

THREATENED SPECIES OF THE NORTHERN TERRITORY



GOVE CROW

Euploea alcatheae enastri

Conservation status

Australia: Endangered

Northern Territory: Endangered.

Description

The Gove crow is a large, black-brown butterfly with variable white spots near the margins of the wings. The wingspan is about 70 mm. The male is velvet-black above and dark black-brown beneath. The female is paler chocolate-brown.



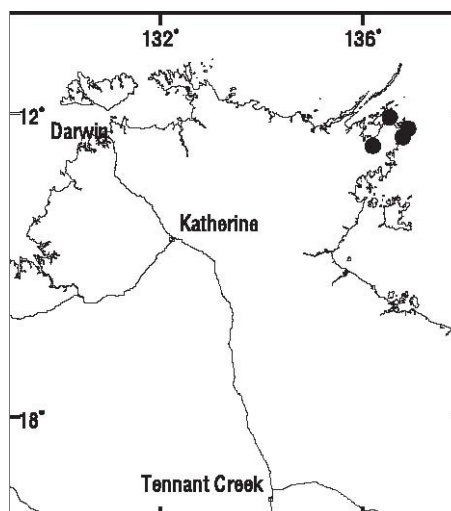
Gove Crow (Photo M Braby)

Distribution

The Gove Crow is restricted to the Gove Peninsula in northeastern Arnhem Land, NT. It is currently known only from four sites. It was first discovered at Rocky Bay near Yirrkala in 1988 by G. Martin, and was subsequently recorded at three other locations, including Mosquito Creek Port Bradshaw, near Mount Bonner, and the upper Goromuru River (Fenner 1991, 1992).

Conservation reserves where reported:

Nanydjaka Indigenous Protected Area.



Known locations of the Gove Crow

• = post 1970

Ecology

Until a recent study (Braby 2006), little was known of the ecology of the Gove Crow, although the life history, larval food plant and habitat preference had been documented for subspecies *E. a. misenus* from the Torres Strait, Queensland (Lambkin 2001). All specimens have been collected from patches of tropical rainforest (evergreen monsoon vine-forest) associated with permanent groundwater seepages. Males are usually observed within small glades inside the forest or near its boundary with the surrounding savanna woodland. Females are more commonly observed in tall paperbark swampland at the edge of the rainforest (Fenner 1991; L. Wilson *pers. comm.*).

Two larval food plants (both vines) have been recorded: *Gymnanthera oblonga* and *Parsonsia alboflavescens* (Braby 2006).



Northern Territory Government

Department of Natural Resources, Environment and the Arts

Conservation assessment

Conservation categorisation is difficult because of a lack of information on population trends and direct threatening processes. The species appears to be naturally rare, with few individuals observed at each site.

There is no evidence that any external factors have caused a decline in population size or distribution of the Gove Crow. However, a number of potential threats have been identified on the Gove Peninsula and, if left uncontrolled, it can be reasonably inferred that these threats will reduce the extent of critical habitat and ultimately lead to decline of the Gove Crow.

Accordingly, the species qualifies as **Endangered** (under criteria B1ab(i,ii,iii,iv)+B2ab(i,ii,iii,iv)) based on:

- extent of occurrence <2500 km²;
- area of occupancy <500 km²;
- known to exist at <5 locations; and
- inferred or projected population decline.

Threatening processes

There are at least three potential factors on the Gove Peninsula that could lead to a significant decline in range and/or population size and possible extinction of the Gove Crow.

Altered fire regime

Changes in the frequency, intensity and patchiness of fire in the landscape on the Gove Peninsula may ultimately lead to the demise of the monsoon rainforest patches, the critical habitat of the Gove Crow. Such changes may be exacerbated by the fuel loads supported by exotic invasive grasses. Mission Grass has recently become established in the town of Nhulunbuy. This grass increases the fuel load normally found in native savannas by 3-5 fold and, as a perennial, pushes the burning season later into the drier, windier time of the year (Panton 1993). Mission Grass carries destructive hot

fires into the edges of monsoon rainforest patches, leading to their shrinkage and eventual disappearance. If the rapid spread around Darwin (Kean and Price 2003) is repeated around Nhulunbuy, the resultant increase in intensity of fires on the Gove Peninsula may cause the disappearance of many wet rainforest patches, including those on which the Gove Crow depends.

There is widespread concern that traditional knowledge and land management practices amongst the Yolngu Aboriginal community in north-eastern Arnhem Land are not being passed on from elders to the next generation. This knowledge and management includes an understanding of traditional burning practices – the frequency and seasonal timing of patch burns – and Traditional Owners have acquired considerable expertise over the millennia. It is important that traditional land management practices are maintained on Gove Peninsula: incorrect (excessive) burning will ultimately reduce the extent of the monsoon rainforest patches.

In addition, overland access to Nhulunbuy has been recently upgraded, as has the local network of roads across the Peninsula. The more intensive land use and greater ease of access within this region has led to an increase in the frequency and extent of fires. An increase in fire associated with the road in central Arnhem Land has already been implicated in the disappearance of patches of monsoon rainforest similar to that used by the Gove Crow (W.J. Panton *pers. comm.*).

Yellow Crazy Ant

The Yellow Crazy Ant, *Anoplolepis gracilipes*, has recently been recorded from the Gove Peninsula. This ant has a long history of environmental damage across the tropics, most recently manifested on Christmas



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Island where it is damaging rainforest vegetation, red land crabs and nesting sea birds. Young *et al.* (2001) concluded that the Yellow Crazy Ant is a "serious threat to the invertebrate fauna of monsoon rainforests in northern Australia." The ant favours the permanently wet spring-fed rainforest patches used by the Gove Crow.

Feral animals

Feral animals, particularly Water Buffalo, *Bubalus bubalis*, and to a lesser extent Feral Pig, *Sus scrofa*, occur on the Gove Peninsula. These animals are known to damage or degrade monsoon rainforest patches through their effects on understorey plants, and are thus a potential threat to the integrity of the habitat of the Gove Crow, especially the swamplands adjacent to the monsoon rainforest. The population size and density of buffalo and pigs currently appears to be relatively low, but if increased this could have a negative impact in the long-term.

Conservation objectives and management

A draft recovery plan for this butterfly (Braby 2006) is due to be implemented in 2007, although many actions have been undertaken since 2006 collaboratively between scientists of the Department of Natural Resources Environment and The Arts and rangers from Dhimurru Land Management Aboriginal Corporation.

Research priorities are to:

- (1) undertake surveys in the Gove Peninsula to search for additional populations;
- (2) investigate the basic biology and ecology of the species to determine larval food plants and breeding requirements, as well as population attributes such as longevity, movement patterns and dry-season behaviour; breeding and aggregation sites can then be identified and protected;

- (3) establish a long-term monitoring program at one or more of the key sites in order to detect possible changes in breeding range or abundance, and to measure the impacts of threatening processes.

Management priorities are to:

- (1) control and eradicate Mission Grass, and maintain vigilance against other grassy weeds that have the potential to become serious threat on the Gove Peninsula;
- (2) maintain appropriate fire management practices;
- (3) develop and maintain a survey, monitoring and eradication program for the Yellow Crazy Ant;
- (4) develop a feral animal survey and control strategy for buffalo and pigs.

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