

## Introduction

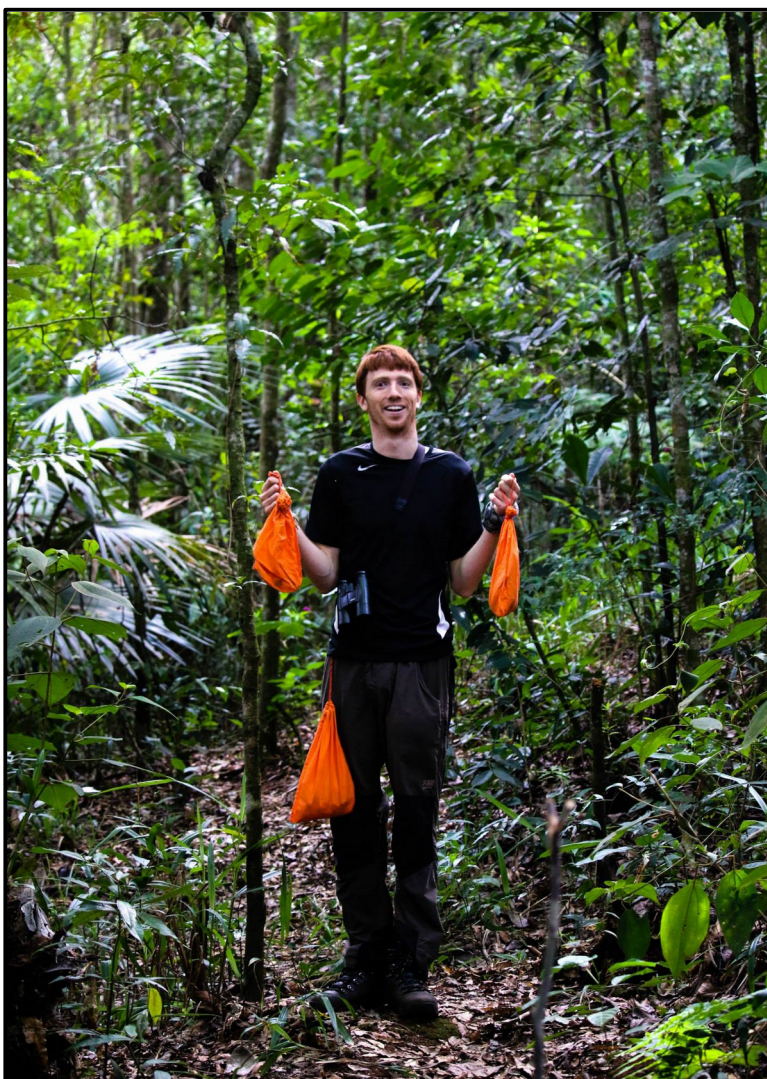
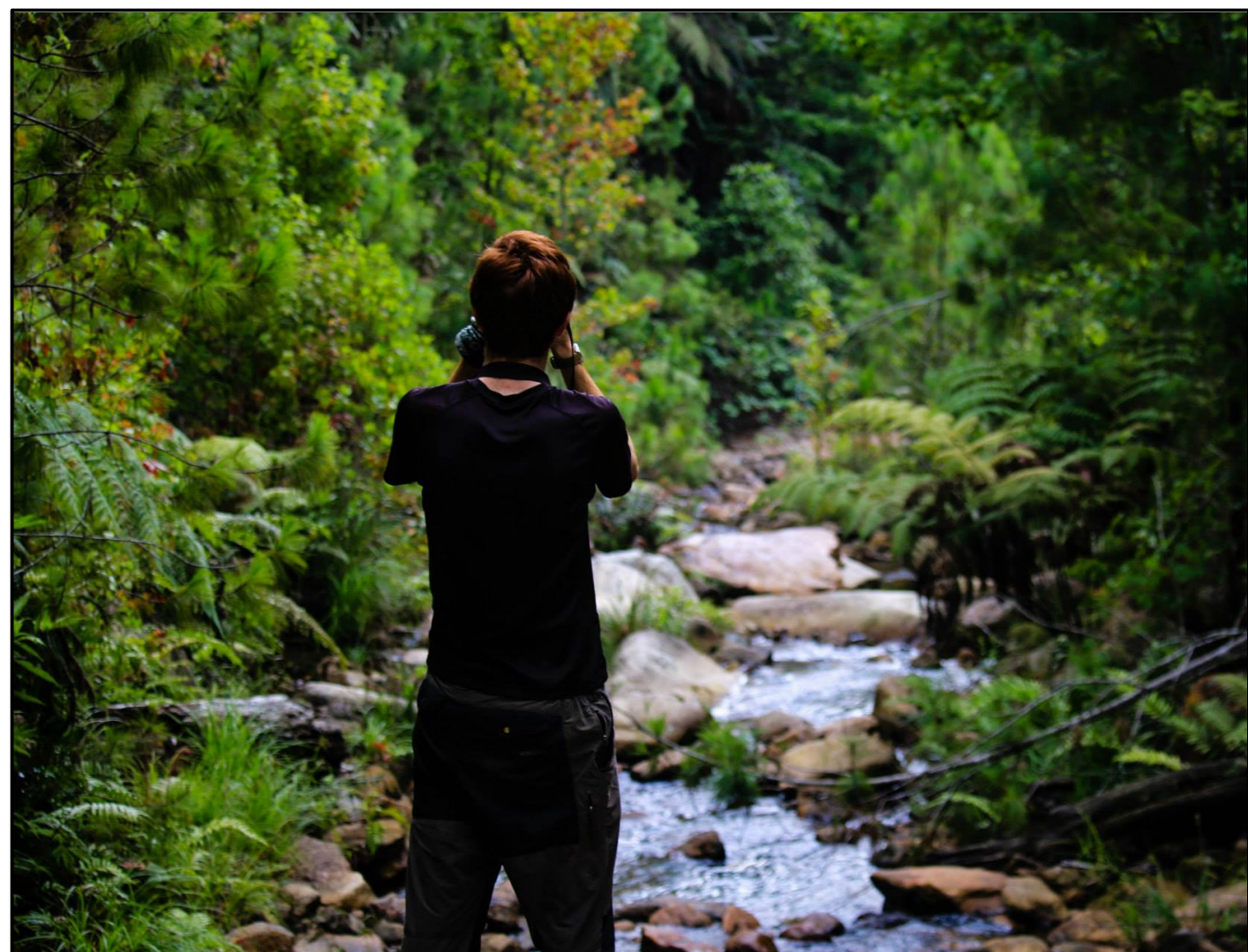
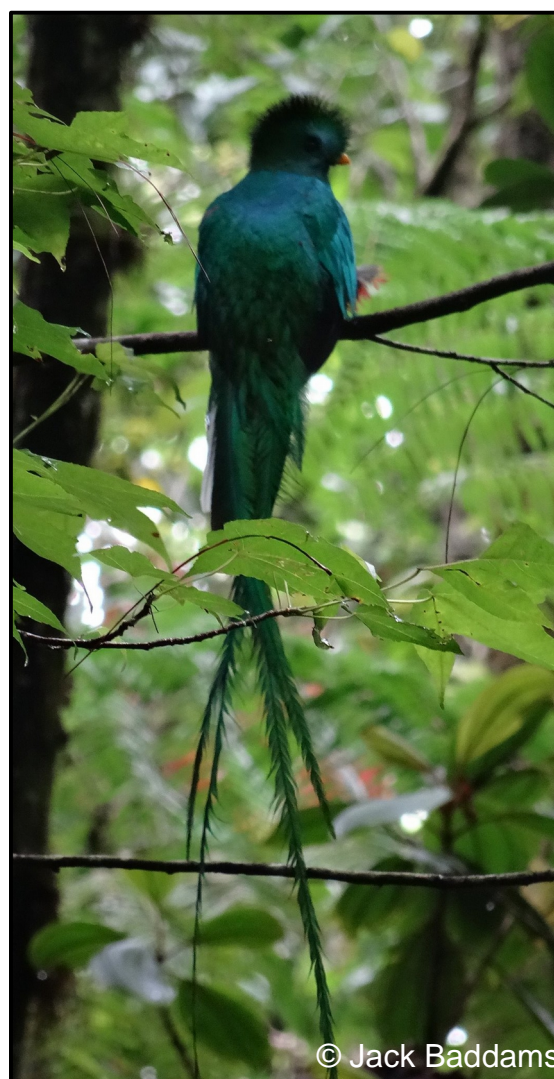
Even within Central America birding hot spots, knowledge of bird communities is often limited to checklists and lacks detail regarding abundance, life history, and habitat use<sup>1</sup>. Long-term study sites allowing further enrichment of avian knowledge are few, however Operation Wallacea (Opwall), initiated a long-term study site in Cusuco National Park, Honduras in 2006<sup>2</sup>. To improve the efficiency of future protocols, I compare the original (2007) and most recent (2015) protocols through analysis of species accumulation curves and effort to improve efficiency.

## Materials and methods

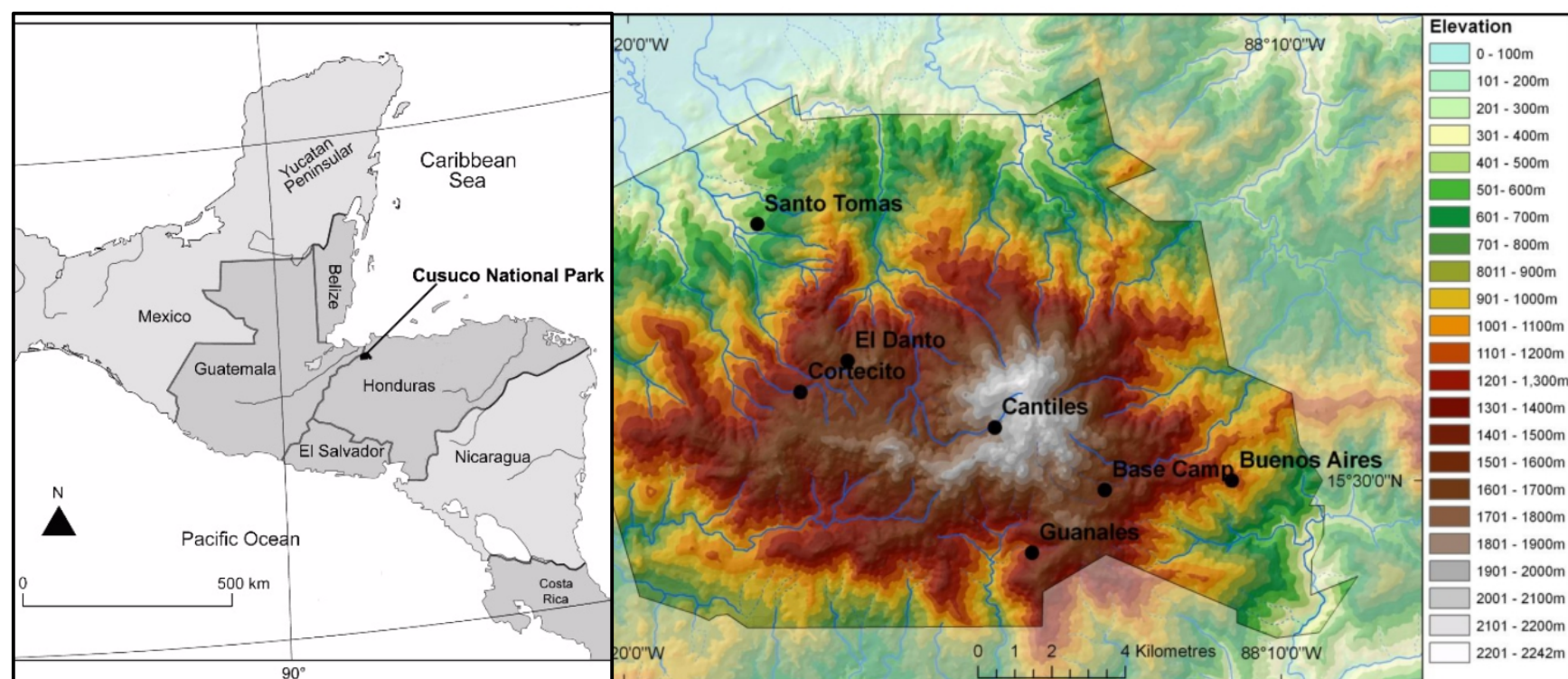
10 trained ornithologists worked in Cusuco National Park, Honduras through the auspices of Operation Wallacea from June-August 2015.

**Point Counts:** Starting at sunrise, 10 minute 50m radius audio and visual observations for all birds. Conducted 3 times per transect per season. 28 transects total.

**Mist-nets:** 10 12-m nets were operated for 6 hours starting at sunrise over 6 non-consecutive days. 1 mist-net site was situated at each of the 6 camps within the park.

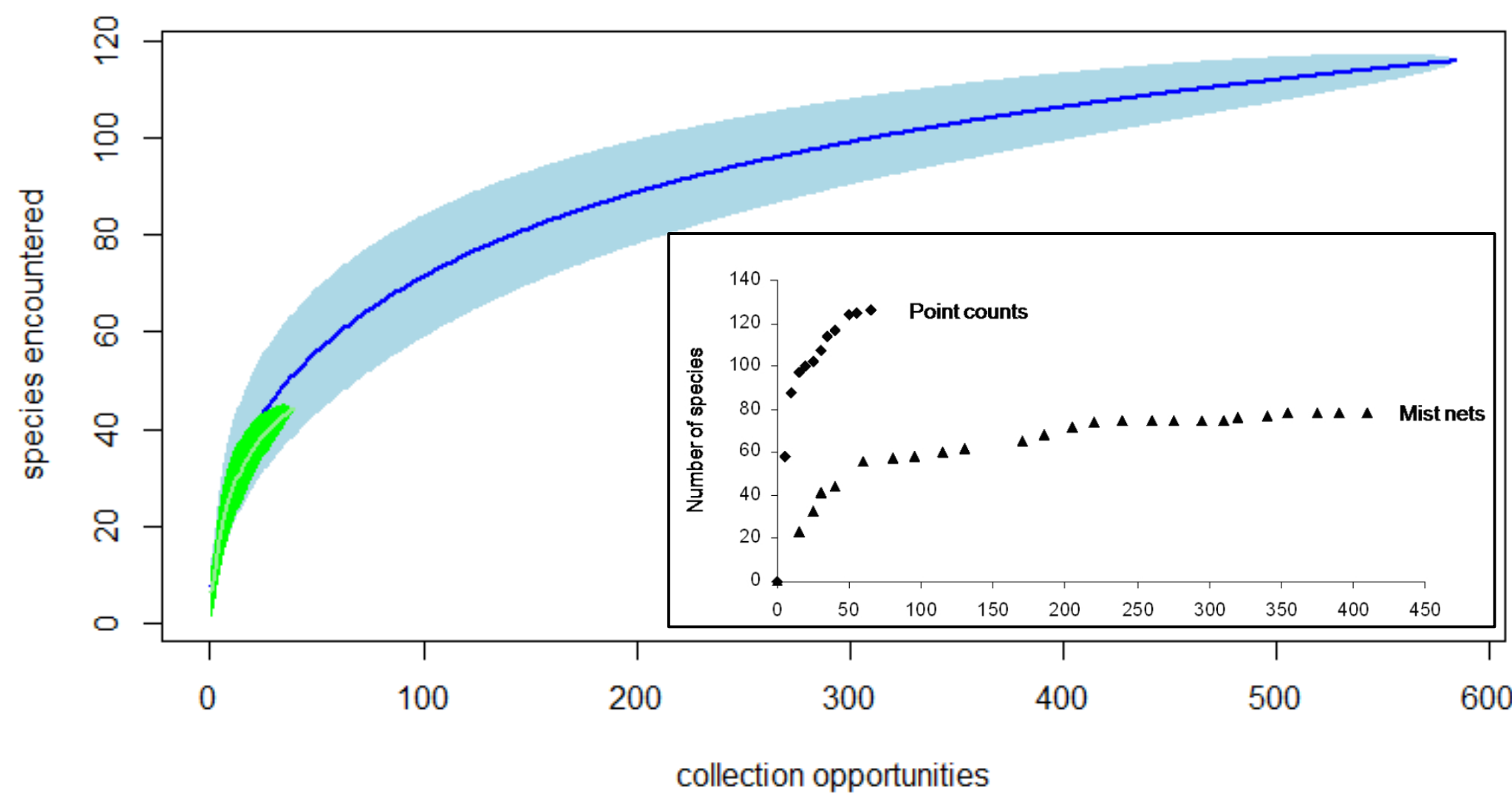


## Results



Detection Method	Species		Family	
Season	2007	2015	2007	2015
Point count	124	111	31	32
Mist net	78	42	20	19
Point count or mist net	209	116	33	33
Cumulative total in park	209	265	38	40

Table 1. Comparison of point count and mist net methods of detecting bird presence in Cusuco National Park across the 2007 and 2015 seasons for both species and family based on current naming convention and taxonomy. By 2015, an additional 67 species were added to the park species list and additional two families were added to the park family list through taxonomic reorganization.



## Conclusions

More effort was spent conducting point counts and mist netting operations in 2015 than in 2007.

Increasing in team size from three (2007) to ten (2015) allowed a substantial increase in collection power.

Increasing points sampled allowed detection to level off around 90 species after 200 points for point counts in 2015 (Fig 2).

Concentrating mist net effort (decreasing sites, tripling days) does not contribute to expanding detection of avifauna diversity (Fig 2, Table 1).

Concentrating efforts on a few sites throughout a season may lead to oversampling and net shyness.

Use of mist nets not only allows species detection, but mark recapture studies inform us on population demographics, longevity, and philopatry. Recaptures are very informative!

However, it is worthwhile to recall that Opwall’s presence in the cloud forest is two fold: to advance biodiversity research and promote conservation. Opwall supports scientifically sound protocols complemented by educating future scientists and voters about the need for conservation by participation in conservation research. So, perhaps extraneous data collection pays off when a bird in the hand leads to two in the bush.

## Citations

- Oostra, V., Gomes, L. G. L., & Nijman, V. (2008). Implications of deforestation for the abundance of restricted-range bird species in a Costa Rican cloud-forest. *Bird Conservation International*, 18(1), 11–19. <http://doi.org/10.1017/S0959270908000038>
- Green, S., Slater, K., Burdekin, O., & Long, P. (2012). Cusuco National Park, Honduras 2012 status report.
- Martin, T. E., Blackburn, G. A., & Simcox, W. (2010). An Assessment of the effectiveness of two methods in describing a neotropical cloud forest bird community. *Ornitologia Neotropical*, 21, 131–147.

## Acknowledgments

2015 Ornithologists: Jack Baddams, Marta Calix, Samuel E.I. Jones (Lead), Katarzyna Kucharska, Adam Millington, Monte Neate-Clegg, Louis O'Neill, Robert Turnbull, and Daniel Wade and the entire 2015 Opwall staff.

## Further information: Opwall

Opwall promotes research and conservation through education. For visiting students and teachers seeing biodiversity up close leads to greater awareness, thus the work of conservation becomes much more feasible.