# Chapter 9

## A herpetofaunal survey of the Grensgebergte and Kasikasima regions, Suriname

*Stuart Nielsen, Rawien Jairam, Paul Ouboter and Brice Noonan*


### SUMMARY

We conducted a herpetofaunal inventory at four sites in Southeastern Suriname from March 8–28th 2012, and recorded 47 species of amphibians and 42 species of reptiles. These numbers are lower than other areas within the Guiana Shield that are better sampled (e.g. Iwokrama, Guyana; Nouragues, French Guiana), but are relatively high when compared with other sites sampled over the same time period (e.g., recent RAP surveys in Suriname). Seven (six frogs and one snake) of the total 89 species encountered could not be assigned to any nominal species. These unidentified taxa may represent novel species, yet require validating genetic and morphological data before formal diagnoses can be made. A number of records represent range expansions for taxa within the Guiana Shield (e.g. *Rhinatrema bivitattum*, *Alopoglossus buckleyi*). Additionally, a teiid lizard (*Cercosaura argulus*) is recorded for just the second time in Suriname. Encountering >80 total species (including 19 snake species) is evidence of a healthy, diverse and seemingly pristine forest ecosystem.


### INTRODUCTION

Reptiles and amphibians form a prominent, speciose component of tropical forests and many aspects of their biology (e.g. small body size in concert with large population sizes, intermediate roles in food webs, strict micro-habitat requirements, etc.) contribute to their value as a focal group for biotic surveys. Amphibians are very good indicators of disturbance (Stuart et al. 2004) because they are sensitive to changes in microclimate, particularly as most possess a biphasic lifestyle (i.e. two distinct life stages, larval and adult) heavily dependent on high quality water resources. Amphibians are well suited for rapid assessments as they are often easy to sample; but when that is not the case, their species-specific diagnostic calls aid passive identification, particularly for hard to collect species (e.g. canopy dwellers; Marty and Gaucher 2000). Biotic surveys of amphibians in particular are imperative as widespread and poorly understood disease vectors (e.g. chytrid fungus and ranavirus) are causing worldwide declines, even in seemingly pristine areas (Lips 1998). Lizards are more diverse in primary forest, compared to secondary or modified forest (i.e. plantation; Gardner et al. 2007), suggesting they are also sensitive to changes in microhabitat. Presence of turtles and tortoises can also be a good indicator of hunting pressure as they are often targeted for subsistence hunting by local Amerindians (Peres 2001). Although one of the smallest South American countries, Suriname possesses a wide variety of amphibians (>100 species according to Señaris and MacCullough 2005; 107 species according to Ouboter and Jairam 2012) and reptiles (>170 species; Ávila Pires 2005). While very few of these species are endemic to Suriname itself, most are endemic to the larger Guiana Shield or the more inclusive Amazo-Guianan Subregion. The goal of this RAP survey in southern Suriname was to provide baseline information on the diversity and abundance of amphibians and reptiles for the areas in and around the Grensgebergte and Kasikasima Mountains. We sampled four sites incorporating both upland and lowland habitat, from seasonally flooded forest to human modified secondary forest to exposed granite outcrops. We also provide basic statistics comparing our findings with other RAP surveys in Suriname, as well as other well-studied regions in the Guianas (e.g. Iwokrama, Guyana; Nouragues, French Guiana). Finally, we discuss conservation recommendations for the region.

### METHODS

Of the four main RAP study sites, herpetological collections were made in only three (Upper Palumeu River — Site 1 [9 days], Grensgebergte Mountains — Site 2 [2 days], and Kasikasima — Site 4 [6 days]; the unsampled site (Site 3) was visited only by the aquatic team while they were heading downriver between Sites 1 to 4). In addition, some species were encountered at the METS resort in Palumeu (Site 5 [1 day]), a subset of which was encountered at other sites.

In order to encounter as many species as possible, opportunistic encounters and captures were made primarily via