

Incubation of Ocellated Turkey Eggs

(*Agriocharis ocellata*)

using the common turkey as a foster mother

by Johanna Motta

Wildlife Preservation Trust International

It's five o'clock in the morning and the sun starts to appear in Tikal National Park; surrounded by the noisy voices of hundreds of parrots and the strange vocalization of oropendolas. We leave our warm sleeping bags after a rainy night. With a hurry we walk toward the lost world (El mundo perdido). This archaeological site is where a big group of ocellated turkeys gathers every evening looking for a secure roosting site. One of the two traps is located in front of a Mayan temple. For a period of one month, Wildlife Conservation International (WCI) personnel have been giving corn to the Ocellated Turkeys trying to adapt them to the presence of the trap and to the bait. A few minutes after spreading the corn, a strange sound fills the environment. Like small helicopters, one by one, the turkeys start to descend from their roosting sites. With a perfect landing, their heavy bodies touch the ground. A group of five turkeys come running toward the trap, looking for the free banquet. The trap is activated, but in a matter of seconds, four of them escape. The only trapped bird is radio tagged and then released. After a week, five females were radio tagged. These birds are not "turkeys" at all!

It seems that some birds might disappear faster than others. Birds that live under the forest canopy, are insectivorous or have a territorial social system, may be the first to go. In this large group we could include the Ocellated Turkey, a regional endemic species whose distribution is restricted to the lowland tropical forest of Peten, Guatemala; adjacent Central and Northern Belize, and the southern

portions of Mexico. The distribution of the Ocellated Turkey with this area is somewhat patchy due to habitat destruction and hunting pressure. A more ominous threat to the Ocellated's status seemed to be the fear of domestic poultry diseases to which they are extremely susceptible and regularly exposed through frequent contact with free roaming village flocks that can be found through their range. Although the Ocellated Turkey is one of the most conspicuous members of the avifauna in the Peten region and one of the important gamebirds in the area, relatively little is known about its natural history.

The Ocellated Turkey is part of the family *meleagridae*, together with the common turkey *Meleagris gallopavo*. Its plumage is a bright copper-bronze. The Mayans believed that these feathers were mirrors that allowed the turkeys to see their predators before they were caught. The naked blue head and neck are decorated with bright orange caruncles. Each feather is decorated with an eye-like pattern or ocelli from which the bird takes its name. Ocellated Turkeys prefer open and secondary forest, abandoned corn fields, wood edges and savannahs. They find almost all of their food on the ground where they consume a great variety of vegetable matter: chickweed, tender shoots and grass, fruits and seeds. A great part of their diet seems to be insects such as grasshoppers, crickets and beetles. The density and distribution of Ocellated Turkeys in heavily forested areas such as Tikal National Park may be largely controlled by the distribution and size of grassy areas. The scarcity of Ocel-

lated Turkeys noted by some observers in heavily cleared areas also argues for their need of forests. Smithe (1979) reported the turkeys at Tikal to be widespread but not numerous, and according to Steadman (1979) the density of Ocellated Turkeys in Tikal is about one individual per square kilometer.

During the months of February and March, the male turkeys start "singing", displaying a spectacular courtship behavior. Turkeys are polygamous, the dominant male being the only one that breeds with the females of its "harem". By spreading out his body plumage, the cock increases his size and displays his ornamentally colored feathers. He raises his tail and spreads it fully, showing the blue-green ocelli of each feather which attract the hen. The wings are dropped until they touch the ground, rattling over the floor making a drum like sound. At the same time the bare outgrowths of the head and neck swell up and intensify in color and a blue horn grows at the top of his head. In this curious posture the cock

Photos next page. Text continues on page 34.

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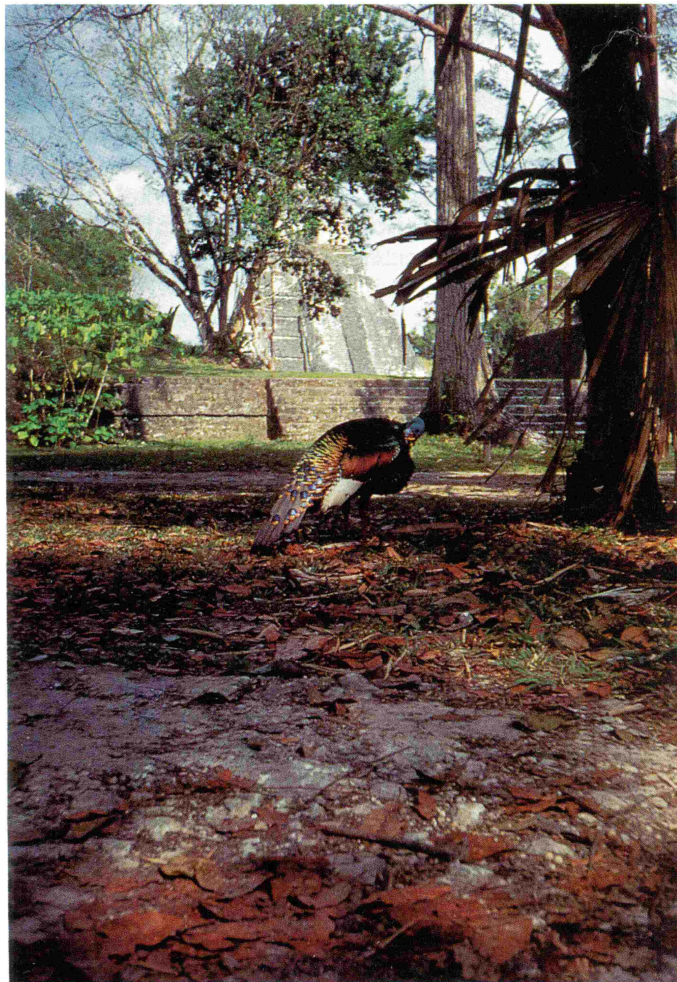
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Ocellated Turkey found in the Great Plaza at Tikal National Park.



Male Ocellated Turkey is "singing."



Ocellated Turkey poults reared by their common turkey foster mother.



Building where the brood chicken foster mothers were kept in the Hotel Camino Real Tikal.



Ocellated Turkeys at three months old.

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dances forward and back, stamping the ground in his full beauty, making himself irresistible. After a couple of weeks of serenades, the females disappear from the open areas looking for an appropriate nesting site. Although the clutch consists of an average of 10 buff colored eggs, the percentage of poults that survive is very low.

The objective of this project is to increase the survival rate of the Ocellated Turkey poults using a common turkey as a foster mother. Based on the fact that in Latin America it is a very common practice in the rural areas to incubate eggs of any species using hens or turkeys as foster mothers, why not try to increase the rate of survival of the Ocellated Turkey poults using a foster mother under controlled conditions?

The project was divided in two phases:

The first phase developed by WCI consisted in capturing the Ocellated Turkey females at Tikal National Park, radio tagging, monitoring and following them into their nest.

The second phase, developed by Wildlife Preservation Trust International (WPTI) consisted in collecting the eggs from the wild nests and putting part of them under a foster mother (common turkey) and some in an incubator.

In 1992, our only equipment consisted of an incubator donated by Idea

Wild. We were able to collect nine eggs but just three (33 percent) were fertile, and none of them hatched. This year, with a grant given by the American Federation of Aviculture (AFA), we were able to continue the project with great success.

The common turkeys used as foster mothers were kept in the Camino Real Tikal Hotel, 24 kilometers away from Tikal National Park. The flock consisted of four turkeys (three females and one male).

By the middle of April, there were still males singing. The tagged females were monitored daily by the WCI team. According to the irregular and changing radio signal, the females were still looking for a nesting site. After days of waiting for a steady and regular signal indicating that the females were nesting, it was decided to rely on the visual ability of Don Luis, a park ranger, to find wild nests. We looked in open areas of secondary growth, mostly dominated by the fern called "Chispa" (*Equisetum* sp). The Ocellated Turkeys' nests are built on the ground. The female walks in circles, stamping the vegetation and giving the nest its form. Usually the most common nesting site is the secondary vegetation; however, one of the nests was found in closed forest in the roots of a Ramon tree *Brosimum alicastrum*. Although it has colorful plumage, the female blends perfectly into the surroundings; when

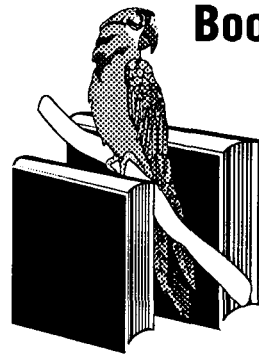
they are found early in the incubation period they tend to fly away, abandoning the nest for a couple of minutes, but when they are found in the middle or late incubation period they would stay on the nest, making a threatening sound to the intruder.

With an amazing ability and patience on April 21st, Don Luis was able to find one nest which consisted of 13 eggs. Seven of them were placed in a box covered with a sponge and then transported to the Camino Real Tikal Hotel. The eggs were put under the foster mother No. 1 for incubation. It was interesting to see that after some days, the wild female that was left with six eggs had produced two more. Of a total of eight eggs that were left in the nest, five poults hatched. The next day the female was found just with three poults. The three eggs that didn't hatch were collected, marked with a letter A and put in the incubator at a temperature of 37.5°C (99°F) and 60 to 70 percent humidity.

On May 7th, 11 eggs were collected from a nest which showed signs that the female had been killed (probably by a feline). The eggs were abandoned for probably three to five days. Seven of them were put under hen No. 1 and the rest were marked with a letter B and placed in the incubator. Approximately 100 meters from this nest, we found a female incubating nine eggs; three days later we went to check again, and surprisingly we found nine recently hatched poults.

Of the radio tagged females, just one was confirmed to be nesting. The nest was found in closed forest in the roots of a Ramon tree with eight eggs. Weeks later, the WCI team found the body of this bird without a head and the ocelli of the feathers were evidently cut. It seems that, on this occasion, a feline was not responsible for the bird's death. All the eggs were put in the incubator, although it seemed that just two of them were fertile.

Between May 17th and 18th the seven eggs that were under foster mother No. 1, hatched. Three days later, of the three eggs of group A that were placed in the incubator, two hatched. All the poults were put together to be raised by a common foster mother. On June 2nd, two eggs in the incubator (from group B) showed signs of hatching. Hours later, a poult was born showing leg deformation and the other one just pipped



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and died. The next day, three eggs from group C showed evidence of hatching. Of those three eggs, just one hatched. So out of five fertile eggs that were placed in the incubator, just two poults were produced; the poult that was born with deformed legs died one week later. The other one was raised together with a common chick, but died two months later due to diet problems.

In summary, nine poults of Ocellated Turkeys hatched. They appeared to be very independent and readily looking for insects. Their diet consists of commercial poultry food, mealworms and any kind of insects they are able to search for. Although the poults have been shown by their foster mother how to feed on the commercial diet, it has been difficult to make them get a sufficient amount. After some weeks, the poults started dying with no evidence of disease.

Three months later, the surviving poults have developed most of their colorful plumage and have reached almost the size of their foster mother.

According to Chadwick (1990), conservationists regularly point out that in saving an obscure life form in the wild, we may be preserving the genetic basis from which people could develop a valuable crop or type of livestock. That could be the case for the Ocellated Turkey, which has become exceedingly rare over most of its former range. The Ocellated Turkey is one important part of the Guatemalans' heritage that we must help survive.

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