

Reptile diversity and community composition in the Puyango dry forest

Reptiles are key animals in vertebrate communities in most ecosystems. However, there is little information on their diversity and abundance in dry forests of Ecuador. Between 2013 and 2014 we studied the reptile diversity and natural history of the Puyango Protected Forest, on the border between the province of Loja and El Oro, Ecuador. This area protects relicts of dry deciduous forest in hills and patches of semi-deciduous forest around ravines. We used belt transects in three different streams and irregular band transects in trails, together with pitfall traps, funnel traps, and litter quadrants. The richness of the Puyango Protected Forest represents a small percentage of the Ecuadorian reptile diversity, but covers much of the representative phylogenetic groups of tropical dry forests of the world. Sampling was effective to determine saurian diversity, but more sampling is needed to estimate snake diversity. Evidence of the presence of 21 species, divided into 10 families, was obtained; of which 14 are snakes (including a potential new species of the genus *Epictia*) and seven are lizards. Natural history is described for each species, including time and space use, and their conservation status is analyzed. The reptile community is characterized by a relative homogeneity over the vegetation remnants and the highest abundances correspond to saurian species.

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Resumen:

Los reptiles son animales claves dentro de las comunidades de vertebrados en cualquier tipo de ecosistema. Sin embargo, en algunos ecosistemas, como en los bosques secos del Ecuador, su diversidad y abundancia ha sido poco estudiada. Entre los años 2013 y 2014 se estudió la diversidad e historia natural de los reptiles del Bosque Protector Puyango, en el límite entre las provincias de Loja y El Oro. Este bosque protege relictos de bosque seco caducifolio en colinas y parches de bosque semicaducifolio en quebradas. Utilizamos transectos de banda en tres quebradas distintas y transectos de banda irregulares en caminos vecinales, junto con trampas de caída, trampas de embudo y cuadrantes de hojarasca. Obtuvimos evidencias de la presencia de 21 especies de reptiles, divididos en 10 familias, de los cuales 14 son serpientes y siete son lagartijas. El muestreo fue efectivo para determinar la diversidad de saurios, pero hace falta un mayor tiempo para estimar una riqueza de serpientes cercana a la real. Para cada especie, se describe su historia natural, incluyendo uso de tiempo y espacio, y se analiza su estado de conservación. La comunidad de reptiles se caracteriza por una relativa homogeneidad a lo largo de los remanentes de vegetación, donde las mayores abundancias ocupan las especies de saurios. La riqueza del Bosque Protector Puyango representa un pequeño porcentaje (4.7%) de la diversidad de reptiles en Ecuador, pero abarca gran parte de los grupos filogenéticos representativos de bosques secos tropicales del mundo.

Abstract:

Reptiles are key animals in vertebrate communities in most ecosystems. However, there is little information on their diversity and abundance in dry forests of Ecuador. Between 2013 and 2014 we studied the reptile diversity and natural history of the Puyango Protected Forest, on the border between the province of Loja and El Oro, Ecuador. This area protects relicts of dry deciduous forest in hills and patches of semi-deciduous forest around ravines. We used belt transects in three different streams and irregular band transects in trails, together with pitfall traps, funnel traps, and litter quadrants. The richness of the Puyango Protected Forest represents a small percentage of the Ecuadorian reptile



diversity, but covers much of the representative phylogenetic groups of tropical dry forests of the world. Sampling was effective to determine saurian diversity, but more sampling is needed to estimate snake diversity. Evidence of the presence of 21 species, divided into 10 families, was obtained; of which 14 are snakes (including a potential new species of the genus *Epictia*) and seven are lizards. Natural history is described for each species, including time and space use, and their conservation status is analyzed. The reptile community is characterized by a relative homogeneity over the vegetation remnants and the highest abundances correspond to saurian species.

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