BARN Owls (Tyto alba) are thought to be occasional predators on flying foxes (fruit bats) in American Samoa, but adequate documentation is lacking. (Carr et al. 1982) found partially eaten carcasses of flying foxes on A'ava Ridge, Tutuila Island, American Samoa, and suggested they might have been killed by owls. Engstrom and Ramsey (1989) also mentioned a possible interaction between a Samoan flying fox (Pteropus tonganus) and a Barn Owl (Tyto alba). Peregut Feliciano (Pato peregut) regularly took flying foxes on Fiji, Walling 1987, White et al. 1987, but no owls, however, as other non-human predators occur in American Samoa (Pratt et al. 1989, Greer and Banack, pers. obs.). In this note we describe probable Barn Owl predation on a Tongan flying fox (Pteropus tonganus) equipped with a radio transmitter and document a mid-air attack by an owl on a bat.

We attached a transmitter with a motion sensor and collar assembly (mass = 31 grams) to a male Tongan flying fox (4845) on 5 December 1992. Over the next 106 days we periodically monitored its movements and activity rates. It routinely resided during the day in primary forests in Os Valley and fed in an agricultural area 2 km away in Amalii Valley, Tutuila Island. Each night between about 19:00 and 20:00, it arrived in Amalii and spent the night, alternating between active periods (feeding, flying, and maintenance behaviors) and inactive periods (hanging nearly motionless from a branch). It generally departed for its day roost in Os between 02:00 and 05:00.

At 01:59 on 19 March 1993 we detected the arrival of this bat at its Amalii feeding area. The signal received indicated that it was flying away from the feeding area until 19:25 when it appeared to have landed in a tree approximately 75 m from the radio tower. The fast pulse rate of the transmitter over the next 28 minutes (until 19:53) indicated that the bat/transmitter was still moving within the tree. From 19:53 until dawn (06:10 on 20 March 1991) only the slow transmitter rate was heard, indicating a lack of movement. In the morning, the dead bat with its transmitter was found on the ground beneath a tree. It was lying vertical side-down. The eight humans had been shattered and the flesh associated with this hollowness and the breast along with the sternum had been removed. The ribs had been twisted or snapped off. The carcass had been eviscerated—the intestines were found in a pile nearby. There was no blood on the ground where the carcasses lay, suggesting it had been eaten from a tree perch. A close examination of the remaining carcass disclosed two puncture wounds in the neck and two small flesh perforations in the wing membranes, which were not present when we collected the bat.

We suspect the bat was caught by a Barn Owl either while it was in flight shortly after its arrival in Amalii or perhaps upon alighting in a tree. The fast signal rate (activity) from the tree was probably due to the stretching and easing by the owl. The slow signal rate probably began when the discarded carcass fell to the ground below.

Between 18:00 and 18:30 on 22 June 1994 J. Richmond and B. Blakely watched an owl attack a Pteropus tonganus departing from its roost in Oo Island. The owl approached at the owls' wing extended. The owl screeched at the owls' right side. The owls gathered around it and turned in the opposite direction. At 05:00 we found the owls dead on the ground on the left side.

Barn Owls are relatively common in American Samoa and are the only non-human predator in bats in American Samoa. Two were seen with bats or bird-like activity. Grant and Trefat (unpubl. data) have identified the remains of over 500 birds, bats, and lizards in American Samoa.

Key words: Pteropus tonganus, Tyto alba, predation, American Samoa.

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priles found in owl roosts on Tutuila, American Samoa. At least three owls roosted in a hawana within 200 meters of a large bat roost. No bat remains were found in owl roosts on American Samoa. This is not unexpected as it is unlikely that an owl can carry a bat to its roost and the bat is too large to swallow whole. Feeding would probably take place at the site of the kill (as with our transmitter-equipped bat). Elsewhere, Barn Owls feed primarily on rodents but also take other small mammals, birds, reptiles, and invertebrates (Marti 1973).

Flying foxes in Samoa are similar in mass to Barn Owls. Marti (1990) gave a range of 400-700 grams for Barn Owls in Utah while four Barn Owls in American Samoa weighed 282 to 290 (mean = 302.5) grams. Volans Tonga flying foxes weigh 210-350 grams (n = 1; unpubl. data). Interestingly, the Madagascar Harrier Hawk (Polyboroides radiatus) captured and ate a Pteropus rufus that weighed nearly as much as itself (Goodman and Pidgeon 1992). The closely related Masked Owl (Tyto novaehollandiae) of Tasmania sometimes eats prey items weighing more than itself (Mooney 1993). We cannot rule out the possibility that the transmitter and collar made this bat more vulnerable to owl predation. However, the movement pattern of this bat on the evening of its death was consistent with its pattern over the previous 104 days and the final attack observed by Richmond and Balick suggests that Barn Owls may regularly take flying foxes in American Samoa.

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LITERATURE CITED


