



New report of *Cyttarops alecto* in the Republic of Panama

Nuevo reporte de Cyttarops alecto en la República de Panamá

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ABSTRACT

On July 22, 2023, an individual of the short-eared bat *Cyttarops alecto* Thomas, 1913 was registered. This marks the second report of the species in the Republic of Panama and occurred at the Bunorgandi Private Nature Reserve, through the *in situ* photograph of the individual.

Key words: Bunorgandi, distribution, bat, east Panama, reserve.

RESUMEN

El día 22 de julio de 2023, se registró un individuo de murciélago de orejas cortas *Cyttarops alecto* Thomas, 1913. Este es el segundo reporte histórico de la especie en la República de Panamá, documentación que se realizó en la Reserva Natural Privada Bunorgandi, por medio de la fotografía *in situ* del individuo.

Palabras clave: Bunorgandi, distribución, murciélago, este de Panamá, reserva.

Segundo reporte de Cyttarops alecto en Panamá, nuevo sitio de avistamiento histórico

The short-eared bat *Cyttarops alecto* Thomas, 1913 is a small species with grey fur, monotypic of its genus belonging to the family Emballonuridae and restricted to the Neotropics (Lim *et al.*, 2016; Rivas-Rodríguez and Ferrer-Pérez, 2012). Like other emballonurids, it is known to be an insectivorous species that perches on the underside coconut or oil palms leaves, near the midrib (LaVal and Bernal, 2002; Reid, 2009), and inhabits mainly lowland moist forests and along riparian gallery forests, from sea level to elevations of 500 masl. (Aguirre *et al.*, 2010; Wilson and Mittermeier, 2019).

Its known distribution extends from Nicaragua to Brazil and Bolivia (Hood and Gardner, 2008; Wilson and Mittermeier, 2019), where it has been documented in the Central American Caribbean; in Nicaragua, Costa Rica and Panama (Baker and Jones, 1975; Jung *et al.*, 2007; Reid and Langtimm, 1993; Starrett and de la Torre, 1964; Starrett, 1972) and in South America; south of Colombia and Venezuela (Lim, 2007; Ochoa *et al.*, 1994), central and northwest of Peru (Ludeña and Medina, 2017; Rivas-Rodríguez and Ferrer-Pérez, 2012; Velazco *et al.*, 2011), north of Bolivia, Guyana, Suriname and French Guiana (Aguirre *et al.*, 2010; Masson and Cosson, 1992; Lim, 2009; Thomas, 1913) and to the north and south of Brazil (Da Cunha-Ta-

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vaes *et al.*, 2012; Nunes *et al.*, 2006). However, these reports only represent 28 specimens from 20 different localities (Da Cunha-Tavares *et al.*, 2012; Lim *et al.*, 2016; Ludeña and Medina, 2017; Rivas-Rodríguez and Ferrer-Pérez, 2012), with a distance between localities in Central and South America of approximately 1,600 and 1,800 km, which suggests that the distribution of this species in northern South America is poorly known (Calderón-Capote *et al.*, 2016). Despite the few existing reports, it is classified as Least Concern (LC) on the IUCN Red List (Lim *et al.*, 2016). The short-eared bat *C. alecto* has a wide distribution and a relatively stable global population (Wilson and Mittermeier, 2019).

In Panama, the only known report of *C. alecto* was by Jung *et al.*, (2007) on Barro Colorado Island Natural Monument (BCI) in the Panama Canal area (figure 1), through the sound recording of echolocation calls in a comparative study of emballonurid species. Therefore, in this note, we document the second historical record and the first photographic record of the species *C. alecto* for the Republic of Panama. This report was obtained

through the research project on the monitoring and registration of fauna and flora of the eastern Panama area, carried out by Fundación Biomundi.

On July 22, 2023, in the Bunorgandi Private Natural Reserve, located in the Chepo district, La Cañita county, province of Panama, we report through photographic registration *in situ* an apparently adult individual of *C. alecto* (figure 2) at 10:17 hours, which was perched under the leaf of a coconut palm of the species *Cocos nucifera* approximately 6 m from the ground. The photographic record is an ideal and few invasive method for identification and counting of bat species (Loeb *et al.*, 2015) and was made with a Canon Rebel t6 camera with a magnifying lens of 75-300 mm range. The individual was not captured and collected due to the height it was at, which made any manual capture method difficult. However, it was photographed and observed for a period of 35 minutes, then the individual moved approximately 10 m to another palm of greater height.

The observed specimen was identified mainly by presenting the following diagnostic characteristics: apparently long totally gray fur, yellow

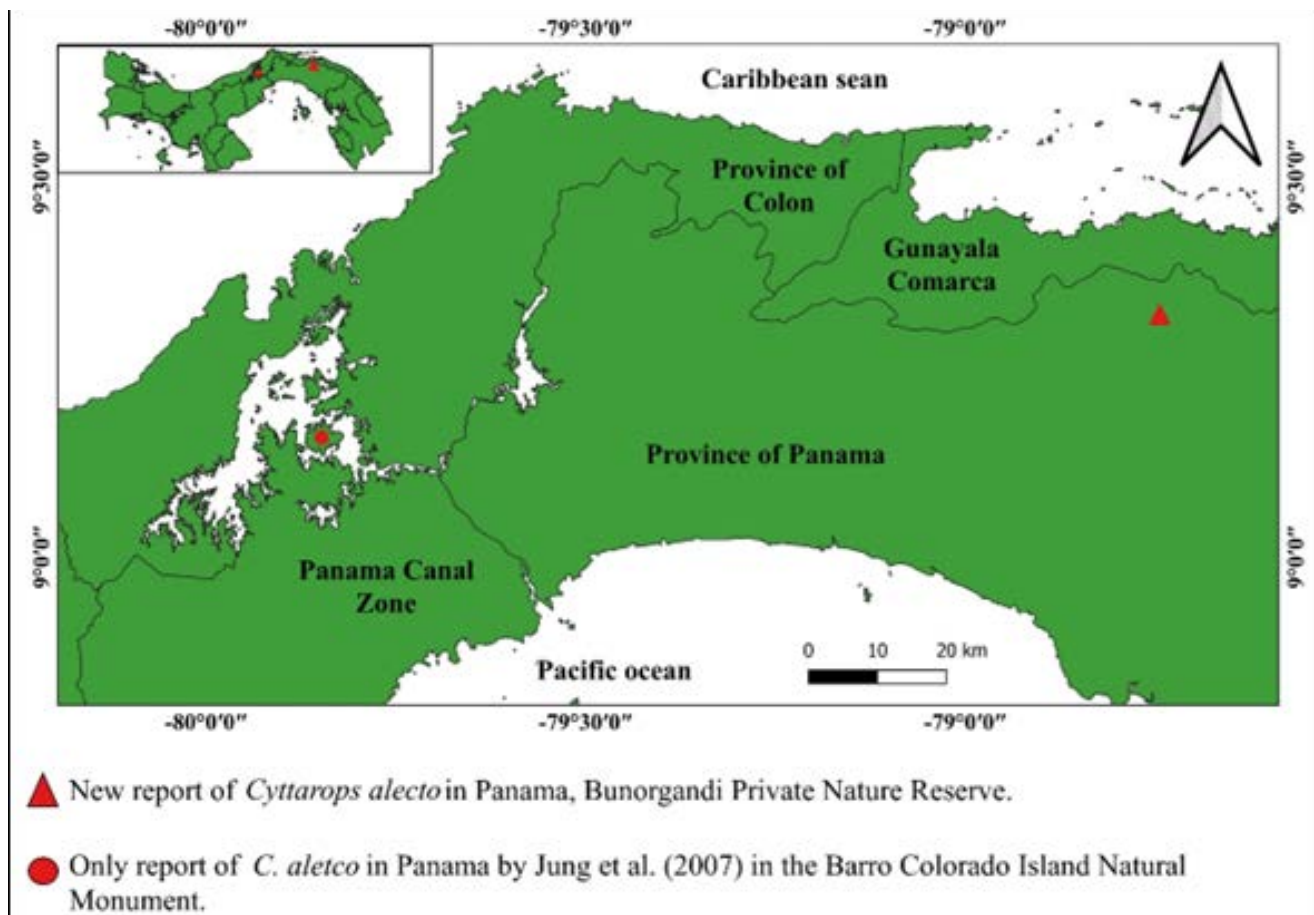


Figure 1. Historical record and new report of *Cyttarops alecto* in the Republic of Panama.



Figure 2. Individual of *C. alecto* photographed and recorded in the Bunorgandi Private Natural Reserve, Republic of Panama. Photos: Nelson Guevara.

pale face, and a combination of the following characters: small feet, black wing membranes, wide and rounded ears, chin covered with hairs, tubular nostrils, and small thumbs (Reid, 2009; Wilson and Mittermeier, 2019). Although the latter characters may be present in other species of the family, *C. alecto* can be differentiated from other emballonurids present in the Republic of Panama by the following: species of the genus *Saccopteryx* present a pair of white dorsal stripes, *Rhynchonycteris naso* has a pair of wavy black dorsal stripes and forearms with whitish tufts, species of the genus *Peropteryx*, *Cormura brevirostris* and *Centronycteris centralis* have pale brown, dark brown to reddish brown fur and the species *Diclidurus albus* has completely white fur with pinkish wing membranes (Díaz *et al.*, 2021; Hood and Gardner, 2007; York *et al.*, 2019).

It should be noted that the observation was carried out in an open space for agricultural use, approximately 12 m from a water body with tree vegetation, corroborating what was mentioned by Jung *et al.*, (2007) and Velazco *et al.*, (2011), *C. alecto* is a species that probably prefers open forests, forest edges and spaces near rivers; but not spaces such as open grasslands (Da Cunha-Tavares *et al.*, 2012; Starrett, 1972). It can also live in areas with low anthropogenic disturbance such as gardens,

fruit plots and wooded grasslands (Medina-Fitoria *et al.*, 2016).

In addition, the site of our record is located approximately 119.54 km from the Barro Colorado Island Natural Monument, so different individuals of the species *C. alecto* may be living between these areas. However, the lack of research on bats around eastern Panama and other places of the Isthmus may be one of the factors why the species has not been reported more frequently in the country, besides the fact that it is categorized as rare. The method of capture may be another factor since bats of the family Emballonuridae are more difficult to capture and detect through traditional methods such as the use of fog nets (Kalko *et al.*, 2008), because they are characterized by having a fast flight with a greater ability to detect nets, making them difficult to capture, especially in nets that do not exceed three meters in height (Araúz, 2006; Fleming *et al.*, 1972; Guevara and López, 2023). Therefore, encounters with this species have tended to be mostly fortuitous or unexpected events, usually with a single individual reported, except for some localities in Costa Rica, where *C. alecto* has been found in small groups of up to twelve individuals under coconut palms surrounding ponds (Hood and Gardner, 2007). Here, we reconfirm the presence of *C. alecto*

to in the Republic of Panama after 15 years since its first report. The known number of bats for Panama of 118 species (Samudio and Pino, 2014) remains unchanged to date (recently Garbino *et al.*, (2022) mentions 114 species for Panama, however, we do not agree with this figure).

Currently, the *C. alecto* species and its habitat are not under protection by the threatened species law of the Republic of Panama, so we promote conservation and research programs in the group of bats, especially in rarely explored areas such as forests of Panama and using new methods such as ultrasonic detectors which have proven to be an adequate tool to improve bat inventories (Pech-Canche *et al.*, 2010) and they can contribute to its greater reporting, collecting important data on its ecology, which would facilitate its inclusion in the list of species for protection.

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