Goose (*Anser anser*) (Tinbergen, N. 1951. The study of instinct. London, Oxford Univ. Press). At nest—egg distances of less than 10 cm the hens responded immediately. At longer distances (10–18 cm) a delayed response (5–10 s) often occurred prior to egg retrieval. There was no observed response within 30 s to eggs more than 18 cm from the nest. Once initiated, all egg retrieval attempts (n = 50) were successfully completed. When two eggs were placed outside the nest the closer egg was retrieved first. White eggs of domestic chickens (mean size 56.0 × 40.7 mm) elicited the retrieval response if colored to resemble ptarmigan eggs. There was no evidence that the larger chicken eggs presented a supranormal stimulus.

Egg retrieval has adaptive value as immediate retrieval of eggs insures their continued incubation. More important is the survival of the hen and clutch as eggs outside the nest may attract avian or ground predators. Incubating White-tailed Ptarmigan are cryptically colored, whereas their eggs are extremely visible when exposed.

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Blue-faced Boobies at an Oil Production Platform

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The Blue-faced Booby (*Sula dactylatra*) is a casual visitor to the Gulf coast of Louisiana and Texas (Traylor 1962). It feeds almost entirely far out at sea and is seldom seen in coastal waters (Snodgrass and Heller 1902, Gifford *in* Traylor 1962). It has learned to catch fish driven to the surface by ships passing through its feeding areas in blue water habitats (Traylor 1962), an area that is typically an impoverished sea with low densities of surface plankton and hence of surface-living prey fish (Simmons 1967). In recent years it has been observed foraging near oil production platforms in the northern Gulf of Mexico (Ortego 1977).

The thousands of petroleum platforms positioned off the Louisiana and Texas coast serve as artificial reefs which support diverse ecological communities, including fish (La. Advisory Comm. on Coastal and Marine Resour. 1973: 167). These platforms attract concentrations of fish that are available to natural predators and fishermen (Duffy 1975). While working on an oil production platform (28°15′N, 94°03′W) 190 km S 25° W of Cameron, Louisiana, I observed a total of 8 (5 immature, 3 adult) Blue-faced Boobies fishing in the vicinity during 26 of 39 days from 7 October to 14 December 1976. They normally soared within 25 m of the platform at an elevation of 35 m. Dives from this height were made at an angle of 50–60° to the surface. Frequently, these dives were temporarily halted, and a vertical dive from 10–20 m was made when the booby apparently relocated its prey. Of 1,215 dives I observed, 95.0% were made within 20 m of the platform, 4.8% at 21–50 m, and 0.2% > 50 m (all distances were estimated from a location 24 m above the surface and at the edge of the platform nearest to the boobies). This suggests that the platform attracted prey fish to the surface, especially close to the structure. The success of few dives was determined, as most prey caught were presumably swallowed prior to surfacing. Grant (Murphy 1936: 851) reported that Blue-faced Boobies swallowed their prey under water or on the surface with their head submersed. I observed a similar head immersing behavior on five occasions. Each bird immersed its head and peered around; no swallowing contractions were noticed, and at the time I assumed the bird was looking for missed or lost prey. Occasionally when a large fish (>15 cm) was captured, a booby surfaced with it and without immersing spent several minutes repositioning the fish before it was successfully swallowed.

Feeding near oil production platforms in the Gulf of Mexico by Blue-faced Boobies was typically a localized event. I spent the summer of 1973 at two locations 90 km S and E of the mouth of the Mississippi River without observing a booby, and I interviewed several oil field hands who worked at many locations

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off the Louisiana coast for 20 yr who had never observed a Blue-faced Booby prior to their first visit to my 1976 study site. Four boobies visited the platform again for 1 week during April and all of November 1977 (J. Berzas, pers. comm.).

There is a small colony of Blue-faced Boobies that breeds from late fall to spring at the Alacran Reefs, 100 km N of Yucatan (Palmer 1962: 284), about 650 km SE of my 1976 study site. Its members may be those reported along the Louisiana (Lowery 1974: 129; 2 May–13 September) and Texas (Oberholser 1974: 84; 15 March–23 September) coasts.

During the non-breeding period it is not known whether this species normally roosts on land or at sea in the northern Gulf. Traylor (1962) reported that Blue-faced Boobies normally feed throughout the day, returning to land in late afternoon or evening after ranging as far as 160 km from land. If this were true for the boobies I observed, they were feeding at the maximum of their daily range at my study site.The closest land was Galveston, Texas, 120 km NW, and Corpus Christi, Texas, 330 km W. On two occasions I observed a booby roosting on water, but most times they departed during mid-afternoon in an easterly or southerly direction toward other platforms (>15 km distance) in the oil field, returning 2 h after sunrise. As the directions of their departures were not toward land and their arrival at my study site was early in the day, I believe the boobies I observed roosted at sea.

Murphy (1958) reported that Blue-faced Boobies were commonly seen riding on turtles when far at sea, and Sprunt (1951) observed them frequenting buoys and pilings at Dry Tortugas, Florida. Anchor buoys are present near most oil platforms, and it is possible that boobies used the buoys and/or platforms as roosting sites.

Literature Cited

Duffy, M. 1975. From rigs to reefs. La. Conserv. 27(7 & 8):18–21.

Louisiana Advisory Commission on Coastal and Marine Resources. 1973. Louisiana wetland prospectus. Baton Rouge, Louisiana, La. Advisory Comm. Coastal Marine Resour.

Lowery, G. H., Jr. 1974. Louisiana birds. 3rd ed. Baton Rouge, Louisiana, Louisiana State Univ. Press.

Murphy, R. C. 1936. Oceanic birds of South America. New York, MacMillan, Co.

Oberholser, H. C. 1974. The bird life of Texas. Austin, Texas, Univ. Texas Press.

Ortego, B. 1977. Birding on an oil production platform. La. Ornithol. Soc. News 78: 8–9.

Palmer, R. S. (Ed.). 1962. Handbook of North American Birds. I. Loons through flamingos. New Haven, Connecticut, Yale Univ. Press.

Simmons, K. E. L. 1967. Ecological adaptations in the life history of the Brown Booby at Ascension Island. Living Bird 6: 187–212.

Snodgrass, R. E., & E. Heller. 1902. The birds of Clipperton and Cocos Islands. Proc. Wash. Acad. Sci. 4: 501–520.

Sprunt, A., Jr. 1951. Some observations on the fall migration at Dry Tortugas, Florida. Auk 68: 218–226.

Traylor, M. A., Jr. 1962. Masked Booby: Habits. Pp. 285 *in* Handbook of North American Birds. I. Loons through flamingos, (R. S. Palmer, Ed.) New Haven, Connecticut, Yale Univ. Press.

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Migrational Homing of Male Gadwalls to Breeding Grounds

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Most pair bond formation in North American ducks takes place on the wintering grounds or during spring migration (Hochbaum 1944, McKinney 1965). Males then follow their mates to the nesting areas, and the bond remains intact until the middle of the breeding season, when the drake departs, often to nearby molting areas. The tendency of females to return to the same nesting area in successive years has been well documented (e.g. Lincoln 1934, Sowls 1955). Relatively less emphasis has been placed on the banding and marking of males on the breeding grounds. Consequently, there have been fewer records of males returning to these areas from year to year. However, there is some evidence for North American