



# ACTIVITY PATTERNS AND PHENOTYPICAL TRAITS OF *Leopardus guigna* IN THE ARAUCANÍA DISTRICT OF SOUTHERN CHILE



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## INTRODUCTION

- The Kodkod cat or Güiña, *Leopardus guigna*, is one of the world's smallest felids and is endemic to the Southern Andes
- It's considered Vulnerable with a declining population trend (IUCN)
- Current knowledge of its ecology and behaviour in Chile is based on just two radio-tracking surveys
- Our study area in the Araucanía district of southern Chile, represents the northern limit of the temperate rainforest in Chile (39°15'S, 71°48'W) (Fig. 1)
- We aim to describe activity patterns and incidence of melanism of this wildcat in a fragmented temperate rainforest landscape in southern Chile

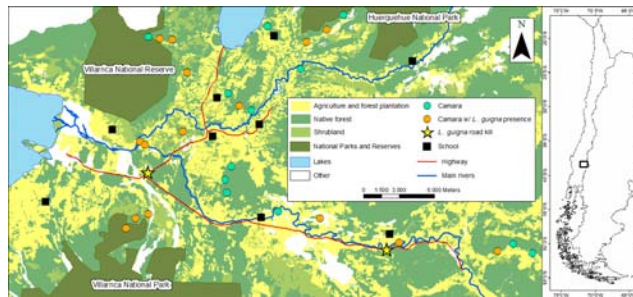


Fig. 1 Study area in the Araucanía region of southern Chile. Occupied sites, main highways, rivers, major land uses, and road kills are shown. Also, schools that participated in environmental education regarding the Kodkod or Güiña cat

## METHODS

Studies with camera traps began in 2006. During 2008/2009, the study focused on distribution and behaviour of *L. guigna* with 27 camera sites (>2km) located in continuous forest (n=18 sites), and forest fragments in the agricultural matrix (<20há; n=9). We obtained *L. guigna* daily activity patterns and frequency of captures along a 30-day lunar cycle. Also, we estimate *L. guigna* incidence of melanism by independent photo records.

## RESULTS

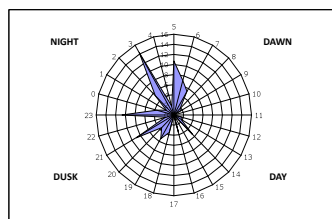


Fig. 2 Daily activity patterns of *Leopardus guigna* in continuous and fragmented forest

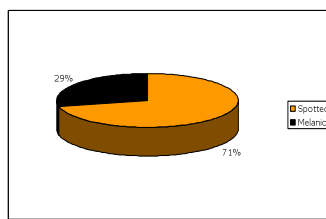


Fig. 3 Proportion of spotted and melanic *Leopardus guigna* photo records (n=49)

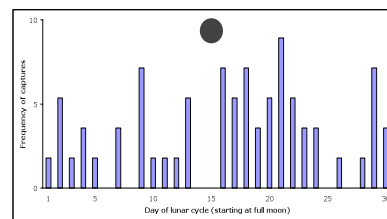


Fig. 4 Frequency of *Leopardus guigna* captures along the lunar cycle. Empty and filled circles show full and new moon phases. 60% of photo records were taken on days associated with the new moon lunar phase

## DISCUSSION

- The marked nocturnal behaviour displayed by *L. guigna* contrasts with published studies from other parts of Chile which indicate arrhythmic diurnal activity patterns
- Approximately 30% of the *L. guigna* recorded were melanic (n=14). Both spotted and melanic individuals of *L. guigna* were recorded during the same season at the same site (3 sites), suggesting home range overlap by different individuals
- Higher activity levels are associated with the new moon phase, suggesting a general preference to be active when there is little ambient light
- These results contribute to improve biological knowledge about this endangered native wild cat

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