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Unusual feeding by Blue-footed Booby.—All Sulidae catch their food by aerial diving, usually by spectacular dives from high in the air—the method termed “deep plunging” by Ashmole (1971, p. 226 in *Avian biology*, vol. 1 (D. S. Farner and J. R. King, Eds.), New York, Academic Press). In the Gannet (*Morus bassanus*) the dive is usually passive except for a few initial wingflaps as the bird turns from level flight into the dive. Gravity alone is responsible for getting the bird deep enough to catch the fish. The situation is different in at least some tropical boobies that gain extra acceleration by flapping during a power dive. Power diving is common in the Blue-footed Booby (*Sula nebouxii*) and Red-footed Booby (*S. sula*) and I have also seen it a few times in the Masked Booby (*S. dactylatra*), though this latter species usually plunges more in the manner of the Gannet. The extra speed probably serves two purposes, both the result of the great clarity of tropical seawater. Firstly birds can detect fish at greater depths and need greater momentum for extra penetration. Secondly as fish near the surface can see the birds coming a split second earlier than they can in murky conditions, extra speed is needed to offset this advantage.

Although all species normally feed by deep plunging, some species have evolved their own specialized feeding techniques. The pelagic feeding Red-footed Boobies, and to a lesser extent Masked Boobies and Brown Boobies (*S. leucogaster*), can catch flying fish put to flight by boats and, presumably under the more natural conditions, by predatory fish. Although Blue-footed Boobies have been reported as catching fish in the air (Gifford 1913, *Proc. California Acad. Sci.* 2, part 1), this must be uncommon, as I have not seen it in 4 years' fieldwork, and the species tends to be an inshore feeder and can dive into remarkably shallow water. Nelson (1968, *Galápagos, islands of birds*, London, Longmans) saw one dive into a pool only 2 feet deep. The following observations show that a few individuals have mastered the technique of fishing in even shallower water.

The dining room of the Charles Darwin Research Station on Santa Cruz in the Galápagos Islands overlooks an extensive coral and stone reef that is exposed at low tide. Blue-footed Boobies are common there and often feed close inshore. During 3 years between 1965 and 1970 I never saw these boobies fishing by any method other than diving into the water from between the vertical and 30° to the horizontal, but in early 1971 I noticed a single adult Blue-footed Booby feeding by flying rapidly a few feet above the water and power diving in at some 10° to the horizontal. Here the power diving was obviously adding speed rather than penetration to the dive. What was presumably the same individual was seen most days for a period of several months and, although difficult to quantify,

it appeared to become more proficient as time progressed. I then left the islands for 15 months, but on my return found three boobies feeding in this manner. One in particular was extremely proficient and regularly dived into the small wavelets breaking over the reef. In these cases it hardly broke flight at all and often did not submerge, but bounced off the wave top or passed through the wave. This bird was seen to catch fish in this manner but it was not possible to determine if this was a more or less successful manner of feeding than the normal diving. Many boobies are surprisingly good at aborting dives just above the sea surface. The skill in catching flying fish in the air could have evolved either from these dives or through the dipping technique described above. The fact that dipping appears to be derived from power diving suggests that it is not a modification of capturing fish in the air.

It was tempting to presume that one individual had learned and become proficient at this technique and that the others had copied it, but I have no evidence on the point. On yet another visit in 1973 I did not see this feeding technique. Perhaps such a dangerous method of feeding had taken its toll.—M. P. HARRIS, *Institute of Terrestrial Ecology, Banchory, Kincardineshire, Scotland*. Accepted 3 Jun. 74.

Polygamy in the Purple Martin.—Throughout its range the Purple Martin (*Progne subis*) is considered monogamous. I have seen no published reports of polygamy in this species, nor had I ever noted it in my 7 years of studying the species until the breeding season of 1973, when two cases occurred in a large martin house in my backyard. I refer to them as polygamy trios 1 and 2, respectively.

Polygamy trio 1 consisted of an adult male and two presumably adult females. The male and female 1 arrived on 4 March 1973 and immediately established themselves on a middle tier of compartments. They displayed the usual pre-breeding behavior of paired martins. Throughout the season this male drove all other males from his tier of compartments, and the female did likewise to other females until 28 March, when she allowed another female to appropriate the third and fourth compartments of this tier of four nesting holes. The male defended all four compartments, and he started courting female 2 just as he had courted female 1. Within 2 days he apparently had developed a pair bond with the second female. He followed both females whenever they left the nesting compartments and showed sexual jealousy of both whenever other males approached.

After a short time both females began nest building. Although male Purple Martins do not normally engage in nest-building activities to any great extent, I frequently saw male 1 carrying nesting material to each female's selected nest compartment.

Throughout the season I never saw this male roost with either female. Normally a pair will roost in the same hole each night until the first egg is laid, but male 1 always roosted in another room of the compartment tier.

Female 1 laid her first egg 27 April, followed by a second on 28 April. Interestingly she laid only these two eggs and hence had a lower than average clutch size, which in my region seems to be five eggs. Her activities outside of the hole showed she did not start incubating the day the second and final egg was laid, but waited until 2 May. Her eggs hatched 18 May, and, as the usual incubation period is 16 days, she probably did not begin incubating before 2 May. The time lapse between the laying of the last egg and the start of incubation is unusual. I considered the fact that House Sparrow (*Passer domesticus*) interference may have