FROM THE FIELD...

Conservation Down Under

Aussie Aviculturists Aid Endangered Pigeon

by Charles A. Hibbert, Victoria, Australia

[Editor's Note: Charles A. Hibbert, the author of this special contribution from Australia, has been an aviculturist since 1945 and is still as keen as ever. He has bred a wide range of species including parrots, finches and pigeons in the aviaries at his home in suburban Melbourne. Hibbert joined the Avicultural Society of Australia 40 years ago and has been a regular guest speaker at their meetings over the years. The topic of his most recent address was "The Bleeding-heart Pigeon."

He is an active member of the Conservation Committee of the Avicultural Federation of Australia (Australia's equivalent to the American Federation of Aviculture). He recently compiled and produced the CCAFA's first conservation publication, the Bleeding-heart Husbandry Manual, which received an excellent review in Australian Aviculture (journal of the Avicultural Society of Australia).

Like many of his avicultural colleagues, Hibbert has become deeply involved in the conservation aspects of aviculture. After reading this interesting and important article, I am sure Watchbird readers will agree that he brings a journalist's brevity and clarity to his writings. DRT]

Over recent years there has been a marked evolution in the way birds are kept. Advances in medication, nutrition, and housing have significantly improved the hobby and led to a huge increase in the numbers of birds successfully raised to maturity.

Another advance has been in the overall approach by aviculturists to obtaining stock. With more and more countries banning the export of their native species, birdkeepers have been forced to rely on their own breeding efforts to replace and maintain species in captivity.

Also, there has been a growing trend towards "conservation aviculture," such as the programs involving Spix's Macaw *Ara spixii* and the Black-hooded Red Siskin *Carduelis cucullata*. Now a project by the Conservation Committee of the Avicultural Federation of Australia (CCAFA) is tackling species not as highly endangered as these, but nevertheless in need of close scrutiny, both in captivity and in the wild. The charter of the CCAFA is to monitor species it sees as vulnerable in captivity and in the wild, produce life tables, identify and encourage pure species management (to avoid and eliminate hybridization), conduct censuses, maintain stud books, conduct population and habitat

viability assessments and produce husbandry manuals for birds the previous categories indicate as needing help.

This is tied to efforts to assist the conservation of the species in its natural habitat, or in the case of foreign species *in situ* captive breeding programs in co-operation with local aviculturists or relevant government agencies.

The first husbandry manual produced in Australia was for the Luzon Bleeding- heart Pigeon *Gallicolumba luzonica*, which as the name suggests is native to the Philippines. It is one of the most attractive of the foreign pigeons and doves kept in Australian aviaries.

William L. R. Oliver, principal coordinator of the Threatened Endemic Species Conservation Projects, speculates that the Luzon Bleeding-heart Pigeon kept in Australia may be *G. l. griseolateralis* from northern Luzon — the least threatened of the bleeding-heart taxa as it occurs in areas where there is still a reasonable coverage of lowland forests, the bird's preferred habitat. However, pressure from a burgeoning population and continued massive deforestation must place the bird's existence in dire jeopardy.

The Philippines consists of around 7100 islands, covering a land area of 117,000 sq miles, only a few of which are suitable for human habitation. This causes extreme pressure on their native birds and animals as they must share their habitat with almost 67 million people living in an area equal to only 4% of Australia. It is not surprising then that all of the five species and six subspecies of bleeding heart pigeons are threatened, some critically.

The Luzon Bleeding-heart is the only subspecies represented in Australian aviaries, although earlier this century a few Bartlett's Bleeding-hearts *Gallicolumba criniger bartletti* were held by local aviculturists.

Bleeding-hearts do best in a planted aviary. Like all pigeons, they can be flighty and prone to flying wildly about the aviary when disturbed. A well-planted aviary, which replicates their natural habitat provides the birds with a sense of security and makes them less likely to take flight in panic. Palm grass *Curculigo* and Elephant's Ear *Alocasia* are two plants worth considering. Being broad-leaved plants, they should not be planted beneath perches where they would soon be covered in unsightly droppings.

A suitable aviary could be 18 ft. long x 6 ft. wide x 6 ft. high, with about one third shelter. Having the front perch low and the perch in the shelter up higher will encourage the birds to roost at night in the shelter and not in the open flight section of the aviary.

There is very little sexual dimorphism (enabling one to sex birds by sight) in bleeding-hearts, especially to the novice breeder, which makes visual differentiation unreliable. With an adult pair, the cock bird appears slightly larger, cobbier; his head is broader and the red chest patch brighter and more extensive. The under parts of the hen tend to show more buff and, if she has laid, the vent bones are wider apart. DNA sexing is not yet viable for bleeding-hearts.

Two surgical procedures offer better alternatives, both should be carried out by a qualified veterinarian. A seminal papillae examination through the vent will show in a male two papilla (small nipple-like projections) which exude semen. In a female the papillae are either absent or very small.

The most reliable procedure is surgical sexing, where the internal sexual organs are examined with a fibre optic laparoscope. A small incision is made in the side of the bird through which the laparoscope in inserted. Depending on the sexual maturity of the birds, the testes or ovaries are easily seen and an accurate determination of sex made. To carry out the procedure the bird is put under anaesthesia but even in a bird as nervous as a bleeding-heart the operation carries very little risk.

In southern Australia the birds have a break from breeding between March and July (i.e. autumn to early winter). During the year I feed the bleeding-hearts corn kernels, cheese and plain cake every day (as well as the normal seed mix). Come September, I start feeding livefood in the form of mealworms, as well as whatever other insects are around — flour moth grubs, earthworms, to help trigger off the breeding cycle.

My pairs choose to build a nest on a platform of dry shrubs at the back of the shelter. The nest is typical of pigeons, a flimsy structure made of twigs and dry palm grass fronds. Two eggs form the clutch, each measuring around 27.5mm x 20.75mm and weighing 6.25 grams. Incubation lasts around 17-18 days, and is shared by both birds — the hen at night and both the cock and hen during the day. Bleeding-hearts are prone to deserting their eggs if disturbed, but become more tolerant when young are in the nest. It is best, however, to leave well enough alone and not disturb them.

The fact that the bleeding-heart can be such a temperamental bird has caused many breeders to foster deserted eggs under other pigeons and doves — domestic pigeons, Green-winged Pigeons, New Guinea Ground Doves and, perhaps the most popular, the Ring-neck Dove. To do this, however, you need quite a few pairs of foster parents if you are to match their breeding cycle with that of the bleeding-heart pair.

The young leave the nest at around 16 days and spend their first 8-10 days on the floor before perching. At this stage the young chicks are a russet brown with three chestnut wing stripes. They appear all wings, as their body and neck feathers are not as well developed. During these first few days the parents roost on the ground with the chicks at night.

At around 12 weeks the chick have a dirty adult plumage and the red patch is beginning to appear. This is the best time to remove them from their parents.

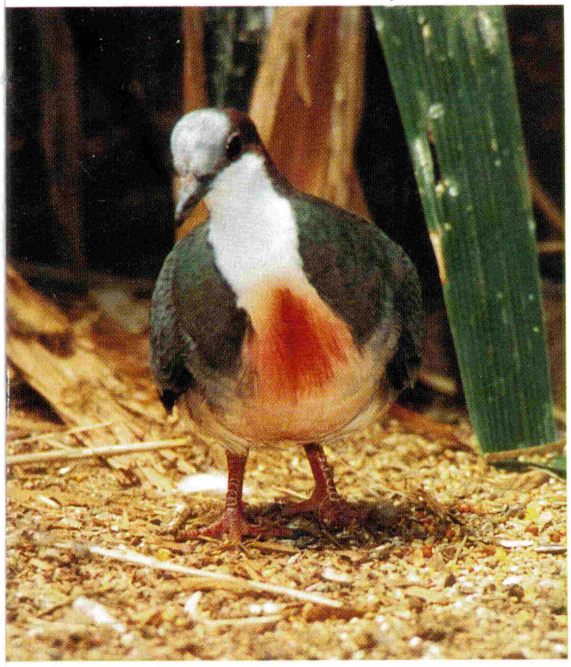
Unlike its perilous state in the wild, the future of the Luzon Bleeding-heart Pigeon in Australian aviaries seems secure. A husbandry manual (compiled and edited by C.A. Hibbert) has been produced; a census and a possible stud book are planned. The census may show more than 500 bleeding-hearts are currently kept in Australian aviaries.

In an endeavor to help the species in the wild, the CCAFA conducted a highly successful raffle to raise $US1000, to be used to construct a captive breeding facility in the

Philippines. A possible site for the facility is at Bacolod on the island of Negros to house the seriously endangered Negros Bleeding-heart *G. keayi*, the subspecies identified by Mr. Oliver as the one most urgently needing help.

Combining both aspects of "conservation aviculture" in relation to the Luzon Bleeding-heart, in captivity and in the wild, has given the CCAFA and Australian aviculturists the opportunity to actively participate in securing the future of the beautiful pigeon — an opportunity they have firmly grasped with both hands.

Photo by Charles A. Hibbert



Mature female Luzon Bleeding-heart Pigeon (Gallocolumba luzonica). This is the only species of bleeding-heart kept in Australian aviaries but it is doing well there.

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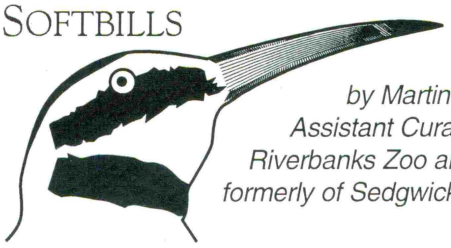

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The White-collared Kingfisher

Halcyon chloris

Ten families make up the order Coraciiformes; most are tropical or sub-tropical birds and all have syndactyl feet, i.e., two of the forward pointing toes are joined for at least half of their length. Motmots, todies, bee eaters, and certain rollers and kingfishers nest in burrows that they usually excavate themselves in earthen banks, and their syndactyl feet are presumably an important adaptation to help in such work. Most of the species in this order are insectivorous or carnivorous, although the Asian hornbills also eat a considerable amount of fruit.

The 92 species of kingfishers (family Alcedinidae) are cosmopolitan, except for the polar regions and some particularly remote islands. Only six species are found in the New World, with most living in South East Asia and Indonesia. They vary in size from 4-18 inches (10-45cm) and are thick-set birds with short necks, large heads and long, heavy bills. Some of the Old World species are very beautifully colored, while the New World kingfishers are green, blue, brown or white.

Alcedinidae, for avicultural purposes, can be divided into two broad groups: the aquatic kingfishers (subfamilies Alcedininae and Cerylinae) that live primarily on fish and crustaceans; and the forest kingfishers (subfamily Daceloninae) that do not rely on water for their living but instead eat insects, rodents, small birds and reptiles. Generally these forest species nest in pre-existing holes such as tree cavities or earthen burrows, while the aquatic kingfishers tend to excavate their own burrows in earthen banks. Kingfisher eggs are white and almost spherical, and number 2-3 in the tropics and up to 10 at higher latitudes.

The White-collared Kingfisher comprises 47 sub-species which can be found over an enormous range, stretching from the Red Sea, eastwards through India, Burma, Thailand, Malaysia and Indonesia, affecting also the Philippines and many islands in the Pacific Ocean. Indeed, 40 of the sub-species can be found only on islands which are mostly very small and remote: Erromanga, Torres, Pavuvu, Nissan, Duff, Malaita, Utupua, Rota, and many more (Howard and Moore 1991). Each island is the home of a unique form of the White-collared Kingfisher which, because of their relatively small and exposed populations, are vulnerable to any environmental change, whether natural or man-made.

At Sedgwick County Zoo we have a