Not just mangroves: range expansion required for the mangrove whistler (*Pachycephala grisola*) on Borneo

Marc L. Dragiewicz[1], **David A. Ehlers Smith**[1,2] and **Mark E. Harrison**[1,2,3]

[1]Orangutan Tropical Peatland Project (OuTrop), Jl. Semeru 91, Palangka Raya, Central Kalimantan, Indonesia
[2]Centre for International Cooperation in the Management of Tropical Peatlands (CIMTROP), University of Palangka Raya, Indonesia
[3]Department of Geography, University of Leicester. Leicester LE1 7RH, United Kingdom.

Corresponding author: David A. Ehlers Smith, Email: *dehlerssmith@outrop.com*

Introduction

The mangrove whistler *Pachycephala grisola* (referred to as *P. cinera* by some authors) is considered a common inhabitant of coastal forest < 200 m above sea level throughout its range in South and South-East Asia (Del Hoyo et al. 2007; MacKinnon & Phillipps 1993; Myers 2009). Its range spans from India to the island of New Guinea, though it does inhabit forest in land-locked Laos (ibid). On Borneo, both Birdlife International (2013) and recent field guides illustrate its distribution as a ring circling the coastal regions of the island, implying that mangrove forest is the species' preferred habitat (Myers 2009; Phillipps & Phillipps 2009). Myers (2009) and Birdlife International (2013) also list sub-tropical/tropical moist lowland forest (including heath and peat-swamp forest), sub-tropical/tropical moist montane forest as "suitable" habitats, and rural gardens and plantations as "marginal" habitats used by this species, however, suggesting that these distribution maps may be in need of updating. Indeed, it is curious that the Birdlife International map only illustrates the species distribution as coastal, given these habitat suitability descriptions on its website.

Methods

We studied avifauna in Central Kalimantan, Indonesian Borneo over eight months spanning two dry seasons (July-Aug 2005, 2007) in the Natural Laboratory of Peat-Swamp Forest, Sabangau (2o19' S, 113o54' E); one month during the wet season (February 2010) in the Mentaya-Katingan peat-swamp forest (2o25' S, 113o07' E); one month during the wet season (January 2010) in the Mungku Baru ironwood *Eusideroxylon zwageri* / heath forest (1o30' S, 113o44'19 E); one week during the dry season (July 2010) in the Bawan heath / peat-swamp forest (1o36' S, 113o59' E); and two weeks in the dry season (August 2011) in Kalampangan peat-swamp forest, Block C of the ex-Mega Rice Project area (2o20' S, 114o02' E; Figure 1). These sites are all part of larger contiguous lowland (≤ 55 masl) forest blocks, located approximately 100, 60 and 175 km, respectively, from the nearest coastline. All peat-swamp forest areas studied had been heavily logged, while the Mungku Baru heath forest site remains unlogged. The Kalampangan forest is highly degraded, as a result of severe drainage during the ex-Mega Rice Project, and much of the original heath forest in Bawan has been logged.

We surveyed the avifauna using a combination of forest walks, formal line transects and point counts between 05:00 and 11:30 (Lambert 1992; Bibby et al. 2000).

Results

Mangrove whistlers were seen at all five sites surveyed (see Figure 1). It is one of the most abundant birds in Sabangau and is one of the few birds that can be heard throughout the day at all study locations. We recorded the species occasionally foraging in mixed-species flocks with several babblers (*Timaliidae spp*.), hook-billed bulbuls (*Setornis criniger*), grey-chested jungle flycatchers (*Rhinomyias umbratilis*) and white-tailed

Received 12th March, 2014; Revision accepted 23rd April, 2014

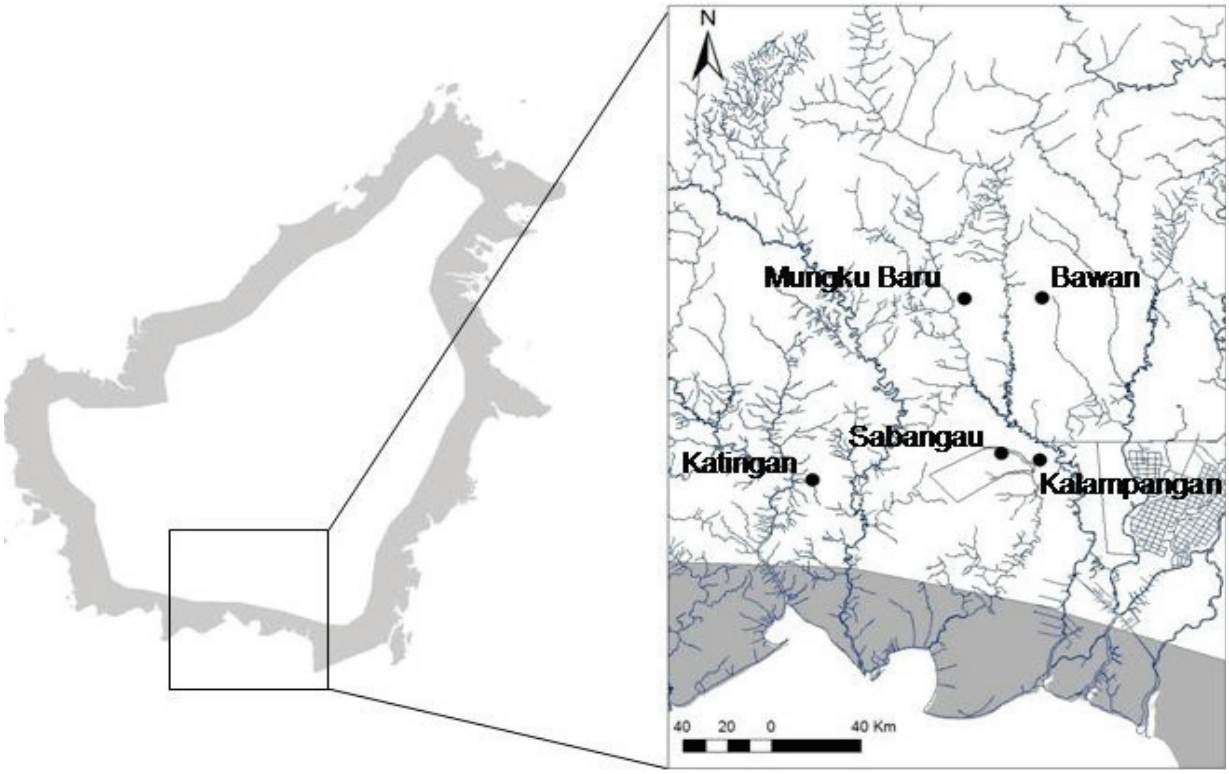

Figure 1. Location of study sites and sightings of mangrove whistlers in Central Kalimantan, Indonesia. Grey shading indicates range illustrated in current ornithological guidebooks for the region (Myers 2009; Phillipps & Phillipps 2009) and by Birdlife International (2013).

shamas (*Copsychus malaaricus*). It has also been seen feeding at swarms of *Leptogenys sp*. army ants, where it joins mixed flocks of understory *Timaliidae* babblers, the grey-chested jungle-flycatcher and hook-billed bulbul, sallying for flying insects flushed by the ants. While this behavior is well documented in Latin America and Africa, it has not previously been described in Asian birds.

In the Mentaya-Katingan peat swamps, mangrove whistlers were seen on the River Tarantang, a tributary of the River Mentaya, and on the River Perigi, a tributary of the River Katingan. Over a five-day period at Mungku Baru, at least one individual was encountered daily near camp in alluvial forest alongside the River Rakumpit and, two others were seen in the heath forest. The species was regularly encountered (> 3 individuals per survey day) in Kalampangan and Bawan and forests.

Discussion

These observations confirm the presence of the mangrove whistler outside of the coastal mangrove belt described in the Birdlife International (2013) factsheet and contemporary field guides (Myers 2010; Phillipps & Phillipps 2009), including areas of Bornean peat-swamp and ironwood / heath forest up to 175 km from the nearest coastline. This indicates that current distribution maps for this species on Borneo require revision and, combined with observations of this species' occurrence in areas of Laos > 200 km inland (Round 1988), suggests that the species may not be as restricted to coastal distribution as previously indicated (although some inland surveys have failed to detect the species in other parts of Kalimantan, e.g. Woxyold & Noske 2011). It is possible that the ongoing anthropogenic destruction of natural habitats on Borneo (Curran et al., 2004; Miettinen et al., 2011) is forcing avian species to expand outside of their natural range; however, the frequency with which the species was recorded at the study sites indicating that these habitats outside of this coastal range are in fact suitable for supporting populations. Additionally, the majority of sites surveyed here are themselves degraded, suggesting that the birds' presence may not be due to avoidance of habitat disturbance.

These records are pertinent for conservation planning, as accurate distribution maps are a vital component of assessing a species threat status and developing appropriate species management. The absence of previous inland records in Borneo may be as a result of the scarcity in ornithological surveys conducted in Kalimantan outside of Barito or Tanjung Puting, especially in peat-swamp forest. This observation highlights the need for more extensive ornithological work at sites in Kalimantan.

Acknowledgements

We thank the Centre for International Cooperation in Sustainable Management of Tropical Peatlands (CIMTROP) and the Indonesian Ministry of Science and Technology (RISTEK) for research permissions. Nicholas Boyd contributed the record for Kalampangan. Funding for research in Sabangau was provided by the US Fish and Wildlife Service Great Apes Conservation Fund, Wallace Foundation and Arcus Foundation. This work was conducted as part of the OuTrop-CIMTROP multidisciplinary research project in Sabangau, Kalampangan and Bawan; with Starling Resources and PT. Rimba Makmur Utama in the Mentaya-Katingan peat swamps; and with International Animal Rescue-Indonesia in Mungku Baru. We thank Hendri and all other research assistants for help and support in the field, and Simon Husson for comments on that helped improve the manuscript, and much support and encouragement over the years. Finally thanks to Fransiskus Agus Harsanto for Indonesian translations.

References

Bibby, C.J., Burgess, N.D., Hill, D.A. and S.H. Mustoe (2000). Bird Census Techniques: Second Edition. Academic Press, London, UK.

Birdlife International. (2013). Mangrove whistler Pachycephala grisola. http://www.birdlife.org/datazone/speciesfactsheet.php?id=5639&m=0. Accessed 2nd November 2013.

Del Hoyo, J. Elliott, A.D. and D. Christie (2007). Handbook of the Birds of the World. Volume 12: Picathartes to Tits and Chickadees. Lynx Edicions, Barcelona, Spain.

Lambert, F.R. (1992). The consequences of selective logging for Bornean lowland forest birds. *Philosophical Transactions of the Royal Society of London B* **355**: 443-57.

MacKinnon, J. and K. Phillipps (1993). A Field Guide to the Birds of Borneo, Sumatra, Java, and Bali: The Greater Sunda Islands. Oxford University Press, Oxford, UK.

Myers, S. (2009). Birds of Borneo: Brunei, Sabah, Sarawak, and Kalimantan. Princetown University Press, Princetown, USA.

Phillipps, Q., Phillipps, K. (2009). Phillipps' Field Guide to the Birds of Borneo: Sabah, Sarawak, Brunei and Kalimantan. John Beaufoy Books, Oxford, UK.

Round, P.D. (1988). Resident Forest Birds in Thailand: Their Status and Conservation. International Council for Bird Preservation, Cambridge, UK.

Woxvold, I., Noske, R. A. (2011) The avifauna of kerangas, mixed dipterocarp and riparian forests in Central-East Kalimantan, Indonesia, and its conservation significance. *Forktail* **27**: 44-59.