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guest essay

The Village Weaverbird: Marvel or Menace?

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After attending Gordon College, David Lahti earned a Ph.D. in philosophy at the Whitefield Institute at Oxford in 1998, for his work on the relationship between natural science and morality. In 2003 he received a Ph.D. from the University of Michigan in ecology and evolutionary biology, and moved to the University of Massachusetts where he is a Darwin Postdoctoral Research Fellow. He has studied weaverbirds for the last five years in Africa, the Indian Ocean, and the Caribbean, with his wife April.

A lone African tree flickers yellow and white as if it were on fire. Someone approaching it from a distance eventually makes out the forms of dozens of birds, hanging upside-down by their feet from globular nests, swaying frantically as they babble a complex song and flutter their outstretched wings. They are male village weaverbirds, advertising their nestbuilding accomplishments in synchrony to a nearby flock of females. The males do have something to boast about, as weavers are considered to be the most proficient nestbuilders in the bird world. They weave their nests as tightly as baskets, and use particular hitches and knots to tie off the ends of certain strands and to attach the nests to branches. Once they've chosen a nest, each individual female lays eggs of similar appearance throughout her lifetime, but the eggs of the population as a whole have among the widest variety of colors and spotting patterns of any bird. Laying a distinctive egg helps a female ensure that the eggs in her nest are her own, and not those of some African cuckoos, which mimic the eggs of other birds and lay eggs in their nests.

For most people who live with the village weaver, however, appreciating its nestbuilding and egg artistry can be difficult. This species is a serious agricultural pest throughout most of its range. A margin of trees near a field of rice or sorghum can be filled with village weaver colonies, as many as three hundred birds nesting in a single tree. This bird, together with another weaver species (the quelea) poses the most significant threat to agriculture in West Africa. Rafael Jawo, a farmer in The Gambia, loses up to a third of his annual yield from dense flocks of village weavers descending on his ricefields.

The village weaver has been introduced to islands in the Caribbean and the Indian Ocean, where it has become invasive, overpopulated, and a threat to native bird species. There too the weaver ravages agricultural lands, and is the most damaging agricultural pest in Mauritius and Haiti. The village weaver has many traits that make it an excellent invader of new areas, such as the ability to raise several broods of young per season, a generalized diet, and a preference for human-altered habitats. Moreover, it is regularly transported to new areas in the cage bird trade, and often escapes from captivity. In the last two decades the village weaver has been sighted in the wild for the first time in North and South America, and Europe. Many of these birds attempted to breed, and some were successful.

Throughout the world, humans have unwittingly made a menace out of the village weaver. In its natural range and with only wild food sources, it would have less volatile population dynamics and little adverse impact on human economies. This was probably the case throughout its range before monocultures became established in Africa following European colonization. Even today in some areas, such as central Uganda and eastern South Africa, the village weaver is a functioning element in the ecosystem without undergoing population explosions or creating serious problems for agriculture. In both of these areas, small grains suitable for the weaver's diet are not in widespread cultivation.

What can be done to remedy the situation elsewhere in Africa and on the islands? Methods of physical control such as fire, scarecrows, rattles, shooting, nest-robbing, and felling trees have been attempted but have met with little success. Poison kills large numbers of individuals, but this does not affect long-term population sizes. When populations are dense, competition for food is more intense, fewer young are raised, and population growth slows. When managers poison the population, the large quantities of suitable grains mean that food is abundant for the survivors, and the population again increases exponentially. In Africa, then, destruction of birds may become a permanent part of agricultural practice.

Long-term alternatives may exist, however. One possibility is economic and agricultural diversification. Large stretches of land in many African nations are dedicated to the production of a single kind of crop. If a network of ricefields in central Gambia was converted into a patchwork of rice, maize, groundnuts, mangos, and palm oil, only a portion of the area would supply food for village weavers, and the more diverse ecosystem might support their competitors and predators.

In the introduced populations, eradication of the village weaver is another option, although the practicality of this varies. A common pattern in an introduced species is a period of slow or no population growth, followed by an unpredicted population explosion and spread. Although established populations like those in Mauritius and Haiti are difficult to control, both of these populations were once small and more manageable. During the period when the village weaver was not invasive, however, few observers would have predicted its future spread or impact. Today there are small, recently established populations of the village weaver in Venezuela and Martinique. We cannot know whether the village weaver will eventually become invasive in those areas or others. Nevertheless, it is possible that what is done (or not done) today may determine the economic and ecological future of those areas.

For areas not yet invaded, prevention is the best strategy. Transport and housing of caged birds are still largely unregulated in some European countries, such as France, which is the largest importer of weavers. If fewer birds were allowed to escape, the likelihood of a population becoming established would decrease accordingly.

The village weaver is a species with some remarkable traits. More importantly, it has been an integral part of the biological communities of sub-Saharan Africa for millions of years. To view this bird solely as an agricultural pest and an invasive species is short-sighted and anthropocentric, although these problems are very real and troubling. The village weaver is named for its preference for living near humans. Our challenge is to find a way to make this a peaceful coexistence.