

Postcard from Singapore

A new Honeyeater species: Harbinger of hope

My friend has elf ears. Believe me, he does when he goes to the forests to search for insects solely by their sound. When he called to share about his recent katydid discovery, by listening to their sounds in north-eastern Himalayas, I was doing something similar. Sitting, with my headphones on, and my eyes closed, in my lab at the National University of Singapore (NUS), I was listening to the chirpings of a honeyeater hailing from a small, remote island about 2500 km away from my location. Rote Island, a part of the Lesser Sunda Island chain to the east of Java, is one of the underexplored islands of eastern Indonesia. I grew my elf ears listening to the vocalisations of a population of myzomela (Meliphagidae: *Myzomela*) on this island. The music of nature, like the one I was listening to, or the one my friend works on, sometimes provides insights into a population when our eyes fail.

The story of the recent species discovery of the Rote Myzomela from Rote Island is an interesting one. First documented in 1990, the *Myzomela* population of Rote Island remained elusive to taxonomists as many bird guides and databases described it as the Sumba Myzomela from the nearby Sumba Island, due to its morphological similarity. Nearly 20 years after the first documentation, two Belgian ornithologists, Philippe Verbelen and Veerle Dossche, visited Rote and Sumba islands and managed to get photos and sound recordings of the birds. They were surprised by the stark differences in the vocalisations of the two populations. Further visits in 2014 and 2015 led to the collection of more sound recordings, and four bird specimens. By 2015, a team at National University of Singapore, led by Dr Frank E. Rheindt, and from the Indonesia Institute

of Sciences led by Dr Dewi M. Prawiradilaga had got involved in the fieldwork. That was when I joined the Avian Evolution Lab at NUS (in 2016), and ended up with the sound data from the field. I supplemented it with the sound recordings available from various online sound libraries. Listening to the recordings, I searched for the vocalisations of myzomela, distinguishing them from the varied sounds of the forests. This study is important because the vocalisations play an important role. Just like the old romantics serenaded their ladylove, many organisms in the wild sing to attract potential mates. Birds are no exception; they often use complex songs for mate selection and mate attraction. Other vocalisations in which birds communicate socially are through calls, contact calls, or alarm calls. Study of these vocalisations, to gather insights about the bird's world, is called bioacoustics. I

visualise these sounds through sonograms, which allow me 'to see the sounds.' Softwares like 'Raven' allow me to measure a few of the quantitative parameters of a sound and use them for comparison. Such techniques were used to distinguish between the vocalizations of myzomelas on Rote and Sumba islands. The stringent bioacoustics study showed that Rote Myzomela and Sumba Myzomela are diagnostically different. Also, they have a few unique vocalisations that are not shared amongst each other. Although previously overlooked, the Rote Myzomela is also morphologically different from the Sumba Myzomela with a relatively narrow and shorter extent of the black breast band. All these results point to the fact that Rote Myzomela is a new species.

In this Anthropocene, with the looming threat of the sixth mass extinction, like a flamboyant dancer dressed in red and black plumage, this new species, the Rote Myzomela [85] is a harbinger of hope. Named after Indonesia's First Lady, Iriana Joko Widodo, the Rote Myzomela *Myzomela irianawidodoae* is a reminder to all of us to start preserving the biodiversity as we are at the cusp of losing species not yet discovered! The discovery



85. Rote Myzomela foraging on the ground.

Philippe Verbelen

of a species as remarkable as the Rote Myzomela, reminds us, despite all our technological advances, how limited remains our knowledge of our planet's diversity. Even as we discover this beautiful bird from the island, it struggles for survival as tourism and agricultural conversion encroach on its habitats, pushing it ever closer to the oblivion of extinction. Due to these reasons, we recommended the IUCN category of Vulnerable for the species. It is therefore paramount to conserve the remaining forests, the last refuges and habitats of wonderful organisms that we know, and are yet to know, to sustain nature's music for the generations to come. 🐦

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