The only skeletons of *Bradypterus* at hand were 2 rather poorly preserved examples of *B. luteoviridis*. These differ markedly from *Dromaeocercus brunneus* in that the frontals are not as expanded, the ectethmoids are much more inflated, and the posterior margin of the nostril is more heavily ossified, thus reducing the aperture of the osseous nares. If *B. luteoviridis* is representative of the genus (it is not typical in the nomenclatural sense, being the type of *Tribura*, a genus now included in *Bradypterus*), then *D. brunneus* should not be included in *Bradypterus*.

As I have noted elsewhere (Olson MS), there is a rather close overall similarity in the skull and external morphology between *Amphilais seebohmi* and the New Zealand fernbirds of the genus *Bowdleria*. However, it would be premature, at this point, to speculate on the closest relatives of either *Dromaeocercus brunneus* or *Amphilais seebohmi*, although the evidence is sufficient to justify maintaining these species in separate genera.

The following skeletal material was examined in the above comparisons: *Bradypterus luteoviridis* USNM 318312, USNM 318313; *Dromaeocercus brunneus* MRAC 50616; *Amphilais seebohmi* USNM 432211; *Bowdleria p. punctata* NMNZ 22848.

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Former breeding of *Sula dactylatra* in the Cape Verde Islands*

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Palaeontological investigations on oceanic islands nearly always produce fossils of extinct or extirpated species of birds. Episodes of extinction are

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Remarks on the osteology of the Madagascan warblers *Dromaeocercus* and *Amphilais* (Sylviidae)

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On the basis of external morphology, and to some extent behaviour, Parker (1984) considered that the two Madagascan warblers *Dromaeocercus brunneus* and *D. seebohmi* were only convergently similar in possessing long, decomposed tail feathers. He regarded the type species of *D. brunneus* as belonging to the genus *Bradypterus*, whereas *D. seebohmi* was said to belong with the megalurine warblers and was made the type of a new genus, *Amphilais*. Traylor (1986) evidently was not convinced by Parker's arguments and listed *Amphilais* as a synonym of *Dromaeocercus*.

Examination of the cranial osteology of these 2 species fully supports Parker's contention that they are not congeneric. Compared to *Dromaeocercus brunneus*, the skull in *Amphilais seebhomi* is markedly narrower, the cranium not nearly so broad, and in dorsal view the frontals are much less laterally expanded, in part reflecting the much smaller ectethmoid plates. The bill in *Amphilais* is more slender, with the osseous nares proportionately longer; the transpalatine processes are also much longer and more slender than in *D. brunneus*. Unfortunately, the post-cranial skeleton was rather badly damaged in the single available skeleton of *Amphilais seebohmi* examined, so no useful comparison could be made there. Nevertheless, the cranial differences are greater than would be expected among congeneric species of Sylviidae.

usually strongly correlated with the arrival of *Homo sapiens* and the consequent disruption of insular ecosystems (e.g. Olson 1975, Olson & James 1982, Steadman 1986). The depauperate nature of the avifauna of the islands of the eastern North Atlantic (Macaronesia) and the relative scarcity of strongly differentiated endemic species there, suggest that these islands are not exceptional and have probably been subject to considerable man-caused extinction, as already suggested by fossil discoveries in Madeira (Pieper 1985) and the Canary Islands (Alcover & Florit 1987). To date there has been no concerted effort to locate vertebrate fossils in the Cape Verde Islands, but we report here on a small sample of bones obtained incidental to zoological observations on the island of Cima in August 1986, during the CANCAP VII expedition (den Hartog, in press).

Cima is one of the Rombos Islets, which are uninhabited, waterless rocks, nearly barren of vegetation, in the southwestern corner of the archipelago. It was first explored ornithologically in 1897 by Boyd Alexander (Alexander 1898), who noted great numbers of breeding seabirds, mainly Procellariiformes and Brown Boobies *Sula leucogaster*. The fossils discussed here, now in the National Museum of Natural History, Smithsonian Institution (USNM), came from a deposit of sand at the northeastern tip of the island, where severe erosion had exposed numerous bird bones, some eggshells, and shells of the gastropod snail *Zonotecus insularis*. These deposits have not been dated, but the bones do not appear to be mineralized and are probably relatively recent in age, certainly Quaternary and most likely Holocene.

As would be expected, the sample obtained is dominated by Procellariiformes: *Puffinus assimilis boydi* (minimum number of individuals 12, based on right humeri); *Bulweria bulwerii* (mni 5, left humeri); and *Pelagodroma marina* (mni 5, distal ends of left tarsometatarsi). All of these breed on the island today. Included in the collection is the sternal end of a right coracoid of a medium-sized duck (Anatidae), much too fragmentary for specific or even generic identification. What a duck might have been doing in such an environment is quite enigmatic.

The most interesting find is a complete left tarsometatarsus (USNM 440959) and the proximal and distal ends of a right humerus (USNM 440960) of a juvenile sulid, quite possibly from a single individual. Both specimens are quite porous and the humerus is so poorly developed as certainly to be from a bird that had not fledged, thus indicating breeding on the island. The tarsometatarsus is nearly fully formed, with a configuration of the hypotarsus like that of *Sula* rather than *Morus*. Despite being from a juvenile, it measures 53.6 mm in length, which is greater than in any skeletal specimen of *Sula leucogaster* (maximum for *S. l. leucogaster* 47.1 mm, for *S. l. plotus* 52.5 mm), which is the only species of Sulidae known to breed in the Cape Verde Islands (see e.g. Bannerman & Bannerman 1968). In addition, it has the straight profile of the lateral (external) edge of the bone characteristic of *S. dactylatra*, whereas in other boobies the external cotyla and outer trochlea are more laterally expanded. Thus this specimen may be confidently identified as having come from a Masked Booby *Sula dactylatra*, the Atlantic form of which (*S. d. dactylatra*) breeds in the West Indies and on various islands of

the Caribbean, and in the South Atlantic at Ascension, Fernando de Noronha, and formerly Trindade.

Sula dactylatra would not be unexpected in the Cape Verdes. Because it requires flat, open areas of ground for nesting, the Masked Bobby appears to be more susceptible to the depredations of man and other mammalian predators than is either the Brown Booby *S. leucogaster*, which may nest on cliff faces and small offshore stacks, or the Red-footed Booby *Sula sula*, which usually nests in trees.

There is ample evidence that *Sula leucogaster* once bred more widely and abundantly in the Cape Verdes than at present, the observations for Cima by Alexander (1898: 95–96), Correia (as quoted by Murphy 1924: 219), and Bourne (1955: 519–520) being particularly elucidating. In 1922, Correia still recorded thousands of birds, and mentioned that "the fishermen slaughter great numbers for food". Bourne, in 1951, also mentioning depredations by fishermen, found only some 250 pairs. At present the population consists of less than 100, possibly no more than some 50 individuals, and fishermen still take any chick they can lay their hands on (den Hartog, in press). Presumably such exploitation exterminated *Sula dactylatra* on Cima, and probably elsewhere in the Cape Verdes, before ornithologists arrived in the archipelago. It would be of interest to learn which other species of birds may have been similarly eliminated there.

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