Conservation news

Introduced Mona monkey is a key threat to the Critically Endangered Príncipe thrush

The Príncipe thrush *Turdus xanthorhynchus* is endemic to the small island of Príncipe, Democratic Republic of São Tomé and Príncipe, in the Gulf of Guinea, Central Africa. It is categorized as Critically Endangered on the IUCN Red List because of its small and declining population and its tiny range, restricted to the southern forests of Príncipe Natural Park. It has been presumed to be highly susceptible to habitat loss, hunting and predation from introduced mammals such as the mona monkey *Cercopithecus mona*, African civet *Civettictis civetta*, black rat *Rattus rattus*, and feral cats and dogs.

However, there has previously been only anecdotal evidence of the threat posed by introduced mammals (a 2018–2020 camera-trap survey led by Fauna & Flora International and Fundação Príncipe, funded by the Critical Ecosystem Partnership Fund, found all known introduced species across the thrush's range). Fundação Príncipe is now studying the impact of introduced mammals in more detail, supported by the Mohamed bin Zayed Species Conservation Fund.

Camera-trap monitoring of artificial thrush nests baited with quail eggs revealed 23 of 55 nests (42%) were predated within 6 days. Mona monkeys were responsible for 10 (18%) of these events; the other predators could not be identified. On 6 May 2021, an active thrush nest (the fifth ever found) was recorded on the slopes of Pico Príncipe, at 2.9 m height within the trunk of a *Pseudagrostistachys africana* tree. The nest was monitored with a camera trap during 19 May–7 July. Images show adult thrushes occupying the nest until 6 July. Mona monkeys inspected the nest on five separate occasions. We were, however, unable to confirm the presence of eggs or chicks and therefore we could not determine whether there had been a predation event.

The non-native mona monkey visiting an active Príncipe thrush nest. Photo: Fundação Principe.

The artificial nest experiment and the visitations to the first Príncipe thrush nest to be monitored are compelling evidence that breeding activity of this Critically Endangered bird is being disrupted by mona monkeys. Eradication of the mona monkey is unrealistic given its wide distribution on Príncipe, and would be unpopular as it is a valued game species on the island. Working with local hunters to lower the density of this monkey could be a more feasible solution. To prevent the extinction of Príncipe's main flagship species, we need to prioritize the study of the distribution of introduced mammals and their impacts, and development of a participatory mitigation strategy that engages all key stakeholders.

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The European LIFE+ northern bald ibis reintroduction project

Commencing in 2014, a European LIFE+ project aimed to establish migratory northern bald ibis *Geronticus eremita* colonies in central Europe, with a common wintering area in southern Tuscany, Italy (see waldrapp.eu for details). The project was preceded by a 13-year study of the ecology and behaviour of the species, and development of translocation methodology (Fritz et al., 2017, *International Zoo Yearbook*, 51, 107–123). By the end of 2020 the population comprised 158 wild individuals in four breeding colonies. The growth rate became positive in the Kuchl colony (Salzburg, Austria) in 2018 and in the Burghausen colony (Bavaria, Germany) in 2019. Colonies in Baden-Württemberg (Germany), and Carinthia (Austria) are still being established.

The main translocation method is human-led migration. A group of up to 32 zoo-born chicks per season are raised

Microlight piloted by a foster parent leading northern bald ibises to the wintering site in southern Tuscany, Italy. Photo: Waldrappteam Conservation & Research.

by human foster parents. After fledging the birds undergo a training programme to follow two microlights co-piloted by the foster parents. From mid August this migration leads in flight stages of c. 220 km per day from the breeding sites north of the Alps over c. 1,000 km to the wintering site in southern Tuscany, where the birds are released. During 2014–2019 a total of 154 birds were released. No release occurred in 2020 because of the COVID-19 pandemic.

First-year survival of the released juveniles is 0.73, significantly higher than the 0.31 first-year survival of released juveniles in the Spanish Proyecto Eremita (Böhm et al., 2020, *Oryx*, 55, 934–946). We attribute the high survival rate of released birds in our project to the complex pre-release training and low loss during the human-led migration. Reproduction in the released population has increased steadily. During 2014–2020, 151 birds in 61 nests fledged in the wild, a mean fledging rate of 2.47 per nest. This is double the fledging rate of 1.23 per nest in the last remaining wild population in Morocco. The high fledging rate in the LIFE+ project reflects the high-quality feeding habitats in the breeding areas north of the Alps.

A recent population viability analysis indicates that the reintroduced population is close to sustainability but that further releases and management will be needed. This will be under a second European LIFE project, run by Zoo Vienna with partners from Germany, Austria, Italy and Switzerland, aiming to establish further migratory colonies in Austria, Switzerland and northern Italy, and a total population size of > 350 individuals.

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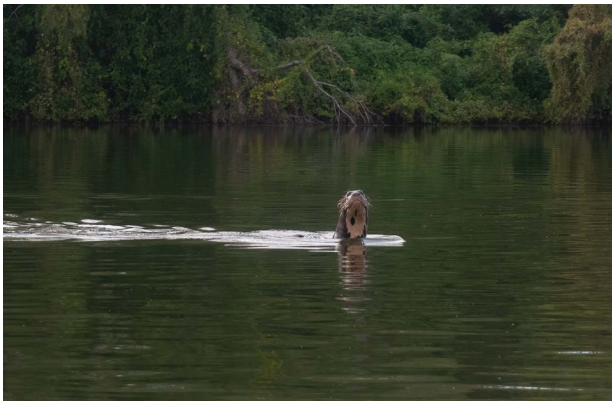
Hope for an apex predator: giant otters rediscovered in Argentina

The giant otter *Pteronura brasiliensis*, categorized as Endangered on the IUCN Red List, is an apex predator in Neotropical freshwater systems with the potential to regulate food webs through density-mediated trophic cascades (Quéméré et al., 2021, *Environmental DNA*, in press). The giant otter has been extirpated in some countries and extant populations are declining.

Giant otters were once abundant in Argentina but heavy hunting, habitat loss and degradation resulted in their dramatic decline. The last known population disappeared in the 1980s. Since then, records of solitary individuals have been reported in the Iguazú and Paraná River basins, the most recent from 2010, but these records lack supporting evidence such as images or signs. In the Bermejo River basin, in the Chaco region, the last sightings of giant otters date from the late 1800s.

El Impenetrable National Park, created in 2017, protects the declining dry forests of the Chaco region. To the north, the Park is bounded by the Bermejo River. On 16 May 2021 in El Breal, one of several ponds formed by old meanders of this river, SDM observed an adult giant otter and secured a photograph. Surveys later that day revealed two fresh latrines and two recently dug dens on the shore. El Breal pond has steep clayey shorelines 2–3 m above the highest water level and a total surface water area of 0.37 km². Water depth is c. 10 m and potential giant otter prey in the pond include abundant fish, macroinvertebrates and caimans. A mature dry forest surrounds the pond.

The origin of this individual is unknown. The closest giant otter population is in the Jejuí River in Paraguay, close to its confluence with the Paraguay River (Cartes et al., 2013, *Paraquaria Natural*, 1, 8–11). But an animal dispersing from there would have to travel c. 1,000 km of waterways to reach El Impenetrable National Park. Alternatively,



Giant otter photographed in El Impenetrable National Park, Argentina, in May 2021. Photo: Sebastián Di Martino.