

minutes, causing noticeable distention of the crop, and on two occasions a bird swallowed 14 fruits (about 55 g).

Crome (1975) and Frith (1982) indicate that considerable quantities of excreted fruit seeds accumulate below nesting colonies of the Torresian Imperial-Pigeon on the east coast of Queensland. Crome's description of Low Island's vegetation indicates these seeds do not germinate there.

Despite relatively low numbers in roosts in Darwin, data on defecatory habits suggest that birds are able to drop prodigious quantities of seeds in small areas. These seeds appear to be viable, and as the birds are dispersed rather than nesting or roosting in colonies and change roosting locations frequently, these pigeons are likely to be important agents for the dispersal of seeds.

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#### REFERENCES

- Atherton, R. G. and Greeves, D. (1985). Torresian Imperial-Pigeon *Ducula spilorrhoa* on Green Island, North-eastern Queensland. *Emu* 85: 261–263.
- Blakers, M., Davies, S. J. J. F. and Reilly, P. N. (1984). 'The atlas of Australian birds'. (Melbourne University Press: Carlton.)
- Coates, B. J. (1985). 'The birds of Papua New Guinea: Vol 1, non-passerines'. (Dove Publications: Alderley.)
- Crawford, D. N. (1972). Birds of Darwin area, with some records from other parts of the Northern Territory. *Emu* 72: 131–148.
- Crome, F. H. J. (1975). Breeding, feeding and status of the Torres Strait Pigeon at Low Islands, north-eastern Queensland. *Emu* 75: 189–198.
- Frith, H. J. (1982). 'Pigeons and doves of Australia'. (Rigby: Adelaide.)
- Thompson, H. (1987). 'Common birds of the Darwin area'. (Sandpiper Productions: Winnellie.)
- Thorsborne, A. S. Thorsborne, M. G. and Winter, J. W. (1988). Population changes of the Torresian Imperial-Pigeon *Ducula spilorrhoa* over twenty-one years on North Brook Island, North Queensland. *Emu* 88: 1–8.

## BOOK REVIEW

A long-term quantitative and seasonal study of a fluctuating forest-bird community

#### A Bird Observatory at Moruya, NSW, 1975–84.

S. Marchant, 1992. Oecus. Publ. No. 1, Eurobodalla Natural History Society 1992. Available from the author, P.O. Box 123, Moruya, NSW 2537. 246 × 175 mm, 99 pp., no plates. \$20.00

This is the most important study yet made of an Australian forest-bird community. Extending over a ten-year period the author documents the precise times of occurrence of the bird species, their relative abundances from year to year, and precise breeding dates. Fifty-five species nested within the study plots, many only in some years. Another 20 appeared regularly or bred only irregularly. Thirteen species visited regularly but did not breed. A further 54 species were aerial birds that flew overhead or were casual or accidental visitors. Documentation of the foregoing is extremely interesting in that it emphasizes that only a proportion of presumed forest 'residents' actually are regular inhabitants of specific areas. The corollary is that a high proportion of our forest birds require very wide living space; something that must be acknowledged in any conservation plan. Why did so many occur for only part of the year? Why did abundances of many vary widely from year to year? Why were some rare and only a minority common? To explain this we need detailed information on the ecological requirements of all the species. That we almost totally lack such information is indeed sobering and disquietening. Notwithstanding this concern, I find Stephen Marchant's graphs of monthly occurrences and abundances of the species, based on numbers of bird days during which they were observed, most interesting and stimulating. It demands that attempts be made to develop equivalent data from other areas.

Marchant's data base on breeding (all records are related back to time of laying of first egg in the clutch) is equally interesting and revealing. We have become accustomed, on the basis of review articles, to believing that the egg-laying season in our forest birds is 4–5 months. This study reveals that, when precise records are gathered for an individual area, the season of all but a couple of species is much shorter. In the following species, for example, it is only about two months: White-throated Tree-creeper, Varied Sittella, Wonga Pigeon, Pied Currawong, Fantailed Cuckoo, Grey Shrike-thrush, Variegated Fairy Wren, Laughing Kookaburra, Black-faced Cuckoo-shrike, Olive-backed Oriole, Sacred Kingfisher.

The Crested Shrike-tit, White-winged Chough, Cicadabird, Brush Cuckoo, and Rufous Fantail, restricted their laying to a single month! Of course, it is possible some of the species bred at Moruya and then went elsewhere to breed a second time but this is surely unlikely. At any event Marchant's data demands that we rethink our ideas on the very protracted nature of Australian bird breeding.

Every ornithologist interested in finer details of the biology of our forest birds should have a copy of Marchant's paper. Its wealth of original data is a joy. It is a delight to see this in the present age, where so much writing (especially book material) is simply a rehash of pre-existent knowledge. Let us hope Stephen Marchant's paper will inspire much more work of this quality in the future.

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