

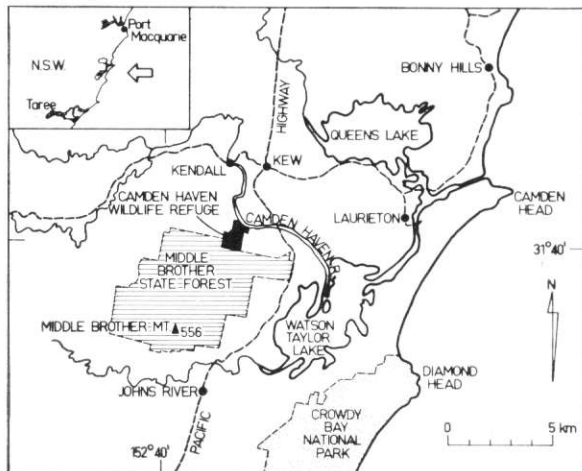
Notes on Three Species of Hawks Breeding on Middle Brother Mountain, N.S.W.

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The Camden Haven Wildlife Refuge Study*, started in July 1977, is currently investigating the effects of local forest management on the vertebrate fauna of the Kendall State Forestry Management Area on the mid-north coast of N.S.W. Middle Brother Mountain, elevation 556 m, contains Middle Brother State Forest within the Management Area and overlooks the estuary of the Camden Haven River (see Map Figure 1). The Camden Haven Wildlife Refuge is bounded by the river on its northern boundary and by the State Forest along its southern limits. The vegetation of this area is predominantly tall wet sclerophyll forest of the moist Blackbutt *Eucalyptus pilularis* type and although much is under intensive forest management, it supports a rich avifauna.

Several sites have been selected for censusing birds on the lower slopes of Middle Brother Mountain and raptors were particularly abundant at these sites in the spring and early summer of 1977. Three species, the Pacific Baza *Aviceda subcristata*, Collared Sparrowhawk *Accipiter cirrhocephalus* and Grey Goshawk *A. novae-hollandiae* were found nesting at two sites. Additionally the Whistling Kite *Haliastur sphenurus*, Brown Goshawk *A. fasciatus*, White-bellied Sea-Eagle *Haliaeetus leucogaster*, Wedge-tailed Eagle *Aquila audax* and Little Eagle *Hieraaetus morphnoides* were present at these sites and two others during the same period although they were not found breeding. Also at that time the Black-shouldered Kite *Elanus notatus*, Marsh Harrier *Circus aeruginosus*, Australian Hobby *Falco longipennis*, Brown Falcon *F. berigora* and Australian Kestrel *F. cenchroides* were recorded in cleared pastoral land on the lower slopes of Middle Brother Mountain but did not occur in the tall forest.

On 30 September 1977 at a site in 70 year-old Blackbutt where Tallowwood *E. microcorys* and Flooded Gum *E. grandis* are sub-dominants, four Pacific Bazas were observed calling loudly and continuously while play-chasing through the canopy. Subsequently on 2 October two birds were still present and on 10 October presumably



● Figure 1. Map of Middle Brothers Mountain area showing study area.

the same pair were building a nest in the crown of a Turpentine *Syncarpia glomulifera* at about 35 m above the ground. The nest, which was about 1 m across and 75 cm deep, was almost fully constructed and both birds were lining it with small green Blackbutt twigs. To obtain a twig a bird would fly straight into the canopy, grasp the selected twig and allow itself to fall out without actually landing. It would then fly to a nearby perch and bite off attached leaves although some were allowed to remain and were placed in the nest lining with the twig. Noisy calling took place between both birds while nest building was taking place.

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Also on 10 October a male Collared Sparrowhawk was present at the same site and was calling continuously, at the same time feeding on the carcass of a small bird which it carried from perch to perch in one talon. The Sparrowhawk was showing particular interest in the Pacific Bazas' nest and during a two hour period circled it several times at a distance varying from 10 to 30 metres. The Bazas ignored the Sparrowhawk during this time. Then on 19 October the Bazas were found to be absent from the vicinity and a pair of Sparrowhawks were in occupancy at the nest. The female Sparrowhawk was seen to fly in and settle on the nest several times during a two hour period. The male, presumably the same bird as present on 10 October, was again calling continuously and perched in the same trees in the vicinity of the nest. On 28 October the female Sparrowhawk was sitting tightly but the male was not observed. Whether this pair successfully raised young is not known although neither was seen during two hours spent at the site on 9 December.

The displaced Pacific Bazas probably built again about 0.5 km away from the original site, because a pair successfully raised two young from a nest in a Flooded Gum in January 1978. Again in November 1978 a pair of Collared Sparrowhawks took over this used second nest

and were sitting on eggs at the end of the month.

On 29 October 1977 at a site in the Camden Haven Wildlife Refuge a pair of Grey Goshawks were discovered nesting in a mature Brushbox *Tristania conferta* at a height of about 30 m. The female was seen to bring in the rear half of an Eastern Ringtail *Pseudocheirus peregrinus* and placing it on the side platform of the bulky nest (about 1.5 m wide by 1 m in depth), proceeded to tear off strips of meat which it fed to two young. On its approach to the nest the female Goshawk gave two loud calls which were answered some distance away, presumably by the male. On 30 October the female was observed to bring in the carcass of a bird which appeared to be a Brown Cuckoo-Dove *Macropygia amboinensis* but was difficult to determine because it had been thoroughly plucked. Again on approaching the nest it gave a loud call which was answered about 0.5 km away. On 2 November the female was observed in the vicinity of the nest but did not come in during a two hour period. On 17 November there was no activity near the nest and the young could not be seen, so it is assumed they had been successfully raised.

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Notes on an Eastern-Crimson Rosella Hybrid

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Between August 1970 and November 1971 I made several observations on an Eastern-Crimson Rosella *Platycercus eximius-elegans* hybrid. The hybrid was banded* with a CSIRO band 060 63193 and individually marked with patagial flags (Brereton and Pidgeon 1968). It was part of a population of Eastern Rosellas observed at "Eathorpe", 10 km E. of Armidale, N.S.W. (30° 31' S., 151° 40' E.). Information on this population is given by Brereton (1963a, b,

1971). The population was trapped in funnel traps at fortnightly intervals, the majority of individuals were individually marked with patagial flags and the recapture rate was about 60 per cent. The population size fluctuated within a year and between years and ranged from about 50 to 200 birds. To facilitate the study of breeding by the rosellas, about thirty nest-boxes made from pine-board were nailed to the trunks of eucalypt trees in the study area, at a height of

TABLE 1

Colour of the plumage of the hybrid, compared with Eastern and Crimson Rosellas. Areas of the body that are not described are coloured the same in both species.

Body Area	Eastern Rosella	Hybrid	Crimson Rosella
<i>Check</i>	White	Blue and white	Blue
<i>Back and wing coverts</i>	Each feather black, margined yellow-green	Each feather black, margined with a yellow-green and a red band	Each feather black, margined red.
<i>Lower breast</i>	Upper part yellow, lower part light green.	Mixture of yellow, green and red.	Red
<i>Rump</i>	Pale green	Upper part red, lower part yellow-green with red spots.	Red
<i>Tail</i>	Green and blue, tipped white	Blue-green and blue, tipped white	Blue, tipped white.

from three to five metres. In addition to trapping and inspection of nest-boxes, frequent field observations were made on the Eastern Rosellas.

Colour of the plumage of the hybrid is compared with that of Eastern and Crimson Rosellas in Table 1. Generally, plumage of the hybrid was concluded to be intermediate between that of these two species.

The hybrid was first captured on 23 July 1970 and recaptured 10 times between this date and 26 October 1971; details of captures are held by the CSIRO Bird-Banding Scheme. In addition, between these dates it was seen 15 times. In November 1970 it laid a clutch of six eggs in a nest-box in the study area and was seen incubating these eggs, but in mid-December all eggs were found to be broken and the nest deserted. The fertility of the eggs or development of embryos could not be assessed. In February and March 1971 it was seen in a feeding flock of approximately 50 Eastern Rosellas and during September of that year it was observed paired once again to an Eastern Rosella. In mid-November 1972 it was found dead with the viscera badly decayed but the plumage still in good condition.

The hybrid was thus a resident member of a population of Eastern Rosellas. It paired and flocked with Eastern Rosellas and there was no

obvious discernable discrimination between it and other members of the population. The breeding attempt failed; the reason for this failure is not known. The observations show that Eastern and Crimson Rosellas in the field can produce hybrids that can lay eggs, but the observations do not establish whether the hybrids are fertile.

References

- Brereton, J. le Gay, (1963a), 'Evolution within the Psittaciformes'. *Proc. 13th Int. Orn. Congr.* : 494-519.
- Brereton, J. le Gay, (1963b). 'The life cycles of three Australian parrots: some comparative and population aspects', *Living Bird* 2: 21-29.
- Brereton, J. le Gay, (1971). 'Inter-animal control of space: the role of rank order, parent-offspring relations, and peer play, illustrated by comparative studies of Australian parrots', in *Behaviour and Environment* (Ed. A. Esser), Plenum Press : New York.
- Brereton, J. le Gay and Pidgeon, R. (1968), 'Tagging methods for the Eastern Rosella', *Aust. Bird Bander* 6: 35-37.