

The breeding colony of Burrowing Parrots in Patagonia

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Parrots and cockatoos have become the most endangered order of birds in the world during the last few decades; 26% of the 350 species of parrots and cockatoos are at risk of global extinction while another 11% are near threatened. This situation is even worse in Latin America and the Caribbean; 31% of the parrot species are at serious risk of global extinction there.

The principal sources of threat arise from loss, fragmentation or degradation of breeding habitat, collection of birds for the live trade, introduction of exotic species, and persecution and hunting. Some key features of their breeding biology also contribute to the fragility of the group, including the long lifespan, breeding systems and colonial nesting. Parrots are also probably the most colourful family of birds, a phenomenon that has no doubt contributed to their persecution and popularity as pets.

For most parrot species basic biological data is still lacking, even though these are necessary for identification of extinction threats, monitoring of populations, evaluation of the conservation measures, and improvement of captive breeding programs.

Burrowing Parrots or Patagonian Conures

In Argentina, the highly gregarious Burrowing Parrot (*Cyanoliseus patagonus*) occurs from the Andean slopes in the northwest to the Patagonian steppes in the south. It generally inhabits open grassland,



5 week old chick.

but is also reported from wooded valleys with cliffs and farmland. These birds occupy the colonies one to two months before egg laying and leave the breeding site gradually as the young fledge. Adults excavate their own nest burrows by tunneling into the faces of sandstone, limestone or earth cliffs. The nesting pairs use burrows that they have dug in previous seasons, but they enlarge the burrows every year. Each burrow is occupied by a single pair. Burrowing Parrots do not use nesting material; they deposit their eggs on the sandy bottom of the nest chamber.

They lay one clutch per breeding season. The female incubates the two to five eggs for about 24 days while the male provides food. The young hatch asynchronously with an interval of one to three (usually two) days between subsequent nestlings, generating a size rank at the time of hatching. Nestlings from a brood fledge asynchronously, with an interval of two to three days. The young remain in the nest for about 60 days. After fledging, they are fed by the adults for approximately four months. Burrowing Parrots have a socially and genetically monogamous breeding system with intensive care by both parents.

Declining ranges

The conservation status and the distribution range of the Burrowing Parrot in Argentina were last studied at the end of the 1970s and early 1980s. No systematic monitoring has been carried out since. Formerly, these parrots were very common in Argentina, but now they are only regionally abundant.



Burrowing Parrot family at nest entrance.

They have suffered a clear retraction in distribution since the beginning of 19th century. In Argentina, the Burrowing Parrot has disappeared from the province of Córdoba and north of Buenos Aires. The decline in parts of Argentina is due to increasing persecution as a crop pest, conversion of grasslands to croplands, and trapping for the increasing live bird trade. Patagonian Conures, as they are known in aviculture, are or were among the most frequently sold parrots in Europe. In addition, projects of further trapping for trade are under consideration.

Some key features of their breeding biology also contribute to the fragility of the species: long lifespan, a socially and genetically monogamous breeding system and especially the habit of breeding in large and conspicuous colonies, can contribute to the fragility and decline of the species. It has serious difficulties in re-colonizing areas from which it had been displaced, making the species extremely fragile in a global sense.

An indication of its fragility of is the current status of the Chilean sub-species *C. p. bloxami* (previously *C. p. byroni*). It is considered at risk of extinction because of its drastic decline: a total of only 3,000 individuals was estimated to exist in the late 1980s. To our knowledge, only one very small colony of the Patagonian sub-species (*C. p. patagonus*) is legally protected (Reserva Punta Bermeja, Río Negro, Argentina).

Burrowing Parrots are officially considered

an agricultural pest (Argentinean National Law of Vegetable Health 6704/63). They damage grapes and olives, fruits of the native mesquite tree (*Prosopis alba*), peaches, pears and other temperate fruits, corn, sunflower and wheat and buds of forest plantations. However, except for some marginal agricultural areas and punctual events, damage is not intense. Despite this, lethal methods of control (such as nest poisoning, massive nesting habitat destruction, roosting tree destruction, use of poisoned bait, shooting of the birds) were carried out in various years, without objective quantification of real damage and adequate consideration of alternatives and consequences.

The colony at El Cóndor, Río Negro

Since 1998, we have been conducting a study of the breeding biology of Burrowing Parrots at the largest and most important colony of this species. The colony is located west of the village El Cóndor (or Villa Marítima El Cóndor or Balneario Massini or La Boca), 30km southeast from Viedma, in the province of Río Negro, Patagonia, Argentina. The colony covers 7.5km of sandstone cliffs. The westernmost kilometre of the colony (41°3'S, 62°48'W) is by far the most densely populated with 6,750 active nests. The habitat in the surroundings of the colony is primarily Patagonian steppe. Remarkably, after an extensive literature review on parrots breeding biology, this population appears to be the largest known colony of parrots in the world.



Reaching Burrowing Parrot nest by climbing.



A flock coming in to land on the cliffs.

This extraordinary world heritage, the largest known parrot colony of the world, has been seriously threatened during the last 25 years. The first serious aggression to this breeding site has been the spraying of sectors of the colony with Endrin (or DDT) in an attempt to reduce the number of parrots. This has probably been done during several years and the justification at that time was to protect crops in the region. Detailed information about this "control" campaign of the parrots breeding in El Cóndor is elusive and the impact on the colony difficult (and very expensive) to assess. Fortunately, this questionable method of "population control" stopped in the early 1980s.

The necessity of protection

During the 1990s a sector of the cliff, between the first and second kilometre of the colony, was dynamited for the building of a pedestrian and car access close to the beach down of the cliff (known now as Segunda Bajada del Faro or Bajada de Picoto). We estimate that about 800 nests were destroyed during the work. During the breeding season 2000-2001 this access for cars was enlarged. Cars can now reach the beach directly and a restaurant functions about 50m away from the first nests of the second kilometre of the colony. Very loud music and organised sports events are usual in the sector at the end of the breeding season (January). As a consequence, most of the nests close to both sides of the access were inactive during the following breeding seasons.

The colony at El Cóndor is highly disturbed every year in mid-December until January, during the holiday season, when the beach below the cliff of the colony is full of tourists and cars. Cars are authorised to drive along the beach, and hundreds of drivers park as close as 20 meters from the lowest nests of the colony. In this situation adult Burrowing Parrots of several sectors in the first kilometre of the colony can feed their nestlings only at high tide when people and cars disappear from the beach. In a typical weekend of January about 10,000 tourists visit the village of El Cóndor and the beach nearby the

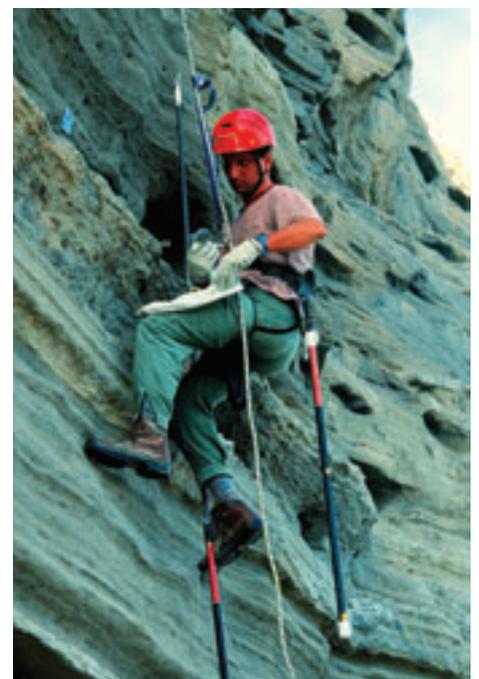


Burrowing Parrots on power lines close to the colony.

Burrowing Parrot colony. In addition, illegal motorbike and four-track races take place along the first and second kilometre of the colony.

Unfortunately, the attitude of a great part of the local people is negative with regard to the Burrowing Parrots breeding at El Cóndor. Local newspapers promote the idea that Burrowing Parrots are a severe pest. For most people making holidays at El Cóndor they are just noisy birds that disturb them during sunbathing. In some sectors of the colony, aggression from holiday makers to adult Burrowing Parrots bringing food to the nestlings occur almost every day in mid-December-January. Local police try to prevent people from killing birds by throwing stones, but the sector is big and there are few policemen. Local farmers shoot parrots during the breeding season on their private land, supposedly to protect crops. In addition, some local farmers also poison grain in order to kill birds, and some tourists shoot parrots during the holiday season for entertainment

In light of the outlined pressures on the colony we are trying to find a way to legally protect the largest known parrot colony of the world from these and other potential threats.



Juan checking chicks on the cliff face.