

A NESTING OF THE DOUBLE-TOOTHED KITE IN PANAMA

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The Double-toothed Kite (*Harpagus bidentatus*), currently considered one of the true kites of the subfamily Milvinae, ranges through tropical America from southeastern Mexico to Brazil and Bolivia (Friedmann, Birds N. and M. Amer., part 11, 1950:113-114). It is a small forest hawk, about 15 inches long, with rather rounded wings and tail. The upper parts, including the sides of the head, are slaty, and the under parts are largely rufous, barred with whitish on the breast and abdomen. This barring is very conspicuous in the northern race, *fasciatus*, which occurs in Panamá. The double-toothed feature of the bill is of course not a field-mark. Despite the wide range of the species, nothing definitive seems to have been published on its nesting and little regarding its general behavior. Hence the following brief observations, made at the well-known laboratory on Barro Colorado Island, in the Panama Canal Zone, may be of interest.

On June 23, 1951, two Double-toothed Kites were noted at the south edge of a clearing in the tall and very sparsely foliated roble tree (*Tabebuia pentaphylla*), whose crown projected above the adjacent woods, affording a good view from the laboratory. During the following days one or both birds could frequently be seen perching quietly in the bare branches of this tree, or occasionally hunting lizards in nearby trees. The kite would chase a lizard up a slanting branch, hopping after it—not flying—with wings spread to maintain balance. This method of hunting, although it looked clumsy, was apparently successful, for I often saw them holding a captured lizard. The kite also ate large green insects. In El Salvador a specimen taken by van Rossem contained remains only of reptiles and insects (Dickey and van Rossem, The Birds of El Salvador, 1938:106).

I saw nothing to support the view expressed regarding the nominate race in Colombia, that it "feeds entirely upon small birds" (Todd and Carriker, Ann. Carnegie Mus., 14, 1922:146). The roble favored by the kites was also a favorite perch for many small birds. Especially in the afternoon one could often see a kite sitting quietly on a bare branch, while not far above him honeycreepers and tanagers of various species unconcernedly perched or moved about. On one occasion when a kite was chasing a lizard in a rather low tree, a pair of seedeaters (*Sporophila aurita*) did raise a noisy protest, but these birds had young, probably nearby, that had recently left the nest.

When the kites were not perching, they quickly slipped into the concealment of the forest; hence there were few occasions to see them in a long flight. Several times they did cross the clearing with several flaps alternating with a glide, much in the manner of an *Accipiter*.

On June 28, at 9:15 a.m., I observed copulation. There appeared to be no courtship display or preliminaries. The female was sitting in the roble, she turned her head from side to side, as if looking about, and the male appeared, mounting immediately. The next day I discovered the nest. It was about 75 feet up in a tall spiny cedar (*Bombacopsis fendleri*) whose crown was adjacent to that of the roble. Unlike that tree, the nest tree was thickly foliated. The nest was a shallow saucer of twigs, placed in a crotch where one of the main branches forked. It could be seen from the steps that climb the hillside to the laboratory, but the leafage prevented a view from above. I watched the nest most of the morning. The kite (which I assumed to be the female) was apparently completing the nest. She alternately sat down and stood up, as if shaping the nest; occasionally she picked up twigs and moved them about. She seemed wary, continually

looking around when at the nest. Between 9:42 a.m., when I first noticed her leaving the nest, and 10:56 a.m., the latest I saw her on the nest that morning, she was at the nest for periods of 3, 3, and 22 minutes and was absent for 2, 3, and 8 minutes. When she approached or left the nest she always paused quietly for about a minute on a nearby branch. During the afternoon I observed neither kite in the vicinity, but towards evening I heard their characteristic shrill notes, a *chiew-ip* and a high *cheep* or *pseep*.

On June 30, July 1, and July 2, I did not see the kite go to the nest at any time. Although I did not watch all day, it was clear that incubation was not yet in progress. On June 30 one of the kites was in the roble during the early morning. On July 1 a kite brought a lizard in its talons to the roble in the morning, but then flapped and glided into the forest with it. That afternoon, following a rain, both kites sat for a long time in the roble with wings spread, as if drying out. On July 2 both kites were seen on the roble several times eating lizards or preening.

On July 3 incubation began. By late afternoon the female was sitting on the nest and she was still there when darkness made further observation impossible. Although I had watched the kites only casually that day, both birds were seen frequently in the roble.

On July 4 I first saw a kite at 7:57 a.m., when one flew across the clearing. At 8:10 a.m. the female flew to the nest from the roble without pausing on a branch, as had been her practice while building. She remained on the nest for twenty minutes, then the male arrived in the roble with a large green insect (probably an orthopteran). The female called *chiew-ip* several times, flew to the male, took the insect from him and ate it. She remained on the same limb with the male for seven minutes, preening. At 8:43 a.m. two Swainson Toucans (*Ramphastos swainsonii*) arrived at the top of the roble. Their presence was ignored by the kite who continued preening. A minute later she flew back to the nest followed closely by the toucans. As she reached the nest one toucan stopped some ten feet away, while the other flew right to the edge of the nest. The kite spread her wings over the nest, but the toucan boldly faced her. While in actual bulk not very much larger, the toucan must have been sufficiently intimidating, for although I saw no movement made with its enormous bill, the kite, after looking about nervously for a moment, slipped off the nest and disappeared. The toucan hopped into the nest, picked up an egg—which appeared whitish speckled with brown—and swallowed it, tipping up its bill a little. The two toucans then flew to a bare limb of another tree where they yelped for at least half an hour. In his paper on *Ramphastos brevicarinatus*, Van Tyne (Univ. Mich., Mus. Zool., Misc. Publ. 19, 1929:22) mentions reports of toucans preying on nestlings.

Meanwhile, at 9:00 a.m., one of the kites, apparently the male, flew into the roble with a small lizard. For ten minutes without pause he *cheeped* (like a young chick), occasionally picking up the lizard with his bill and setting it down again. For another 15 minutes he sat quietly. Then the female appeared; the male called *chiew-ip* and tendered the lizard with his bill; the female rejected the offer and flew to the top of the tree. The male then uttered several times a note I had not previously heard, a plaintive *tsiew-ip*. The female flew off. The male waited a little and finally gulped down the lizard. Ten minutes later he left, too. At 10:00 a.m. she was again at the nest, but only for 15 minutes. Between 10:15 and 11:00 a.m. she ate three green lizards, two of them brought by the male. At 11:10 a large woodpecker (*Phloeocastes melanoleucos*) flew into the roble. The female kite left the tree, but the male twice flew at the woodpecker, without disturbing him. The kite now returned to his own perch. A few moments later the woodpecker dropped down within four feet of the kite and began pecking away. The kite attacked again, this time chasing off the intruder. During the afternoon the male con-

tinued to show intolerance. At 1:30 p.m. some White-faced Monkeys (*Cebus capucinus*) entered a *Cecropia* tree nearby. The kite left his perch in the roble and flew at the monkeys, which dropped squealing to the lower branches and soon disappeared into the forest. The kite now crossed the clearing and perched there for an hour. Meanwhile the female once briefly appeared on the roble and ate a lizard. At 3:30 p.m. two Swainson Toucans once more entered the nest tree, followed by some smaller toucans, the Collared Aracaris (*Pteroglossus torquatus*). They did not remain long, and the larger toucans flew off. The male kite now returned to the roble and, seeing the aracaris, gave chase. One of the large toucans flew into the tree, and the kite flew off.

I was away from Barro Colorado Island for several days after July 4. On my return the nest was deserted and I did not see the kites again. However, I continued to hear their calls daily, coming from the nearby jungle, until my departure some ten days later. Their remaining in the locality suggested that they might be trying to nest again.

Summary.—An unsuccessful nesting of the Double-toothed Kite (*Harpagus bidentatus*) was recorded in June, 1951, on Barro Colorado Island, Panamá. The chief prey of the pair watched was lizards and large insects. Hunting of lizards occurs by chase on foot along a limb, with the wings spread for balancing. The male brought food to the incubating female. On the second day of incubation, a Swainson Toucan (*Ramphastos swainsonii*) came to the occupied nest, caused the female to leave, and ate one egg.

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