Threatened Species of the Northern Territory

GOULDIAN FINCH

Erythrura gouldiae

Conservation status
Australia: Endangered
Northern Territory: Vulnerable

Photo: M. Lewis

Description

The Gouldian finch is an easily recognised small bird: mature adults have a purple chest, yellow breast and green back, with an intensely vivid pale blue upper collar. Females are duller than males, and juveniles are completely dull green. Three colour morphs exist in the wild: black face, red face and yellow face.

Distribution

Formerly the Gouldian finch was distributed throughout the tropical savannas of northern Australia. It is now restricted to isolated areas mostly within the Northern Territory (NT) and the Kimberley. Although the decline has occurred throughout the range, this has been most pronounced in the easternmost populations (Franklin 1999; Franklin et al. 2005). The largest known population is in the Yinberrie Hills (about 40 km North of Katherine).

Conservation reserves where reported:

Caranbirini Conservation Reserve,

Judbarra / Gregory National Park, Kakadu National Park, Limmen National Park and Nitmiluk National Park.

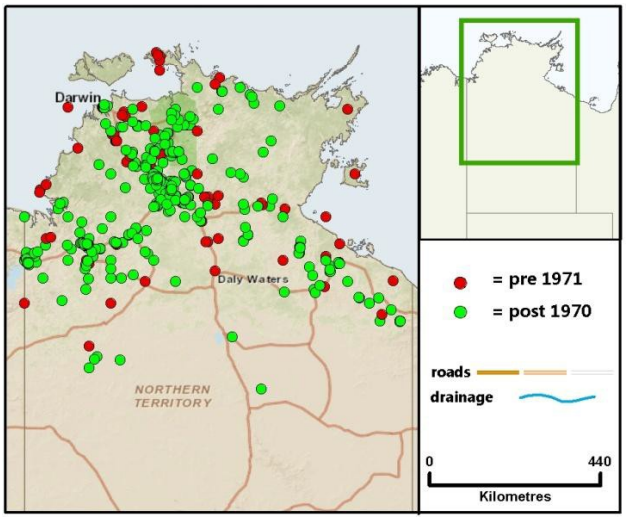

Figure 1 - Known locations of the Gouldian finch

Ecology

Gouldian finches occupy two different regions of the landscape on an annual cycle (Dostine et al. 2001). In the Dry season and part of the late Wet season, between February and October, they live within wooded hills that contain a group of Eucalyptus species commonly referred to as snappy or salmon gums. Hollows in these trees provide nesting sites. During this period, they forage on the ground, feeding on shed seeds of native sorghum, and find water at small rocky waterholes that remain within the hills until the next wet. In the Wet season, Gouldian finches move from the hills into lowland

drainages to feed upon seeds of perennial grasses, typically available from mid December. These grasses include soft spinifex, cockatoo grass and golden beard grass (Dostine and Franklin 2002).

Clutch size averages around five and fledging rate is about one to two young per pair (Tidemann et al.

1999). Depending on the season, pairs may raise several clutches per year. Annual survivorship is very low, with very few recoveries of banded birds from one year to the next (Woinarski and Tidemann 1992).

Stand of Eucalyptus tintinnans in the Yinberrie Hills north of Katherine (NT) used as a breeding site

(Photo: M. Lewis)

Conservation assessment

There is evidence of range contraction and anecdotal and quantitative evidence of past population decline for the Gouldian finch. Data from the returns of licensed finch trappers operating in the Kimberley region of Western Australia suggested a rapid decline throughout the 1970s, leading to cessation of the legal trapping industry (Franklin et al. 1999).

Gouldian finches are monitored at three sites in the Territory (Yinberrie Hills, Newry Station and Limmen National Park) at intervals of one to few years (including in 2009 and 2010). An internal report on the monitoring over the period

1996-2004 indicated relative stability at Yinberrie Hills (Price et al. ms.), and subsequent results at all sites support this.

There has been a large series of records of Gouldian finches in "new" locations across the Top End over the last few years, most notably including frequent records of hundreds near Maningrida, Mary River, and the Gregory – Victoria River District (mostly unpublished records, reported on NT Birds email list). The widespread nature of these records, and the large areas of similar but less accessible habitat, leads to the conclusion that the NT population has stabilised (perhaps is increasing).

The absolute size of the adult Gouldian finch population in the NT is difficult to determine, but is probably more than the D1 threshold of 1 000. However, the unusual life history of the species results in the effective population size being smaller than the absolute population size. In particular:

(1) the sex ratio of adults is strongly biased towards males, and (2) there may be strikingly low levels of genetic compatibility between different colour morphs, to the extent that "cross-breeding" may lead to very high rates of offspring failure (40-80 per cent of offspring dead within three months in captive experiments: Pryke and Griffith 2009), suggesting a high degree of instability in mixed and isolated populations.

The Gouldian finch is considered **Vulnerable** in the NT (under criterion D1) due to:

i. The conservation status of the species in Australia was assessed in 2010 by Garnett et al. (2011) who listed it as Near Threatened (D1).

Threatening processes

A variety of processes have been considered to have contributed to the past decline of Gouldian finches (Garnett and Crowley 2000). These include the parasitic mite Sternostoma tracheacolum (Tidemann et al. 1992, Bell 1996), trapping, and pastoral grazing practices (Tidemann et al. 1990). However, the most important factor in past declines appears to be altered availability of food resources caused by understorey vegetation change because of pastoralism and/or changed fire regimes.

Evidence suggests that large-scale late Dry season fires reduce the amount of seed available that the Gouldian finch relies on particularly during the early Wet season (Garnett and Crowley 1994; Woinarski et al.