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## Nesting records of the genus *Daptrius* (Falconidae) from the Brazilian Amazon, with the first documented nest of the Black Caracara

Andrew Whittaker

Conjunto Acariquara, Rua Samaumas 214, 69085-410, Manaus, AM, Brazil

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**RESUMO.** Registros de nidificação do gênero *Daptrius* na bacia Amazônica, Brasil, com a primeira documentação do ninho do Gavião-de-anta. O gênero *Daptrius* tem duas espécies *D. ater* e *D. americanus*. A biologia reprodutiva destas espécies é pouco conhecida. Eu apresento aqui a primeira descrição confirmada do ninho de *D. ater* e informo sobre as observações no ninho de *D. americanus*, incluindo dados sobre o comportamento reprodutivo coletivo e o uso de sentinelas para vigiar o ninho.

**PALAVRAS-CHAVE:** Bacia Amazônica, biologia reprodutiva, *Daptrius*, espécie indicadora, *Falconidae*, reprodução coletiva, sentinela.

**KEY WORDS:** Amazon basin, breeding biology, communal breeding, *Daptrius*, Falconidae, indicator species, sentinel.

The Black Caracara, *Daptrius ater* is found throughout the Amazon Basin and the Guianas, inhabiting edges of *terra firme* forest, tropical forest fragments, and forested river banks (Hilty and Brown 1986, Thiollay 1991, Robinson 1994). *Daptrius ater* is usually found to be a fairly common and widespread raptor, being most often observed in pairs or small family groups of three to five birds. However very little has been documented regarding the species breeding biology. Brown and Amadon (1968) report *D. ater* nests from March-June in Guyana, making a stick nest in a tree and laying two or three eggs, but provide no further information on the nest. Robinson (1994) reports nesting from a 200-ha pantanal habitat in Manu National Park, south eastern Peru in an area with isolated trees, but gives no further information. Also a female in breeding condition was reported by Carriker (1955) from Columbia in early August.

The Red-throated Caracara, *Daptrius americanus* is found from extreme southeastern Mexico, south through Central America to western Ecuador, eastern Peru and Amazonian Brazil (Hilty and Brown 1986) and was recently reported in parts of southern Brazil (Straube and Bornschein 1989). *D. americanus* is more of a forest interior bird than *D. ater* and is found to be uncommon however widespread in large areas of intact lowland rainforest, both *varzea* and *terra firme* (Hilty and Brown 1986, Thiollay 1991). Declines in populations in Central America during the 1950s and 1960s have been noted and in recent years it has disappeared from most of its Middle

American range, even where forest remains intact (Stiles and Skutch 1989). *Daptrius americanus* therefore may be an important "indicator species" for monitoring conditions of tropical rainforests. Thiollay (1991) during his studies of home ranges of three groups in virgin forest in French Guiana concluded *D. americanus* required large home ranges, areas estimated from 396 ha up to 510 ha. The social behavior of *D. americanus* habitually traveling around in small, often very noisy groups of five to seven birds (Thiollay 1991) inside the forest, makes it one of the most conspicuous and easily encountered Neotropical forest raptors. Despite this, *D. americanus* is a rather secretive breeder with very few records of the species unique communal breeding behavior (Thiollay 1991). Thiollay (1991) provides the only nesting record for *D. americanus* which is from French Guiana where a nest containing nestling(s) in February-March 1990. The nest being well hidden, 22 m high in a vine-covered tree. *Daptrius ater* nest. While traveling up the Rio Tejo, a tributary of the Rio Juruá, Acre, western Amazonian Brazil, on 22 November 1994, I encountered a single *D. ater* building a nest. The bird was carrying large, bare twigs of about 60-70 cm in length to a nest being built in a 25m high tree. The tree was on a tall river cliff where the *terra firme* forest came right down to the river bank. The area surrounding the nest was mature *terra firme* and transitional *varzea* forest. The nest was well-concealed in the top of a large clump of flowering bromeliads situated at a height of about 18-20 m in the

crown of the tree. The bromeliad clump was situated on the only major junction of the main trunk where a single, large almost-horizontal bough branched out. The bromeliad clump covered an area of about 2 x 0.75 m in height, where the tree crown was rather open, with no other large branches, and sparsely covered with small leaves offering very little protection to the nest. The nest, however, was only partially visible because of the large size of the bromeliad. From what could be seen from the ground, the nest consisted of large bare branches. I returned to the nest site again on 4 December and observed a bird flying to the nest, calling in flight but not carrying any nesting material. I judged the nest to be basically the same size as in the previous visit and it was still well hidden, certainly not an obvious bulky nest as in some other Neotropical raptors. From these brief observations it was not possible to determine the stage of construction of the nest.

I also have recorded an immature bird with dull yellow gray facial skin and brown eyes giving food begging calls to a near by adult on 5 July 1996 along the Rio Apuau, Amazonas, Brazil.

*Daptrius americanus* nest. During a short stay (24-30 January 1995) at Fazenda Rancho Grande near Ariquemes, Rondonia, southwestern Brazil (10°17'S, 62°52'W), I discovered a nesting site of *D. americanus*. The nesting tree was a dead isolated hollow tree trunk in cattle pasture situated about 250 m from a small corridor of tropical forest leading to virgin *terra firme* 1 km away. Within the pasture, adjacent to the nest, there were several scattered trees including a small clump within 75 m of the nest. The surrounding area was dominated by rolling *terra firme* forest with some hills (200-300 m) with large exposed boulders. Several farms were found along both sides of a dirt road dissecting the forest and forming a rough patchwork of pasture, cacao plantations, secondary growth and small isolated tracts of forest.

At 17:30 on 25 January I saw a single adult *D. americanus* perched in an isolated tree in the middle of cattle pasture. The caracara was well away from the nearest forest and did not vocalize as I approached and stopped along a well-used dirt road in a small bus to within 250 m distance. Normally, *D. americanus* are found in small groups within the forest, or perched at a forest border and are usually very vocal when approached. This atypical behavior made me suspect that the bird may have been a sentinel overlooking a possible nesting site nearby. Returning to the area on 27 January at 17:45 as I walked along the road, a caracara flew across the pasture calling loudly and landing in a line of trees about 100 m from where I had first seen a caracara two days before. A few minutes later a caracara started calling loudly from the same general area and a second bird appeared, flying out from behind a large isolated dead tree stump. This second caracara flew across the pasture and perched in the same tree that I had observed the bird the first afternoon. The bird remained perched there at the top of

tree silently, and was presumably taking up sentry duty. The first perched caracara then flew silently to the large dead isolated tree stump, flying behind it and out of sight near the top.

The nesting stump was about 18-20 m tall and about 3 m in diameter, with a large single broken fork about 2 m from the top. At the base of the fork grew a strangler fig (*Ficus* sp.) about 1 m tall. One side of the stump had a large hollow at a height of about 16-17 m and was about 1.0 m in diameter, and 0.5 m high. Across the entrance of the hollow there were a couple of thick 3-5 cm diameter bare fig roots forming a loop. I was unable to see the nest, which was most certainly within the hollow of the stump. After about 5 minutes the sentinel flew back to the nearby forest, from which another bird appeared calling. This third bird flew out of the forest corridor, across the pasture towards the nest and was carrying food, a large round fruit in its beak. It flew past the stump and landed on a large palm tree in a small clump of trees. The fruit was about 2 cm in diameter and perfectly round, probably a palm fruit. A minute later the bird flew directly to the top of the nesting stump and went behind and out of site. Almost immediately another bird appeared from behind the stump, flying silently to the forest. The following afternoon a *D. americanus* was seen perched on the fig roots at the entrance to the nest. The bird remained perched for half a minute before flying off to the nearby forest. On a return visit to the site on 3 November 1995 I still found activity around the nesting stump. One adult caracara was perched on the stump calling while another flew out from the nest hollow and followed the calling bird as it now flew to the nearby forest edge. I was unable to confirm if the second caracara was an immature bird or not.

Thiollay (1991) records three identified prey items brought to feed nestlings, all different types of wasp nests with larva. The main diet of *D. americanus* is wasps nests and their larva (Skutch 1959). Thiollay (1991) recorded that 74% of all food items were either wasp nests or other insect nests and that 9% was hard fruits. Fruits, especially palms, have also been noted for *D. americanus* (Stiles and Skutch 1989). Thiollay (1991) stated that palm fruit was probably a regular component of their diet. Palm fruits are also known to be taken by *D. ater* (Sick 1984).

Thiollay (1991) also observed, as I did, one or two individuals on sentry duty, within 10-40 m of the nest site, in the forest canopy. As other members of the social group arrived bringing in prey items to the nest, a sentinel would leave the nest area to feed, leaving the recent new arrival to take up duty after feeding the young. As many as four individuals were seen sequentially delivering prey to the nest. Although the location of this Rondonian nest site in pasture was decidedly different from the French Guiana site of Thiollay (1991) which was in dense forest, the brief behavior I recorded was very similar. I believe that the markedly different nesting location of the Rondonia birds most certainly would result in the caracara's resorting to

some different or at least modified behavioral strategy at the nest.

Thiollay (1991) concluded that his study group of caracaras apparently successfully bred only twice in 5 years. However he did observe an adult carrying twigs one December, which was presumably another possible nesting attempt, which most certainly failed. He also recorded from another group a single immature bird being fed by adults in October. I observed a single immature *D. americanus* giving continuous food-begging calls and being fed by at least two adults in January 1995 on the Anavilhanas archipelago in Amazonas, Brazil.

The only other nesting data to my knowledge for *D. americanus* was reportedly a twig nest in a tree containing 2-3 white or buff colored eggs spotted brown (Brown and Amadon 1968). Also an isolated tree was used for nesting in south eastern Peru (Robinson 1994), but with no further details. Breeding-condition birds have been recorded in Colombia on 11 July (Carraker 1955), and from Panama in late May (Wetmore 1965).

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