



Diurnal Rest Period of the Red-backed Parrakeet

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A male Red-backed Parrakeet (*Psephotus hæmatonotus*), and a female Eastern Rosella (*Platycercus eximius*), kept for observation at the World Bird Research Station, Glanton, England, showed an unusually marked rest period in the early afternoon.

These birds were kept in an aviary 21 x 7 x 6 feet, with a house 6 x 4 x 6 feet at one end.

Their rest period was much more marked than that shown by the other birds in aviaries, or wild birds, in the Station. It took the form of a retirement into their house for up to three or four hours from about midday. As the birds were bred in England it was thought that this behaviour suggested an hereditary daily rhythm derived from their ancestral Australian habitat, where the heat of the early afternoon is considerably in excess of that normally experienced in Britain. The retirement appeared to be a fixed part of their daily lives and took place regardless of the local weather, which in any case, at the latitude of Glanton (55° 25' N), is not very often hot.

To obtain more precise details of this habit, which was a very obvious part of the daily lives of both birds, two all-day watches were undertaken on the singing and retirement of the Red-backed Parrakeet. The observations were made during the Northern Hemisphere summer, one on May 12 (Ref. no. D.98) and one on June 27 (Ref. no. D.99).

The May day began with dense fog, saturated air and everything dripping with moisture. But by the time the Parrakeet began to call (at 05.09) the relative humidity had dropped slightly (to 96 per cent), and between 08.00 and 09.00 hours the air cleared. For the rest of the day it was brilliantly sunny with cloudless sky. The air temperature, however, only reached a maximum of 61° Fahrenheit. The day was calm except between 12.00 and 14.30 when there were light airs (Beaufort Scale 1), but in the sheltered position of the aviary this wind barely reached half a mile an hour (Beaufort Scale 0).

The June day was quite different. It was overcast with showers between 08.00 and 09.00 and between 15.00 and 16.00. The only sunshine was a little at 14.00 and 16.00. The maximum air temperature, 67° Fahrenheit at 14.00, was 6° higher than in May, and from 10.00 onwards the relative humidity was higher. It was windy throughout the day from 07.00 onwards, reaching a moderate breeze (Beaufort Scale 4) at 14.00, although in the sheltered position of the aviary it reached only three and a half miles an hour (Beaufort Scale 1-2).

These two quite different days gave substantially the same result in regard to a major rest period in the afternoon. The rest period in the May observation was from c. 12.00 to 16.05, less 20 minutes from 15.10 to 15.30 when the bird came out, sang ten songs and then retired again. This made a total diurnal rest period of 3 hours 45 minutes. In the June observation the bird retired at 12.35 and came out again at 16.48, making a diurnal rest period of 4 hours 13 minutes. On the May day the bird sang 68 songs in the morning after the nocturnal rest period and before the diurnal rest period. It sang 98 songs in the afternoon after the diurnal rest period. In June it sang correspondingly 172 songs before, and 163 songs after, the diurnal rest period. Nearly all these latter songs were concentrated into the last hour of singing. No particular reason was noticed for this.

As already noted, the first song in the morning on May 12 was given at 05.09. In the first full hour, 05.09 to 06.09, the bird sang only four songs. The last song on May 12 was given at 19.42, and, in the last full hour, 18.42 to 19.42, the bird sang 11 songs. The total number of songs for the day was 176. On June 27 the first song was given at 03.29 and the first full hour yielded 39 songs. The last song was given at 20.05, and in the last full hour the bird sang 151 songs. The total number of songs for the day was 335.

The systematic hour-by-hour totals for the whole day are shown below. The hours in this case are measured from the half hour to the half hour, e.g. hour 7 shows the total number of songs given from 06.30 to 07.30. These are hours by the clock and do not necessarily correspond with the first and last full hours quoted above, e.g. the first full hour on June 27, 39 songs, contains the songs of both hours 3 and 4.

<i>Hour</i>		3	4	5	6	7	8	9	10	11	12
May 12	Songs	—	—	4	2	20	10	21	8	3	0
June 27	Songs	6	33	31	21	6	0	28	0	18	29
<i>Hour</i>		13	14	15	16	17	18	19	20		
May 12	Songs	0	0	10	1	36	33	24	4		
June 27	Songs	0	0	0	0	10	1	9	143		

These figures, together with the first and last full hours, the temperature (continuous line), relative humidity (broken line), and the position of the sun in degrees below the horizon in dawn and dusk, are combined in the accompanying diagram. It might be added that at the latitude of Glanton on May 12 there is no night, and at the same latitude on June 27 the sun never sinks as far as twelve degrees below the horizon.

All times are given in Local Apparent Time, i.e. time by the sun at the place of observation. The observations were made in 1950.