wounds were noted, ranging in size from 1.5 cm × 1.5 cm × 1 mm deep to 2.5 cm × 2.0 cm × 10 mm deep. The wounds located at the dorsal body surface were examined for the feasibility of an eagle kill by using the claw of a dead eagle awaiting necropsy at the NWHL. The eagle's claw, when spread into a striking position, fitted the talon wounds found on the crane.

Internal examination revealed a large, wedge-shaped laceration about 2 cm across and 2 cm deep on the right liver lobe with an associated blood clot attached to this laceration. Scattered edema and pulmonary hemorrhages were found along the ventral border of the right lung. The right abdominal air sac was filled with blood. Rupture of the liver was the probable cause of death.

Bacterial, viral, parasitic, and chemical analyses of tissues indicated that this crane had no detectable diseases, defects, or toxicants. Abundant quantities of subcutaneous, abdominal, and coronary fat and the degree of muscular development showed that the bird was in very good condition.

On 6 August 1979, this crane was banded at 56 days of age by personnel of the Idaho Cooperative Wildlife Research Unit and fitted with a 50-g radio transmitter leg pack to facilitate observations of movement and behavior. The bird was observed frequently before migration. During that period, it appeared to be normal and healthy. As further evidence of its physical soundness, it had migrated an airline distance of 400 km since departing from Grays Lake on 11 October, 2 days before the eagle attack. We conclude that this healthy immature whooping crane died as a direct result of an aerial attack by a golden eagle.

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## New Brazilian Records for the Golden Parakeet (*Aratinga guarouba*)

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Recent sight records and a specimen in the collection of the Museu de Zoologia in São Paulo, Brazil establish a large extension of the range of *Aratinga guarouba,* the Golden Parakeet. These data are of particular importance for several reasons. Haffer (1974) used the Golden Parakeet to help define the "Belém refugium" as part of the larger theory of Pleistocene refugia. This parakeet is a taxonomically isolated species with no close relatives or geographical representatives among the many other species of *Aratinga*; the golden yellow plumage and dark green remiges as well as the large bill are unique in the genus. Virtually nothing is known of its habits in the wild (Forshaw 1973). Furthermore, the species is considered endangered and afforded special protection by the Brazilian National Forestry Institute (IBDF), which is charged with faunal protection.

Meyer de Schauensee (1970) lists the range of *Aratinga guarouba* as extending from the east bank of the Xingú to the Rio Capim and adjacent Maranhão (Fig. 1). Peters (1937) includes the possibility that the species occurred as far east as Ceará, based on the description of the "Quijubatui" by Marcgraf (1648). Under this designation, Marcgraf unambiguously described *A. guarouba* in a brief three-line account in his classic work, including at the end that the bird is "easy to domesticate." This suggests that he knew the species as a cage bird. Several bird species were involved in aboriginal trade in the New World (Haemig 1978, 1979), and the spectacular saffron and green Golden Parakeet would have been a primary candidate for such trade in early Brazil, just as it is today. The eastern limit of the modern range of the species coincides with the western-most extension of Dutch Brazilian territories during the 17th century, when Marcgraf worked there (Fig. 1). We think that the specimen he described was a trade bird brought to his base in Recife from Maranhão or Pará and that the species never occurred in the wild in northeastern Brazil.

In contrast to the dispute about the eastern limit of *Aratinga guarouba,* the western limit has been given consistently as the Xingú. Pinto (1978) revised this to the Tapajós, based on a single juvenile specimen collected by Olalla in 1962 at Fordlândia on the eastern bank (specimen §56313, Museu de Zoologia da Universidade de São Paulo), which was taken from a flock of seven individuals.

Sight data indicate that other populations exist between the Xingú and Tapajós and on the western

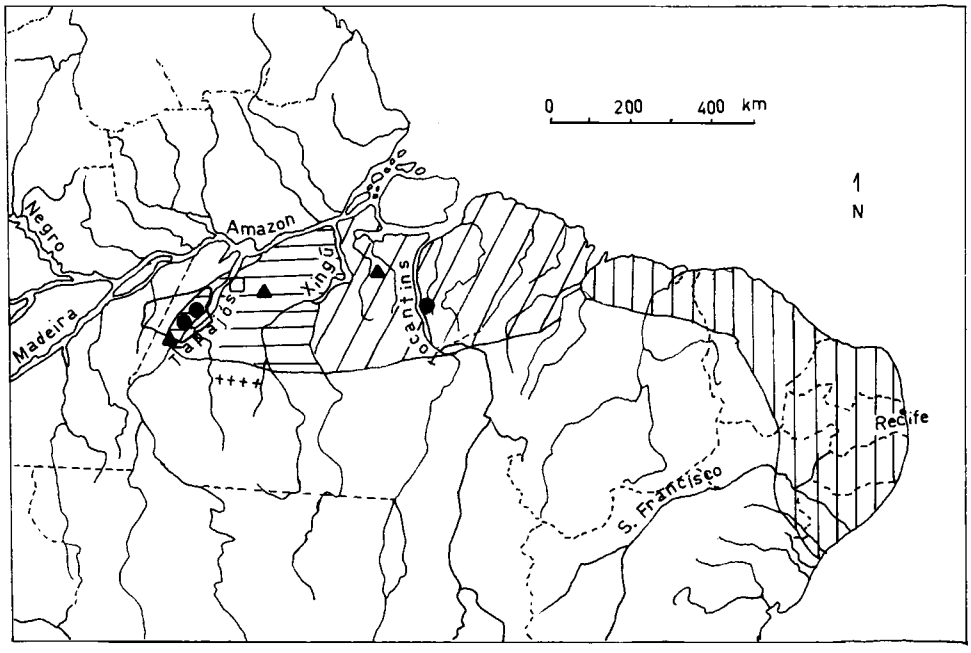


Fig. 1. Distribution of *Aratinga guarouba* in northern Brazil. Diagonal hatching: listed range of *A. guarouba* in Meyer de Schauensee (1970). Horizontal: new territory in *A. guarouba* range. Vertical hatching: approximate maximum extent of Dutch Brazilian territories 1630–1648 (circa 1641). Circles: Oren observations. Triangles: Willis observations. Open Square: Museu de Zoologia da Universidade de São Paulo specimen. Enclosed area along the Rio Tapajós is the Tapajós National Park. Crosses mark Snethlage's overland route in 1909. Dashed lines are political boundaries.

side of the Tapajós (Fig. 1). The following are sight records along the Trans-Amazonian highway from west to east: km 186 southwest from Itaituba, 14 September 1974, flock of 10 in tree canopy by road in forested hills (Willis and Y. Oniki); km 95 southwest from Itaituba, 27 October 1978, flock of 8 in isolated dead tree near forest edge in 2–3-yr-old field (Oren); km 82 southwest from Itaituba, 23 November 1978, flock of 8 in isolated Brazil nut tree (*Bertholletia excelsa*) in 3–4-yr-old field (Oren); km 60 southwest from Itaituba, daily observations of flocks of 6–11 individuals from 26 November–5 December 1978, roosting in isolated Brazil nut trees, feeding on fruits of bacaba palm (*Oenocarpus* sp.) and feeding on an unidentified lauraceous tree (Oren); this same locale, 19 August 1979, flock of 10 in isolated tree (H. Sick, Oren, and J. Zickefoose); and again at this locale, 27 August 1979, several flying over (H. Sick in litt.); total of 7 seen at various sites between Itaituba and Altamira, 22 September 1974 (Willis). Within the previously known range, Willis saw Golden Parakeets on 23 September 1974 between Altamira and Marabá, east of the Xingú, and Oren saw overflights of 5–12 individuals daily from 7–19 June 1980 at Tucuruí, 18 km east of the Tocantins. On 20 June 1980 an extraordinary flock of 27 Golden Parakeets flew over the Tucuruí site, part of which is soon to be inundated by a hydroelectric project. All observations were on hilly upland sites, not along rivers.

The known range of *Aratinga guarouba* should therefore be revised to include this additional territory west of the Tapajós (Fig. 1). It is difficult to say whether these records indicate an active range extension of the Golden Parakeet. Snethlage (1914) explored the Xingú and Tapajós basins in 1909, following the rivers most of the way and making one extraordinary overland trip between the drainages. Although she collected the Golden Parakeet at Victória on the Xingú, she did not record it anywhere else on the expedition nor did any other collector in the region until Olalla. Collectors traditionally kept close to the river margin, where travel was relatively easy, rather than venturing into the uplands. Given the Golden Parakeet's preference in this region for upland habitats, the absence of records from early collectors cannot be taken as evidence that the bird did not occur in these regions in the past, with the exception of the area along Snethlage's upland route, which is south of the species' range (Fig. 1). Willis also failed to find the species in the uplands between Santarém and Palhão in 1966. It is likely that *A. guarouba* has

inhabited its current range for many years, undiscovered until the Trans-Amazonian highway made these upland habitats easily accessible.

The Tapajós National Park, Brazil's only national park in Pará state, covers over 1,000,000 ha in the region of these new records (Fig. 1). Although the Golden Parakeet is threatened by continued hunting in the area, both by local subsistence farmers and weekend and holiday intruders, the Brazilian Forestry Institute is currently training new guards for the Park, which should improve the situation. Thus, the population of this parakeet in the Tapajós National Park may be the best protected in the range of the species. Elsewhere, the Golden Parakeet remains threatened by hunting for food, capture for the pet trade, and habitat destruction.

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## Field Notes on Winter Flocks of the Ocellated Turkey (*Agriocharis ocellata*)

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Although the Ocellated Turkey (*Agriocharis ocellata*) (=*Meleagris ocellata*, cf. Steadman 1980) is one of the most conspicuous members of the avifauna in the Peten region, relatively little is known about its natural history. Recently, Steadman et al. (1979) have provided careful documentation of the activities of this species during the breeding season; no substantial first-hand records are available, however, on the prebreeding winter flocks of *Agriocharis*. This note aims to help bridge this gap by supplying details from 25 h of observation made between 14 and 25 January 1979 on the same flocks that Steadman and his colleagues studied at Tikal National Park, Guatemala.

Ocellated Turkeys are extreme generalists in their feeding habits, eating a wide variety of plant materials as well as insects (Gaumer 1883, Leopold 1948, Steadman et al. 1979). Items that we observed taken in January included leaves of *Ambrosia artimisiifolia, Zebrina* spp., *Vitis* spp., and *Paspalum* spp. (Poaceae), as well as grass seed heads of *Paspalum conjugatum,* nuts of Arecoid palms, and the fleshy mesocarps and seeds of *Brosimum alicastrum* (Moraceae) that had been dropped from the trees by parrots and spider monkeys. Insects, such as leaf cutter ants (*Atta cephalotes*), moths, and beetles, constituted only a minor fraction of the diet in January, with the bulk of the feeding activity being focused upon browsing vegetation and upon stripping seed heads from grasses. On one occasion, however, we observed two adult males feeding intensively on a column of leaf cutter ants carrying flower parts.

Individuals tended to alternate their choice of food types, typically spending from less than 30 s to 1 min on a specific food item, even it is was an abundant one. For example, during one 40-min span of observation, a solitary male followed a fixed sequence of stripping grass seed heads, browsing, and then pecking, spending approximately 33, 17, and 41 s in each activity (average of four counts). This pattern was repeated 11 consecutive times with intervening periods of walking or standing still. Although such extreme uniformity in the spacing of food choices may not be typical, alternating the food items was. This alteration may be an adaptation to protect against the deleterious effects of consuming poisonous plants, either by diluting possible toxins or by providing a lag time for the induction of detoxifying enzymes. Such mechanisms may be important to an unselective generalist and have been found in insects