

A NOTE ON THE ASSOCIATIONS OF BIRDS AND LANTANA NEAR BEERBURRUM, SOUTH-EASTERN QUEENSLAND

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Lantana *Lantana camara* is native to tropical and subtropical America. It is now a serious weed along much of eastern Australia from about Cooktown in Queensland to about Ulladulla in New South Wales, and generally extends westwards to the Great Dividing Range. The fruit is a one-seeded, globular drupe, usually 5 to 7 mm in diameter. The seeds are comparatively large and have a characteristic shape. Established plants spread by layering but dissemination of the species is basically by avian defecation of seeds. These notes summarize some aspects of the association of birds and Lantana near Beerburum, south-eastern Queensland.

STUDY AREA

Continuing mist-netting and bird-banding* activities are carried out on a farm at Cowiebank (26°58'S., 153°04'E.), some 11 km east of Beerburum. Details of the study area, and of the occurrence of Lantana there-in, have been recorded (Liddy 1982a, 1982b).

METHODS AND MATERIALS

After capture in mist-nets, birds were restrained in calico holding bags prior to examination and banding. Most birds were so confined for between 5 and 15 minutes, and many birds defecated in the holding bags. For the six years to August 1984, material defecated by known or suspected frugivorous species was collected and later dissected; contained seeds and arthropod remains were identified, if possible. Some Lantana seeds defecated by the various species were placed in sand/soil mixtures and kept moist

to test for germination. Some seeds were contained within the pericarps of the fruits when defecated; these seeds were separated from the pericarps for identification and all germination tests were carried out with separated seeds.

RESULTS AND DISCUSSION

During the six years to August 1984, some 62 species of birds were handled a total of 3 965 times at Cowiebank. Lantana seeds were defecated by three species (Table 1). Some Lantana seeds defecated by each of the three species germinated and plants were established from the seedlings.

The results show that Lantana seeds defecated by Varied Trillers *Lalage leucomela*, Lewin's Honeyeaters *Meliphaga lewinii* and Silvereyes *Zosterops lateralis* are viable and hence Lantana can be disseminated by these species. Silvereyes defecate many more seeds than do the other two species (Table 1) and there is little doubt that Silvereyes are the basic disseminator of Lantana at Cowiebank and probably elsewhere in south-eastern Queensland. Other frugivorous species

TABLE 1

Lantana seeds defecated by birds at Cowiebank, six years to August, 1984.

	Number of times birds were handled	Number of Lantana seeds defecated
Varied Triller	17	10
Lewin's Honeyeater	260	49
Silvereye	1 227	2 007

* Bands used were supplied by the Australian Bird-Banding Scheme, Division of Wildlife and Rangelands Research, CSIRO.

periodically present at Cowiebank were not seen to eat Lantana fruits.

Lantana fruits form a significant proportion of the food of Silvereyes at Cowiebank and they were usually present in numbers only when ripe Lantana fruits were freely available. Silvereyes also eat a variety of arthropods, including the introduced Lantana Leafmining Beetle *Uroplata girdali*, which is probably eaten because they are often common and conspicuous near ripe Lantana fruits (Liddy 1982b). A second introduced Leafmining Beetle *Octotoma scabripennis* is, by early 1985, rare at Cowiebank, the only records being one adult found on 5 February 1983, and one adult defecated by a Silvereye on 19 March 1983. Neither *Uroplata* nor *Octotoma* were recognised in material defecated by other frugivorous species.

Silvereyes and Brown Honeyeaters *Lichmera indistincta* were occasionally noted feeding on nectar from a series of Lantana flowers. However, this source of nectar appears to be rarely utilized and is a very minor source of nectar compared with the principal sources of nectar in the study area, viz., *Amyema cambagei*, *Eucalyptus teretecornis* and *E. gummifera*.

ACKNOWLEDGEMENTS

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REFERENCES

- Liddy, J. (1982a). Food of the Mistletoebird near Pumicestone Passage, south-eastern Queensland. *Corella* 6: 11-15.
- Liddy, J. (1982b). Predation of the Lantana Leafmining Beetle by the Silvereye in south-eastern Queensland. *Corella* 6: 123-124.

DATA EXCHANGE

Weights and Measurements

Brown Goshawk *Accipiter fasciatus*

Werribee, Victoria 37° 55' S, 144° 44' E.

April-July 1983 and February-July 1984.

		Range	Mean	S.D.	n
Total Length (mm)	A ♂	398-424	411.6	9.37	8
	J ♂	389-436	411.8	10.62	15
	A ♀	451-496	474.0	12.03	67
	J ♀	445-508	469.3	13.60	61
Tail (mm)	A ♂	204-216	209.5	4.65	8
	J ♂	195-227	211.5	8.00	15
	A ♀	222-258	242.8	7.83	68
	J ♀	222-261	243.3	8.74	60
Wing (mm)	A ♂	253-272	262.7	6.43	8
	J ♂	245-269	260.6	7.02	15
	A ♀	286-312	298.3	5.95	68
	J ♀	280-305	301.7	3.30	62
Wing Span (mm)	A ♂	793-873	841.5	27.00	8
	J ♂	794-863	843.0	19.23	15
	A ♀	912-986	958.8	17.36	65
	J ♀	923-993	958.6	19.03	60
Weight (g)	A ♂	360-410	381.2	15.75	8
	J ♂	325-380	347.0	18.10	15
	A ♀	520-750	614.2	49.14	66
	J ♀	480-740	562.3	53.67	61

Sex determination by size, Age by plumage according to Condon, H. T. and Amadon, D. (1954), "Taxonomic notes on Australian Hawks". *Records South Aust. Mus.* 11: 189-246.

Two age categories are used here:

J = a bird in its first plumage.

A = combination of second year plumaged birds and birds older than two years.

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