

## Notes

### Laying Hours and Other Nesting Data of Rose-breasted Grosbeaks

David M. Scott

#### Introduction

Recent compilations of reproductive data on Rose-breasted Grosbeaks (*Pheucticus ludovicianus*) have little detail on stages of the nesting cycle. Peck and James (1987) recorded 406 grosbeak nests, but only eight provided information on incubation periods. Pelletier and Dauphin (1996) indicated that the laying interval and the day of onset of incubation are unknown. Also, the hour of oviposition has not been reported.

The lack of detail is not surprising. Although commonly found, grosbeak nests often are inaccessible to humans. For example, at London, Ontario, Langley (1976) found 50 nests of a local grosbeak population. The average height was 6 m; only about five were accessible to observers.

In 1997, near London, I saw two female grosbeaks building nests at heights at which I could determine the contents with the aid of a mirror. Watching these nests and one found in 1975, I recorded the hour of laying, the length of one incubation period, asynchronous hatching in one clutch, the approximate time

of the onset of incubation, and the minimum length of nesting life of three nestlings. These few data, either because they are more precise than most reported or are unique, are noteworthy.

#### Methods

The three nests noted above were visited frequently, and times, contents, and other notes were made during these visits. Nest location, information, and dates visited are summarized in Table 1. To estimate laying hours, I used Skutch's method (1952), which was to record times of visits before and after the egg-of-the-day was laid. It was necessary to visit a nest early to determine its contents. To do this, I tried to arrive at nests 2 and 3 (Table 1) close to sunrise. Thereafter, I checked nests 2 and 3 periodically to estimate the time of arrival of the female and the time of her departure after laying. The eggs reported below were laid between 21 May and 4 June. In that period, the onset of morning civil twilight and sunrise occurred at about 0415h and 0450h, respectively. Eastern Standard Time is used throughout.

**Table 1. Nests at which observations were made, and dates visited.**

Nest #	Location	Nest Placement	Dates Visited
1	near Komoka (42°56'N, 82°27'W)	2 m in dogwood shrub ( <i>Cornus</i> sp.)	between 19 May and 16 June 1975
2	near Newbury (42°39'N, 81°49'W)	2 m in Blue Beech ( <i>Carpinus caroliniana</i> ), on upper surface of branch overhanging pond	between 24 May and 14 June 1997
3	Coldstream Conservation Area (43°01'N, 81°30'W)	2.5 m in Manitoba Maple ( <i>Acer negundo</i> ), on horizontal branch	between 30 May and 29 June 1997

## Results and Discussion

Detailed observations made at the three Rose-breasted Grosbeak nests are summarized in Tables 2 to 4. Some general patterns in the

nesting chronology and behaviour of Rose-breasted Grosbeaks are evident, based on these observations, as well as the reports of others.

**Table 2. Observations at Nest 1.**

Date	Observations
19 May 1975	nest being built
21 May	0505h: no eggs
22 May	0545h: nest unattended, contained one dew-covered grosbeak egg 0915h: nest still unattended but contained two grosbeak eggs; laying, assuming female was at least 15 minutes on nest before laying, occurred between 0600h and 0915h
24 May	0830h, 0900h: female on nest 0915h: four grosbeak eggs
16 June	nest empty, young had fledged, 25 days after laying of first egg

**Table 3. Observations at Nest 2.**

Date	Observations
24 May 1997	female building outer framework
27 May	1300h: no eggs
28 May	1000h: one grosbeak egg
29 May	0445h-0514h: nest unattended, one grosbeak egg 0514h: female came to nest, left at 0519h 0535h: still one egg 0555h-0640h: female on nest 0655h: nest unattended, two grosbeak eggs estimated time of laying: 0615h $\pm$ 30 minutes
30 May	0444h: female accidentally flushed from nest, still quite dark, two eggs only 0535h: <u>male</u> on nest 0545h: nest unattended, two eggs 0600h-0700h: female on nest continuously until she left at 0700h, now three eggs 0706h: <u>male</u> on nest estimated time of laying: 0625h $\pm$ 35 minutes
14 June	1400h: nest empty

**Table 4. Observations at Nest 3.**

Date	Observations
30 May 1997	0900h: nest being built. Gray Catbird ( <i>Dumetella carolinensis</i> ), apparently taking nest material from grosbeak nest, chased away by grosbeak pair.
1 June	0915h: no eggs
2 June	0905h: one grosbeak egg, nest unattended
3 June	0452h: still one egg, nest unattended 0500h-0645h: nest unattended, examined three times, still one egg 0725h: female on nest 0740h: <u>male</u> on nest, flushed by me, now two eggs estimated time of laying: 0710h $\pm$ 30 minutes
4 June	0530h: female slipped off nest as I approached, still two eggs 0545h: <u>male</u> on nest 0600h: nest unattended 0625h: <u>male</u> on nest, still two eggs 0630h: pair foraging near nest 0640h: <u>male</u> on nest 0645h: female came to nest, and left at 0705h 0708h: <u>male</u> at nest, now three eggs estimated time of laying: 0655h $\pm$ 10 minutes
5 June	0840h: four grosbeak eggs
6-7 June	four grosbeak eggs

15 June	0915h: nest unattended, three eggs and one newly hatched nestling, down still damp and matted. Apparent incubation time was almost exactly 10 days, measured from 5 June when last egg was laid. 1415h: two eggs, two nestlings. Apparent incubation time for second nestling was about 10 days $\pm$ 2h.
16 June	0700h: female on nest, one egg, three nestlings Apparent incubation time for third nestling was about 10 days, 15 h $\pm$ 9h.
17 June	0630h: female brooding four nestlings. Youngest nestling recently hatched with matted damp down. True incubation time about 11 days, 22h, if it is assumed that the last egg laid was the last to hatch.
20 June	1745h: nest unattended; four young: two large, one with eyes open and stretching up vigorously when I touched the nest, the other two were quiet on the bottom of the nest.
22 June	1830h: nest unattended, only three young
23 June	1800h: male near nest, clearly SY age: all primaries and all rectrices except central two were brown. Three large young.
24 June	1800h: nest unattended, three young
25 June	0925h: three nestlings (two males and one female), quiet; fledging thought to be imminent 1230h: only female nestling present, still quiet; adult female nearby and very agitated 1800h: nest empty, parents absent; unfamiliar call notes emanating from nest bush suggested presence of a fledgling; calling ceased when I was at nest bush and did not resume in next 15 minutes when I left the area; parents still absent. On this day, many Common Grackles ( <i>Quiscalus quiscula</i> ), old and young, were flying back and forth in the area, often within a few meters of the nest site.
26-29 June	I visited the nest site daily and spent about 6h close to it. I neither saw nor heard fledglings. A female grosbeak was often nearby, chipping incessantly. I did not see her carrying food or entering the deep cover surrounding the nest site. The male parent was rarely present. I concluded that no nestling survived for more than a few hours following fledging, if that occurred.

Eggs were laid in each nest on consecutive days, the usual pattern in northern passerines. In nests 2 and 3, the interval between eggs 2 and 3 was about 24 h. Five estimates of the hour of oviposition of second and third eggs of a clutch showed that laying occurred at least an hour

after sunrise. The final and fourth egg of nests 1 and 3 was laid before 0840h in one case, and 0900h in the other. Eggs 2 and 3 in nest 2 were laid between 1 1/2 and 2 1/2 h after sunrise, and in nest 3 between 2 and 3 h after sunrise. These laying times are later than two or three recorded

for the species' closest relative, the Black-headed Grosbeak (*P. melanocephalus*), in California. There, Weston (1947, pers. comm.) observed that eggs were laid, approximately 24 h apart, before 0700h, in the hour following sunrise.

The incubation period for nest 3 was almost 12 days long. Ivor (1944) reported the incubation period was 12 days for four clutches and 13 days for three clutches. Watts (1935), however, reported incubation periods of 10 to 12 days. She may have confused early hatching of first eggs with true incubation periods.

In my study, the clutch in nest 3 hatched asynchronously, with almost exactly 48h between hatching of the first and last eggs. This means that incubation must have begun in earnest by the second day of laying. This is consistent with the absence of roosting birds preceding laying of second eggs and their presence on nests around sunrise on the third morning of laying. Ivor (1944) noted for all four clutches that he observed that the first egg hatched a day before the last hatching. Clearly, Rose-breasted Grosbeaks begin incubation before the final egg is laid.

Males were on the nests on the mornings of laying the second egg (nest 3) and the third egg (nests 2 and 3). Although I was aware that male grosbeaks sat on nests during the post-laying period, I was surprised to find them on nests well

before the clutch had been completed. The function of this male behaviour is not understood. However, as the males have a moderately well developed brood patch (Langley 1976), they may help in incubation. Nevertheless, despite the male's assistance in incubation, the incubation period of 12 to 13 days is about the same as that of the related Northern Cardinal (*Cardinalis cardinalis*), in which only the female incubates (Scott and Lemon 1996).

The two oldest nestlings were 10 days old, the third slightly younger, when they disappeared. This nestling period agrees in length with that observed by Ivor (1944).

I hope that this note will encourage other field ornithologists to collect and report not only more reproductive data on grosbeaks, but also on many other poorly understood Ontario species.

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David M. Scott, Department of Zoology, University of Western Ontario, London, Ontario N6A 5B7

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Point Pelee is the best place in Canada for seeing butterflies, especially southern residents and vagrants. This checklist gives status and one day high counts for all 85 species recorded at Point Pelee. Bar graphs indicate the flight season and abundance for each species. Recommended areas for viewing butterflies are described. *Ron Pittaway*