

## THE AUSTRALIAN RAVEN (*Corvus coronoides*) IN RELATION TO OTHER SPECIES OF BIRDS

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Very little information of a concise nature is available regarding the relation of the Australian Raven to other birds in the economy of nature. The almost omnivorous habits of the Raven would lead one to expect that it occasionally robs other birds of their eggs and nestlings, and the published field notes of several observers bear this out.

North (21) remarked that many eggs and young of other species, especially those nesting in exposed positions, are destroyed by Ravens; and White (25) stated that very many useful birds were robbed of their eggs and young by this species at "Belltrees," Scone, N.S.W. Farrer (9) considered that more useful birds than "crows" would increase if the latter were reduced in numbers, not only because of the fact that they destroy young and eggs of other species, but also because they compete seriously for the available food supply.

Arnold (1), Barrett (4), and Newell (18) record Ravens preying on the eggs of the Black Swan (*Chenopsis atrata*) on islands in the Coorong, S.A. Sandland and Orton (22) report that quite a number of Ducks' eggs are taken in the swamps at Moora, W.A., and Fletcher (10) recorded the robbing of the eggs of the Tasmanian Native Hen (*Tribonyx mortierii*).

Nankeen Night Herons' (*Nycticorax caldonicus*) nests are stated by Mattingley (15) to be robbed by Ravens when the nests are temporarily unguarded. Chisholm and Cayley (8) record *C. coronoides* as common about the heronry on Schnapper Island, Port Stephens, N.S.W. Le Souef (13), Mellor (16), and Shepherd (23) observed eggs of Cormorants' being taken from unattended nests. The "crows" which, according to Leach (14), prey on the eggs and young of the Grey Shrike-Thrush (*Colluricincla harmonica*), in central Northern Victoria, are probably Ravens, and this also seems to apply to Barrett's (3) observation on "crows" raiding nests of the Crested Pigeon (*Ocyphaps lophotes*) on the Murray River.

In the Murrumbidgee Irrigation Area,

Hindwood (12) noted *C. coronoides* loitering about Spoonbills' and Egrets' nests, awaiting an opportunity to steal eggs, and he states that a Raven was seen taking the egg of a White Egret (*Egretta alba*). The boldness of Ravens in search of coveted eggs is well illustrated by North's (20) account of how a pair of this species attempted to deprive a pair of Black-shouldered Kites (*Elanus notatus*) of their eggs. A pair of Ravens will occasionally combine in cunning to drive large birds such as the Bustard (*Eupodotis australis*) and the Brolga (*Grus rubicundus*) off their nests (21), or to outwit a determined pair of nesting Banded Plovers (*Zonifer tricolor*) to drive away the intruders (17).

Sutton (24) once saw a Raven on a heap of stones at the side of a road, eating a young Starling (*Sturnus vulgaris*). Ravens sometimes beat an area of grassland or cereal crop in a Harrier-like (*Circus*) manner in search of young and eggs of Pipits (*Anthus australis*) and Quail.

In attempting to assess the effect of the depredations of *Corvus coronoides* on other species of birds, it must be remembered that the former is a native bird which has probably not altered its habits since European occupation in this respect. These remarks can be applied also in regard to the competition for the food supply available in any locality at any time. Ravens are early breeders as a rule, and it is during their breeding period that most of the raiding of other species' nests is done. The species affected may quite conceivably rear a brood of young a little later in the season without being molested. However, some species, such as waterfowl, subject to a fluctuating food supply brought about by waterholes and swamps becoming dry in summer, may be more seriously affected.

The partiality of Ravens for the eggs of Domestic Fowl (*Gallus ferrugineus* subsp.) is well known. Eggs are liable to be taken from nests situated in the straw roof of a shed or on a haystack, and the Ravens sometimes become very cunning in approaching

farm-yards unobtrusively. Eggs are usually carried impaled on the bill, but at times the claws are used for the purpose. Surplus eggs are often buried in the soil on cultivated ground near a farm-yard.

It is a fact that china nest-eggs deceive the Ravens, who subsequently abandon them after trying unsuccessfully to pierce them with the bill.

At Cobbara, N.S.W., Austin (2) noted the species taking chickens, young Turkeys (*Meleagris gallopavo*) and eggs. Gogerley (11) once saw a "Crow" (? Raven), perched on a dead Pelecan (*Pelecanus conspicillatus*) floating in the middle of Lake Wallis, N.S.W. It was feeding on the carcase of the Pelecan.

Peregrine Falcons (*Falco peregrinus*) (5) and Wedge-tailed Eagles (*Uroaetus audax*) occasionally prey on Ravens. Nicholls (19) reported having seen an Eagle kill and eat a "Crow," and my grandfather, the late C. G. Boehm, informed me that many years ago, near Sutherlands, S.A., he once saw a Raven repeatedly swoop at an Eagle sitting on a post. Finally, the Eagle darted at the approaching Raven, secured it in its claws, and after plucking off a quantity of the feathers, proceeded to eat it.

In the competition for suitable nesting sites Ravens may possibly cause certain other birds, such as Brown Hawks (*Falco berigora*) and the smaller species of Eagles, to leave an area where clearing of tall timber has brought about a scarcity of nesting-trees. Smaller species of birds would generally be less affected in this respect. However, an observation by Caldwell (6), concerning a Magpie-Lark (*Grallina cyanoleuca*), will serve to illustrate what may happen occasionally when a smaller species of bird has not been sufficiently vigilant. A great deal of detailed information concerning the ecology of the Raven would be necessary to determine its precise relation to other species of birds in the economy of Nature, but the writer hopes that the present paper will be helpful to other workers interested in the subject.

#### REFERENCES

- (1) Arnold, M. A. R., 1927, "Emu," XXVI, 211.
- (2) Austin, Thos. P., 1918, "Australian Zoologist," I, 135.
- (3) Barrett, Chas., 1916, "Emu," XV, 178.
- (5) Batey, Isaac, 1907, "Emu," VII, 3.
- (6) Caldwell, E. R., 1919, Ibid. XVIII, 208.
- (7) ———, quoted by Chisholm, A. H., 1920, "Emu," XX, 99.
- (8) Chisholm, A. H., and Cayley, N. W., 1929, Ibid. XXVIII, 251.
- (9) Farrer, W., 1897, "Agricultural Gazette N.S. Wales," VIII, 49-50.
- (10) Fletcher, J. A., 1912, "Emu," XI, 251.
- (11) Gogerley, J. F. H., 1924, Ibid. XXIII, 219.
- (12) Hindwood, K. A., 1940, Ibid. XXXIX, 244.
- (13) Le Souéf, D., 1905, Ibid. IV, 138.
- (14) Leach, H. A. C., 1928, Ibid. XXVIII, 92.
- (15) Mattingley, A. H. E., 1908, "Victorian Naturalist," XXV, 66.
- (16) Mellor, J. W., quoted by Campbell, A. J., 1901, "Nests and Eggs of Australian Birds," II, 976.
- (17) McLennan, Chas., 1908, "Emu," VII, 162.
- (18) Newell, H. H., 1927, Ibid. XXVII, 48.
- (19) Nicholls, Brooke, 1924, Ibid. XXIV, 57.
- (20) North, A. J., 1898, "Proc. Linn. Soc. N.S. Wales," XX, 445.
- (21) ———, 1901, "Nests and Eggs of Birds Found Breeding in Australia and Tasmania," I, 6.
- (22) Sandland, P. T., and Orton, O. L. E., 1922, "Emu," XXII, 137.
- (23) Shepherd, G. E., 1902, Ibid. II, 32.
- (24) Sutton, J., 1930, "S.A. Orn.," X, 194.
- (25) White, H. L., 1918, "Australian Zoologist," I, 107.