

## A RECENT RECORD OF *Leopardus pardalis* (LINNAEUS, 1758) FROM MICHOACAN, MEXICO.

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The ocelot (*Leopardus pardalis*) is a species threatened with extinction that receives legal protection in Mexico (SEMARNAT, 2002) and is listed in CITES to Appendix I (CITES, 2005). It ranges from southern Texas through Mexico and Central America to Ecuador and northern Argentina (Murray and Gardner, 1997), where it occupies a variety of habitats, including humid tropical and subtropical forests, swampy savannas, estuarine mangroves and thorny bushes (Tewes and Schmidly, 1987). Despite such diversity of habitats, ocelots are not habitat generalists. Instead, movement patterns indicate they are strongly associated with areas of dense vegetation or forest cover (Murray and Gardner, 1997). The ocelot is adaptable to some habitat alterations and will use dense cover near large towns. The critical habitat component is dense cover near the ground, with ocelots completely avoiding open country (Tewes and Schmidly, 1987).

In Mexico it is found in coastal lowlands and mountains slopes of the interior from Sonora and Tamaulipas south to Chiapas and the Yucatan Peninsula, inhabiting from tropical evergreen forests to sparse tropical deciduous forest (Leopold, 1959). For the state of Michoacán, there are only two formal records of ocelot, one from Coalcomán and one from Arteaga, both in the Sierra Madre del Sur (Núñez Garduño, 2002). The distribution map in Leopold (1959) indicates a record near Tancítaro Mountain, southwest of the city of Uruapan. However, there is no reference in his text regarding the way it was recorded or if there was a specimen collected.

The purpose of this note is to report a recent photographic record of ocelot from the largest polygon of Barranca del Cupatitzio National Park, located just to the west of the city of Uruapan, Michoacán, Mexico.

This national park was established in 1938 in 570 ha of forest to protect the watershed of the Cupatitzio river. Because of fragmentation by urban growth in the decade of 1960, it lost 97 ha and was divided into two polygons, a small one with 20 ha ("River Area"), now within the city limits, and a large one, 1 km to the west, with 453 ha ("Mountain Area").

The park is located in the sub-humid temperate zone of the southwestern edge of the Trans-Mexican Volcanic Belt. The extreme coordinates of the park are 19° 25' 11.28" N - 19° 26' 24.18" N and 102° 07' 40.04" W - 102° 04' 20" W. Elevation ranges from 1,640 m to 2,135 m above sea level. The rain season is from May to October with a mean annual rain fall of 1,547 mm; mean temperatures vary from 9.2° C to 23.8° C. The park's vegetation is temperate coniferous forest type of vegetation, as described by Rzedowski (1978). For the mountain area of the park, Bello and Madrigal (1996) recognized three vegetation types: pine, pine-oak and cloud-forest. The pine and pine-oak forests cover most of the area, with cloud-forest relicts only in deep ravines.

As part of a wildlife inventory, I used a camera trap (DeerCam, model DC-200, Non Typical Inc., Park Falls, Wisconsin, U.S.A.) to record elusive terrestrial animals in the mountain area of Barranca del Cupatitzio National Park. Camera-trapping has revealed the presence of animals not previously known to exist in remote areas and is a relatively non-intrusive method to help in determining species, distribution and density (Trolle and Kéry, 2003). The equipment consisted of a 35 mm camera and a passive infrared monitor contained in a weatherproof enclosure. The camera, an Olympus TRIP 505 with automatic flash and a 28 mm lens with a view zone of 60° situated 8 cm above the sensor, is triggered when an animal enters the 8° sensor field.

I deployed the camera trap from 10:30 on June 1st to 08:30 on June 3rd 2005, with the sensor switch adjusted to the high-level position and a 15-second camera delay. It was set up with no bait at the bottom of a ravine in a volcanic dome. I mounted the camera trap on a wooden board on the south side of a 3 m wide natural trail limited by the walls of the ravine, with the infrared sensor set at a height of 30 cm and directed perpendicularly to the trail (GPS altitude 1,960 m and position 19° 25' 46.8" N - 102° 6' 42.7" W). The purpose was to photograph all animals passing along this narrow trail towards the only permanent water hole in the largest polygon of the park, located at a distance of 15 m downward from the camera trap. This was the only open water source available in this part of the park at the peak of the dry season of 2005. Rains started on June 14th .

I retrieved the cameratrap at 08:30 on June 3rd when the camera display indicated that all frames were exposed. During the two nights of exposure, 12 photos were taken, one of them of an ocelot moving towards the water hole (Figure. 1). It was taken at 04:32 of June 2nd, 2.5 m from the camera. Records of the national park weather station, located 2 km to the east (altitude 1,751 m, 19° 25' 46.5" N - 102° 5' 33.9" W), indicate a temperature of 12° C and a relative humidity of 95% at the time the photo was taken. The maximum temperature during the two days that the camera trap was deployed was 31° C. The vegetation at the site can be characterized as a cloud-forest relic damaged by forest fires. It has three vegetation layers: a 4 m tall dense-shrub layer dominated by *Brickellia squarrosa*, *Eupatorium mairatianum*, *Fuchsia thymifolia*, *Lupinus campestris*, *Rumfordia floribunda* and *Salvia elegans*, a 12 m semi-open tree



Figure 1. Photograph of an ocelot (*Leopardus pardalis*), taken with an automatically triggered camera, 4:32 am, June 2nd 2005, mountain area, Barranca del Cupatitzio National Park, Michoacán, Mexico.

layer dominated by *Alnus jorullensis*, *Bocconia arborea*, *Carpinus carolineana*, *Clethra mexicana*, *Arbutus xalapensis*, *Fraxinus uhdei*, *Ilex toluhana* and *Ternstroemia pringlei*, and a 31 m sparse-tree canopy dominated by *Pinus douglasiana* and *P. lawsonii*. This ravine was affected by an intense forest fire in April 1991.

Two more mammals were also recorded. A feral dog was photographed at 13:28 on the 1st of June, and five photographs of *Procyon lotor* were taken during the early morning on June 2nd before the ocelot picture was taken. I reloaded and kept the camera trap operating continuously until June 17th, but the ocelot was not recorded again nor was the feral dog. Only a new additional species was recorded, *Didelphis virginiana*, as well as *Dendrotyx macroura* and *P. lotor* that were recorded again nine and five times, respectively.

This record of the ocelot, besides being the first one for Barranca del Cupatitzio National Park, extends its known range 130 km to the North of the nearest record in Michoacán (Núñez Garduño, 2002). This also confirms its presence in mountainous temperate-vegetation where there have been unconfirmed sighting reports by visitors to this part of the national park since the 1960's (Alfredo Mora Chávez, personal communication). Furthermore, it shows the ocelot in the same place with its potential prey, such as *D. macroura* and *Leptotila verreauxi*, both abundant in the park. A potential competitor, *Lynx rufus* is also found in the Mountain Area of the park, but differences in habitat-use could be a mechanism to reduce interspecific competition between sympatric ocelots and bobcats, as shown by Horne (1998) in southern Texas.

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