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Cactus Fruits May Facilitate Village Weaver (*Ploceus cucullatus*) Breeding in Atypical Habitat on Hispaniola

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ABSTRACT.—The Village Weaver (*Ploceus cucullatus*) usually is found in moist areas, breeding near water during the rainy season. On Hispaniola I observed the Village Weaver breeding in the desert, despite a lack of rain, and consuming the fruits of a columnar cactus (*Stenocereus hystrix*). I propose that the carbohydrate and, especially, water content of these fruits is a substitute for rainfall, facilitating Village Weaver breeding in an arid environment. Weavers also may disperse the cactus seeds. *Received 3 February 2003, accepted 25 July 2003.*

The Village Weaver (*Ploceus cucullatus*, Ploceidae) is native to Africa but has been naturalized on Hispaniola (Lahti 2003). It nests in often dense colonies in a variety of habitats, most abundantly near agricultural fields and water sources. Rice, when available, is the most significant item in the bird's diet; consistent availability of suitable grains, especially during the breeding season, has been suggested to be an important factor limiting the size of Village Weaver populations (Da Camara-Smeets and Manikowski 1981, Adegoke 1983). The species is thought to be absent from arid habitats; in fact, its native range in sub-Saharan Africa coincides with that portion of the continent which receives >35 cm per year (Lahti 2003). Rain is important in initiating colony formation and establishing subsequent breeding synchrony within the colony (Hall 1970), and the length of the rainy

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season determines the length of the breeding season (Da Camara-Smeets 1982). Here I report an observation of Village Weavers breeding in arid habitat and propose that breeding may be facilitated by consumption of cactus fruits.

During May and June 2001, I observed Village Weavers breeding in the desert of central Monte Cristi province of the Dominican Republic (19° 40′ N, 71° 10′ W), where no rain fell for at least one month. Local watercourses were dry and covered with cacti, and there were no standing water or agricultural fields in the vicinity of the breeding weavers. I located three large, dense colonies of approximately 70, 70, and 150 nests; one small colony of 8 nests; and one large diffuse colony of about 100 nests in trees of various species among stands of columnar *pitayo* cactus (*Stenocereus hystrix*). Cacti were densely distributed beneath and within 5 m of weaver nesting trees. All weaver aggregations contained birds building nests, displaying, incubating eggs, and feeding nestlings. During May and June 2001, I estimated that 70% of nests in all colonies were active.

I observed Village Weavers feeding consistently on the numerous ripe ovoid fruits of the cacti. The birds peeled and splayed open the fruits, and consumed pulp and juice along with the embedded seeds. Droppings from the weavers were frequent and distributed liberally over the ground and foliage beneath the colonies, especially from birds perched or flying within nesting trees. Droppings were watery, were colored red like the cacti fruit, and contained small, black, intact seeds that were similar in appearance to those of the cacti. The intact nature of the seeds and the apparently clumped distribution of the cacti around nesting trees raises the possibility that weavers may disperse the seeds of *Stenocereus*, as has been suggested of other birds (Wendelken and Martin 1988). I saw no other birds in the vicinity of the weaver nesting trees and cacti.

There are no previous reports of weavers feeding on cacti. Weavers might compensate for the low availability of grains in the desert by exploiting the carbohydrate-rich *Stenocereus* fruit. Fruits of other cacti, such as saguaro (*Carnegeia gigantea*) and prickly pear (*Opuntia* spp.) provide important sources of carbon and minerals to birds in other arid habitats (Everitt and Alaniz 1981, Wolf et al. 2002). If the nutritional value of *Stenocereus* is similar to that of other cacti, these weavers need to supplement their diet with protein sources such as arthropods, which are part of this bird's diet in its native range (Adegoke 1983).

Perhaps more important than nutritional value is the water source this fruit provides. Cacti with similar fruits (*Opuntia, Carnegeia*) can retain 80% water content by mass, and are known to be important water sources for wildlife (Le Houerou 1996, Wolf et al. 2002). Because the range and timing of breeding in the Village Weaver strongly depend upon rainfall and proximity of water sources, I suggest that the existence and breeding of this species in such an arid environment are facilitated by the water content of *Stenocereus*. Captive Village Weavers will breed all summer long despite a lack of rain, if humans provide a consistent food and water supply (Collias and Collias 1970). In natural populations, succulent fruits may substitute for rainfall in an otherwise unsuitable habitat. If this is true of *Stenocereus* and weavers on Hispaniola, breeding in this province and perhaps other arid regions of Hispaniola should coincide with the periods when *Stenocereus* fruit is ripe. Conversely, during other periods in the phenology of these cacti, weavers should cease breeding and increase their foraging range, or instead leave the deserts to establish colonies elsewhere, such as around the rice fields in central Dominican Republic. Future studies should test these predictions.

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Status of the Spotless Crake (*Porzana tabuensis*) in American Samoa

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ABSTRACT.—In July 2001, during seabird surveys in dense montane rainforest at the summit of Ta'u, we documented the occurrence of the Spotless Crake (*Porzana tabuensis*) in American Samoa for the first time in 17 years. The last sightings were made during 1985–1986 in lowland agricultural areas, semiwetland, and secondary forests. Norway rats (*Rattus norvegicus*) also were discovered in the montane forests and pose a threat to the continued survival of the crake at its only colony in the Samoan archipelago. *Received 4 June 2003, accepted 15 August 2003.*

The Spotless Crake (*Porzana tabuensis*), also known as the Sooty Rail, is present over much of the South Pacific, including Australia, New Zealand, New Guinea, the Philippines, and many oceanic islands as far east as the Marquesas Islands and Pitcairn Islands (Pratt et al. 1987). Although widely scattered in small vulnerable populations, the Spotless Crake (*P. t. tabuensis*) exists in virtually every major island group in the South Pacific. In Western Polynesia, it is extirpated from Futuna but occurs on three islands in Tonga and on six islands in Fiji (Watling 2001). It is known from Samoa only on the island of Ta'u, the easternmost high island of the Samoan archipelago. This population was discovered in 1923 when biologists with the Whitney South Seas Expedition found the birds in marshy coastal habitat on the northwestern side of the island (Murphy 1924, Banks 1984). Others were not able to find the secretive species during 1975–1976 (Amerson et al. 1982). The population was thought to be extirpated since it had not been seen since 1923 (Muse and Muse 1982), but was rediscovered during 1985, when a road-killed specimen was found. During subsequent searches one individual was seen and two more heard 1 km east of Ta'u village (Engbring and Engilis 1988). Since so much time had passed between the initial discovery and rediscovery, and these sightings were in lowland, agricultural forests in the northwestern area where the species was discovered, Engbring and Engilis (1988) speculated that the population was small and decreasing as wetland habitat diminished with a reduction in subsistence agriculture. Here we describe the discovery of crakes at the summit of Ta'u, which suggests that the population may have been larger than originally thought and that crakes could be present on other island summits in Samoa.

Ta'u (14° 14′ S, 169° 267′ W) is the largest of the Manu'a Islands located approximately 100 km east of Tutuila in the U.S. Territory

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