year.

Conservation Plans

Our approach to conservation of this subspecies is just beginning and will likely involve:

Obtain General Community Support

This will involve individual meetings and/or council meetings with the heads of the villages on Masakambing

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and Masalembu, as well as the villagers themselves. In addition, local military and police will be informed of the need to conserve this cockatoo. Dudi and Dwi have already begun such meetings and the receptions have been very positive.

Advancement of Knowledge

This will include a repeated census. Studies will include feeding, nesting and breeding, and habitat ecologies.

Control of Trade, Replacement of Demands on/for Wild Birds

This facet will comprise the anti-smuggling aspect. Officers on Masalembu and Masakambing will be made aware that trapping or smuggling of this bird is already illegal. We will approach local leaders to try to pass new laws specifically for the Archipelago. Anti-smuggling posters and signs will be posted.

Habitat Conservation

A formal assessment of habitat remaining is needed. Since this bird favors mangrove but is itself imperiled, we will attempt to work with local leaders to save what is left.

Since the bird is still considered a “pest” by some by

eating local crops, we might consider planting new crops—both for the villagers (as incentive) and, in remote areas, for the birds, to be eaten as a “sacrifice crop,” a technique used in Australia to reduce threats to the peanut crop by Red-tailed Black Cockatoos.

Conservation-Awareness-Pride (CAP Program)—Children

We have begun a program on Masalembu to reproduce our “C-A-P Programs” in both Java (Jakarta) and Maluku (Seram and Ambon) with the schoolchildren of Masalembu Archipelago. These activities include initiating fun activities, which are age-appropriate, to the school children, in order to introduce the basic concepts of conservation; to increase their Awareness of the risks to the cockatoo, as well as what is needed to protect them; and Pride in their beautiful bird, which is found nowhere else on earth. Ultimately, a captive breeding and repopulation study might be needed to save *C. sulphurea abbotti*.

Acknowledgments

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