LITERATURE CITED

- Berger, A. J. 1981. Hawaiian birdlife. University Press of Hawaii, Honolulu, Hawaii. Christophersen, E., and E. L. Caum. 1931. Vascular plants of the Leeward Islands, Hawaii. Bernice P. Bishop Mus. Bull. 81:1-41.
- CLAPP, R. B., AND E. KRIDLER. 1977. The natural history of Necker Island, Northwestern Hawaiian Islands. Atoll Res. Bull. No. 206.
- ——, AND W. O. WIRTZ, II. 1975. The natural history of Lisianski Island, Northwestern Hawaiian Islands. Atoll Res. Bull. No. 186.
- CLAY, H. F. 1961. Narrative report of botanical field work on Kure Island, 3 October 1959 to 9 October 1959. Atoll Res. Bull. No. 78:1-4.
- ELY, C. A., AND R. B. CLAPP. 1973. The natural history of Laysan Island, Northwestern Hawaiian Islands. Atoll Res. Bull. No. 171.
- KENYON, K. W., AND D. W. RICE. 1958. Birds of Kure Atoll, Hawaii. Condor 60:188-190.
- LAMOUREUX, C. H. 1961. Botanical observations on Leeward Hawaiian atolls. Atoll Res. Bull. No. 79:1-10.
- WALKER, R. L. 1977. A trip to Kure Atoll, December 21-22, 1977. 'Elepaio 39(11):132-138.
- WOODWARD, P. W. 1972. The natural history of Kure Atoll, Northwestern Hawaiian Islands. Atoll Res. Bull. No. 164.
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Mirrored Windows for Use in Blinds.—In field studies the activity of one species often interferes with the study of another. The presence of 6000 Glaucous-winged Gulls (Larus glaucescens) on Cleland Island, British Columbia (7.7 ha) caused problems during my study of American Black Oystercatchers (Haematopus bachmani). At my slightest movement within the blind the gulls flew into the air, calling and alerting the oystercatchers close by. I used mirrored windows in my blinds to avoid this disturbance.

These windows are similar to 1-way mirrors and function as windows from inside the blind and as mirrors from outside. The windows permit unrestricted use of binoculars and large windows can be used without the birds detecting movements inside the blind. Although commercially produced 1-way mirrors are available, the mirrored windows described here are less expensive, unbreakable and can be easily cut to needed sizes.

Windows were constructed from 6 mm thick sheet acrylic (Plexiglas, Rohm and Hass Co., Philadelphia, Pennsylvania) with a reflective self-adhesive film (Solar Window Film, Spartan Plastics Inc., Holt, Michigan) applied to the inner surface. This film is available at auto supply stores as van owners often apply it to windows to limit visibility to the interior. A 50×300 cm sheet was purchased locally for \$22.30. I used silver-colored film although other colors including gold, green, red, blue, and gray were also available. The acrylic sheet was purchased for \$45.80/m², giving an overall cost of \$2.40 to \$14.40 for windows ranging in size from about 200 cm² to 1575 cm².

Larger windows were especially enjoyed during long watches and when it was necessary to have a view of a wide area. It is particularly important with the big windows to ensure that the surface of the blind behind the observer be darkened. My blinds were constructed with dark fabric or lined with black plastic. In cloth blinds the mirrored windows were suspended in front of the viewing holes with string from the frame or were mounted into pockets sewn onto the fabric around the viewing hole.

This film does reduce visibility slightly under poor lighting conditions but the problem can be reduced by using larger windows or by cutting a small opening in the film for observation in poor light. Rain and salt spray on the surface, and scratches on the film and acrylic also decrease visibility. Substituting glass for acrylic may eliminate the latter problem, although this would reduce the portability of the windows. The advantages of

blinds with large viewing windows that hide the observer's movements from wary subjects more than outweigh these minor problems.—M. A. Purdy, *University of Victoria, Box 1700, Victoria, British Columbia V8W 2Y2, Canada.* Received 29 Feb. 1984; accepted 6 Nov. 1984.

Observations at a Northern Waterthrush Nest.—In this note, we give information on the incubation period and fledging age for the Northern Waterthrush (Seiurus noveboracensis).

On 5 May 1983, in the Sourland Mountains of southern Hunterdon County in central New Jersey, we flushed a Northern Waterthrush from a nest containing 3 eggs. Concealed by roots and overhanging dead grasses, the nest was in a hollow in a 45 cm vertical bank bordering an old logging road. Water flowed slowly along the ruts in the road, and reached a depth of 7–8 cm directly below the nest.

On 7 May the nest contained a complete clutch of 5 eggs. Since we had originally flushed the bird near midday on the 5th, incubation apparently started with the third egg. Although no information is available on the congeneric Louisiana Waterthrush (S. motacilla), the Ovenbird (S. aurocapillus) begins incubation with the next-to-last egg of its 4- or 5-egg clutch (Hann, Wilson Bull. 49:145-237, 1937). All young hatched on 17 May; therefore the incubation period was about 13 days (assuming it began with the third egg). We did not disturb the nest further until 25 May, when we banded the 8-day-old nestlings. Juvenal plumage was well developed then, and in color and pattern strongly resembled that of the adults. It differed from the description in Bent (Bent, U.S. Natl. Mus. Bull. 203, 1953) in that it was whitish below rather than "primrose yellow," and the superciliary line was distinct rather than "indistinct." Weights of the 5 young on day 8 were 17.2, 17.7, 17.8, 18.2, and 18.3 g ($\bar{x} = 17.8$ g).

The young Northern Waterthrushes fledged on 26 May, day 9 after hatching. This fledging age is comparable to that of the Louisiana Waterthrush (Bent 1953; Eaton, Wilson Bull. 70:211-236, 1958) and Ovenbird (Hann 1937).

Although we had been visiting this site regularly since late April, we heard the male waterthrush sing only once; thereafter it went undetected until 27 May, when both adults gave alarm chips near the empty nest. Thus, the species could easily have been missed in a breeding bird census of the area.

We have found no other published observations on incubation period and fledging age in the Northern Waterthrush. This nest also constitutes the only confirmed breeding record for New Jersey, although based on the presence of singing males, breeding has been presumed in northern New Jersey (Bull, Birds of the New York area, Harper & Row, New York, 1964) and more recently in the Pine Barrens and as far south as the Delaware Bayshore (Wander, New Jersey Audubon records of New Jersey birds, winter 1980–1981).—Sharon Ann Wander, Department of Biological Sciences, Rutgers University, Piscataway, New Jersey 08854; and Wade Wander, RD3, Box 270AA, Somerset, New Jersey 08873. Received 14 Nov. 1983; accepted 30 July 1984.

Mockingbird Use of Chatbursts with Neighbors versus Strangers.—Northern Mockingbirds (Mimus polyglottos) produce several calls in addition to their elaborate song. One of these, the chatburst, is produced primarily during the period of fall territoriality, when the major influx of strangers occurs (Laskey, Wilson Bull. 48:241–255, 1936). At that time, chatbursts are produced spontaneously, in no obvious context, and in the context of overt territorial interactions. For example, significantly more territorial interactions are accompanied by chatbursts than by either song or no vocalization (Logan et al., J. Comp. Psychol. 97:292–301, 1983). The prominence of the chatburst in fall territorial defense raises questions concerning the presumed territorial function of fall song, produced from mid-September to early November. Logan et al. (1983) have hypothesized that the chatburst may function in response to specific demands posed by the fall influx of strangers. If this were the case, the call should occur more commonly in competitive