

Ocellated Turkey

(*Meleagris ocellata*)

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PHOTO BY WENDY SHATTIL



Both male and female ocellated turkeys have a bronze-green iridescent feather color mixture, but neither have a beard. The voice readily separates it from the other species of turkey. In reality, no series of words or phrases can adequately express the ocellated gobble: you have to hear it for yourself.

There are only 2 species of turkey in the world; the North American wild turkey (*Meleagris gallopavo*), divided into 5 distinct subspecies, and the ocellated turkey (*Meleagris ocellata*). The ocellated turkey is known by several different names that vary by Central American locale: pavo, pavo ocelado, or its Mayan Indian name, ucutz il chican. Very little research has been done on the ocellated and less is known about the ecology of this turkey than any of the 5 subspecies of North American wild turkeys, including the Gould's (*Meleagris gallopavo mexicana*). The National Wild Turkey Federation, in partnership with the Wildlife Conservation Society and Hornocker Wildlife Institute, helped sponsor the first research project to trap and place radio transmitters on ocellated turkeys in Guatemala in 1993. Much of the information provided in this bulletin is a result of this NWTF-sponsored study.

While the 5 subspecies of the North American turkey can be found from northern Mexico throughout all the United States, except Alaska, and into Canada, the ocellated turkey

exists only in a 50,000 square mile area comprised of the Yucatán Peninsula of Mexico, northern Belize and the El Petén region of northern Guatemala. The Yucatán Peninsula range includes the states of Quintana Roo, Campeche, Petén, and Yucatan, as well as parts of southern Tabasco and northeastern Chiapas.

The ocellated turkey is easily distinguished from its North American cousin in appearance. The body feathers of both male and female birds have a bronze-green iridescent color mixture, although females sometimes appear duller in color with more green than bronze pigments. Unlike North American turkeys, breast feathers of male and female ocellated turkeys do not differ and cannot be used to determine sex. Neither male nor female birds have a beard.

Tail feathers in both sexes are bluish-gray in color with a well defined, eye-shaped, blue-bronze colored spot near the end followed by bright gold tip. The tail feather spots are similar to those seen on peacock feathers which led some scientists to once believe the ocellated was more related to peafowl than turkeys. In fact, these spots helped give the ocellated its name, as the Latin word for eye is *oculus*.

The upper, major secondary wing coverts, or wing bar, are a rich copper color and highly iridescent. It may be possible to age birds based on the width of this copper band; adults of both sexes appear to have wider bands, but more research is needed to confirm this trait. This method probably isn't totally reliable for females after the first year. The barring on primary and secondary wing feathers is similar to North American turkeys, but the secondaries contain more white coloration, especially on the outer edges.

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PHOTO BY HOWARD QUIGLEY

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Both sexes have a blue colored head and neck with distinctive orange to red, warty, caruncle-like growths, called nodules, but they are more pronounced on males. The head of the male also has a fleshy blue crown behind the snood which is adorned with yellow-orange nodules similar to those on the neck. During breeding season, this crown enlarges and the coloration of the nodules becomes more pronounced. Ocellated turkeys also have a distinct eye-ring of bright red colored skin, especially visible on adult males during the breeding season.

Legs of ocellated turkeys are shorter and thinner than North American wild turkeys and are deep red in color. Legs of adult males also have pronounced spurs; longer and more attenuated than those of North American gobblers. Spur lengths in males over 1 year old average at least 1.5 inches. Spurs longer than 2 inches have been

recorded. Without further study, it is unknown if spur length can be used to age ocellated gobblers. Although some previous reports have stated that female ocellated turkeys also have spurs, during 4 years of field work and trapping activities in Tikal National Park, only 1 female was seen with spurs, which were very small and best described as rudimentary buttons. Like North American turkeys, leg lengths of the ocellated differ between sexes. Average leg length for females is less than 5 inches as compared to over 6 inches for males.

Ocellated turkeys are significantly smaller than any of the 5 subspecies of North American wild turkeys. Adult hens weigh approximately 8 pounds just prior to egg-laying and nesting and about 6-7 pounds the remainder of the year. During the breeding season adult males weigh approximately 11-12 pounds.

In addition to appearance, the voice of the ocellated turkey readily separates it from the other species of turkey. The gobble of the male ocellated is preceded by a series of 3 - 7 low frequency hollow drumming sounds, not unlike the drumming produced by ruffed grouse, followed by a high-pitched gobbling-like noise. This drumming sound replaces the pulmonic puff given by turkeys in North America. The entire vocalization has been written phonetically as "whump-whump-whump—pum-pum-pum-peedle-glunk" or "ting-ting-ting—co-on-cot-zitl-glung," but in reality, no series of words or phrases can adequately express the ocellated gobble: you have to hear it for yourself. Males also make a call very similar to the cluck of other turkeys, but with a more nasal



PHOTO BY CURTIS TAYLOR

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quality, bordering on a flat putt. This cluck appears to be used as both a short range location call and given louder as an alarm call. Hen ocellated turkey vocalizations appear to be limited primarily to a nasal sounding cluck, and it is used in the same situations described above for males. Other noises made by ocellated turkeys are variations in tone and frequency of clucks and have been listed as a "beep," similar to a woodcock, a "hee-haw," 2 very nasal clucks, and a Canada goose-like call which sounds like a part of the gobble. There are reports of hens giving a low whistling call lasting about 0.5 seconds, given in situations similar to when the kee-kee, or lost call, is given by North American wild turkeys. However, it appears that ocellated turkeys are not nearly as vocal as the other species of turkey, as most calls heard during the Tikal National Park study were limited to the gobbling of males and cluck-putt of both sexes. With the many predator species found in the tropical forests of Central America, it may be advantageous for ocellated turkeys to remain silent as much as possible and not advertise their position.

The range of the ocellated turkey is comprised of many diverse habitat types; from arid brushlands, savanna, marshland, and second growth forest interspersed with abandoned farmland called milpas and old growth mature rain forests.

Active farmlands also occur in this area and are the product of what ecologists refer to as "slash and burn agriculture," where forestlands are cut, burned to remove any residual vegetation, then planted to corn, beans and squash. These sites are farmed until the thin soils are depleted of nutrients or eroded away during rainy seasons. Burned areas not farmed are converted to pasture for cattle grazing, but these pasture grasses are soon replaced by thick patches of shrubs and vines unpalatable to cattle. Large scale timbering operations followed by slash and burn agriculture are one of the primary threats to the future of the ocellated turkey. Quality wildlife habitat across Central America is being lost at an alarming rate, especially in the range occupied by ocellated turkeys.

The most impressive and undisturbed habitat occurs in the Petén region of Guatemala and northwestern Belize. Within this region is the Maya Biosphere Reserve (5,780 square miles) which contains Tikal National Park, a 220-square-mile area containing significant Mayan archaeological ruins. Timbering activities are prohibited in the Park and regulated within the Reserve. Ultimately the Reserve will be managed under a multiple use concept. These areas consist of tropical lowlands less than 1,000 feet in elevation with an average yearly rainfall of approximately 80 inches that occurs primarily May through November. There is a pronounced dry period from December through April when daytime temperatures commonly reach in excess of 100° F. Temperatures during the coldest months of December and January rarely drop below 70° F. With this amount of rainfall, temperature regime, and defined wet and dry periods, ecologists refer to this region as a "quasi-rainforest" or "Tropical Dry Forest."

Two main types of dominant cover make up this tropical forest and are referred to as "low forest" and "tall forest." In low-lying wet sites, called bajos, large trees are sparse and rare-



PHOTO BY CURTIS TAYLOR

The diverse habitat types include active farmland, the product of "slash and burn agriculture." Large scale timbering operations followed by slash and burn agriculture are one of the primary threats to the future of the ocellated turkey..



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An impressive, undisturbed habitat area is 220-square-miles in northern Guatemala in the Tikal National Park, part of the 5,780 square mile Maya Biosphere Reserve containing significant Mayan archaeological ruins. Timbering activities are prohibited in the Park and ultimately the Reserve will be managed under a multiple use concept.

ly exceed 60 feet in height, while the understory is choked with thorny shrubs and vines. These low forests consist of either escoba and botan palm, or thick, nearly impenetrable, expanses of tinto or logwood tree. Bajos may be covered with standing water for as many as 6 months of the year. Ocellated turkeys seldom use these low forests and bajos. Higher, better drained areas are comprised of large trees sometimes exceeding 170 feet in height. Although there are numerous tree species in the tall forest, a mix of zapote, mahogany, ramon, fig, and Spanish

cedar is predominant on many sites. These areas are heavily used by turkeys throughout the year, especially when the ramon and zapote are producing fruit.

As with the North American wild turkey, forest openings and grassy clearings are also important habitat types for ocellated turkeys. These areas provide food for adults and poults such as grasses, mint-like herbs, small seeds, insects, and dropped fruits from bordering trees. Clearings are especially important during breeding season; males and females travel to these areas immediately after leaving the roost and stay for several hours. Nearly all strutting, mating, and a large percentage of gobbling activity, takes place in or near clearings. In many parts of the tropical forest, small, grassy clearings are lacking and may be a limiting factor on ocellated turkey populations.

Breeding season chronology for ocellated turkeys appears similar to that of the Florida wild turkey (*Meleagris gallopavo osceola*). However, in addition to increasing day length, the onset of the dry season may have some influence on the initiation of breeding season. Starting the first week of February, ocellated gobblers begin to change appearance: the fleshy horn on top of the head develops, the orange neck nodules become prominent, and the breast sponge becomes evident. Gobblers and hens are more frequently seen in clearings and roadways where gobbling and strutting intensify. In some habitats, breeding season is the only time adult hens are commonly seen in openings. Gobbling begins about mid- February and peaks in mid- to late

March. By June, gobbling is rarely heard. Gobblers begin strutting by mid-February and continue through mid-April, with most breeding occurring from late March to mid-April.

The strutting display of ocellated turkeys differs in several ways from the North American cousins. Before an ocellated gobbler goes into a strut, the tail feathers are held horizontal to the ground and moved from side to side, similar to a dog wagging it's tail. After the tail wagging, the tail fan is spread, but the head and neck are held back toward the tail fan and pressed down onto the back, rather than tucked back against the breast as in North American wild turkeys. While in strut, the wings are lowered and drag the ground as seen in other turkeys, but the ocellated gobbler also moves one wing rapidly back and forth in a vibrating motion. This part of the strut is done when hens are nearby and the gobbler continues the strut and wing vibration as he attempts to circle the hen(s),



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making smaller and smaller circles until the hen leaves, or she squats allowing the gobbler to tread on her back and breed. Gobbling often occurs in mid-strut, especially if several hens are in view. During the gobble, the head and neck are elevated straight up over the back rather than projected forward. Gobbling can occur without the bird coming out of strut. With all this movement, it is easy to see why strutting is referred to as “dancing” by the people of Central America. Strutting and breeding are mostly limited to a short time period after gobblers fly down from the roost. After sunrise, air temperatures climb rapidly and turkeys move out of clearings and into the forest to escape the heat. Males continue to gobble during the heat of day, but commonly do so from a crouched position while sitting on the ground.

Hens begin egg laying in mid-March and continue through mid-May. Nests are located in habitat types similar to those selected by North American wild turkeys as far as vegetative density and cover are concerned. Nesting season is the only time when ocellated turkeys are associated with the heavily vegetated bajos. The edges of the bajos are dry during this period of the year and are used as nesting sites. Ocellated hens lay an average of 12 eggs, nearly the same size and coloration of those of North American wild turkeys. Most poults are

hatched by mid-June, but hatch dates range from early May to July. Based on information obtained during the radiotelemetry study in Tikal, most adult hens attempt to nest. Approximately 60% of the hens were able to hatch a clutch and produced an average of 6 poults per hen. At least half of all nests were destroyed by predators.

The radiotelemetry study also provided the only information on survival of ocellated turkeys in the wild. During the nesting and brood-rearing period, approximately 30% of the hens die, primarily from predation. Survival for poults is even lower, as only 13% of poults hatched in April were alive by September. Predator populations in these tropical forest habitats are diverse and apparently abundant. Potential predators of poult and adult turkeys include gray fox, ocelot, margay, raccoon, coati, jaguarundi, tira, cougar, jaguar, and numerous birds of prey and snakes capable of killing turkeys, especially poults.

Sport hunting opportunities for the ocellated turkey are limited. Currently, only Mexico has a spring gobbler season open to nonresidents. The season usually opens in late March or early April and continues to late April or early May. Hiring an experienced outfitter with a knowledge of Mexican regulations regarding firearms, travel permits and military operations is essential. Prices for an ocellated turkey



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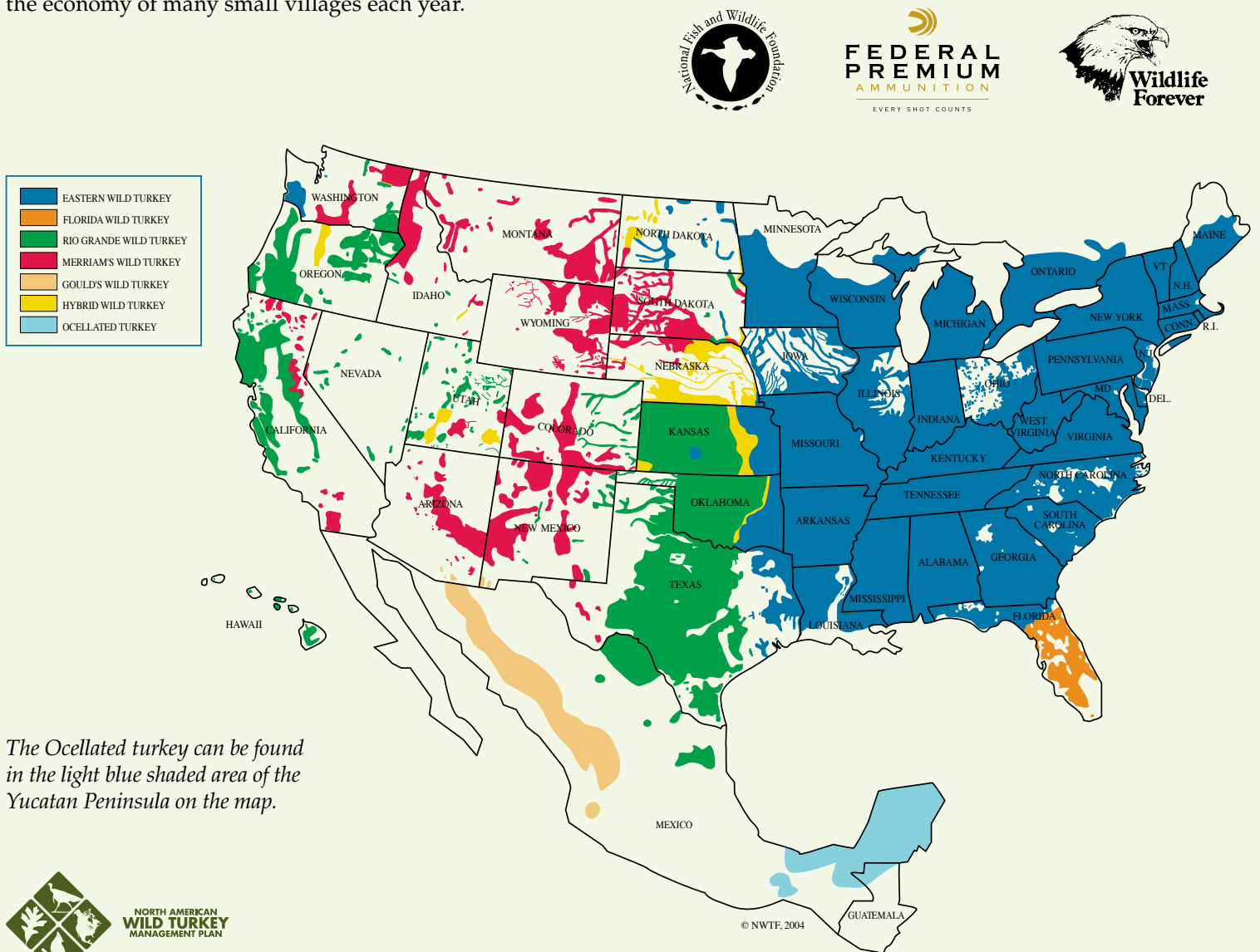
hunt, including airfare, can easily exceed \$2,000. In Guatemala, ocellated turkeys are hunted year-round and sold to local markets and restaurants, as are many wildlife species, but no sport hunting considerations exist. There is a general hunting season for birds during the fall in Belize, but the availability of ocellated turkey hunting for nonresidents is uncertain.

Much more information is needed regarding the ecology of the ocellated turkey. Population estimates in parts of its range indicate a decline in numbers over the last 20 years, especially in Guatemala and parts of the southern Yucatán Peninsula where widespread logging and dry season burning eliminate habitat and destroy nests. Uncontrolled market hunting occurring primarily during March, April and May could seriously impact local populations. Unfortunately, only Mexico has apparently discovered the benefits involved with implementing some hunting regulations, conserving the resource, and attracting nonresident hunters who bolster the economy of many small villages each year.

Long-term studies, similar to the initial radio telemetry project in Tikal National Park, should be implemented in areas where the birds are hunted for sport as well as for the market. Information on habitat needs, population dynamics and management techniques is required to properly conserve this valuable resource. Hopefully, Guatemala and Belize will take more interest in the revenue potential the ocellated turkey provides through sport hunting.

For more information on the ocellated turkey, refer to the "Proceedings of the Seventh National Wild Turkey Symposium," available from the National Wild Turkey Federation, call 1-800-THE-NWTF, or visit www.nwtf.org.

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The Ocellated turkey can be found in the light blue shaded area of the Yucatan Peninsula on the map.



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