

23 INDIAN SOUNDSCAPES - A 17 YEARS LONG ACOUSTIC JOURNEY

From analogical tape recording to passive acoustic monitoring PAM

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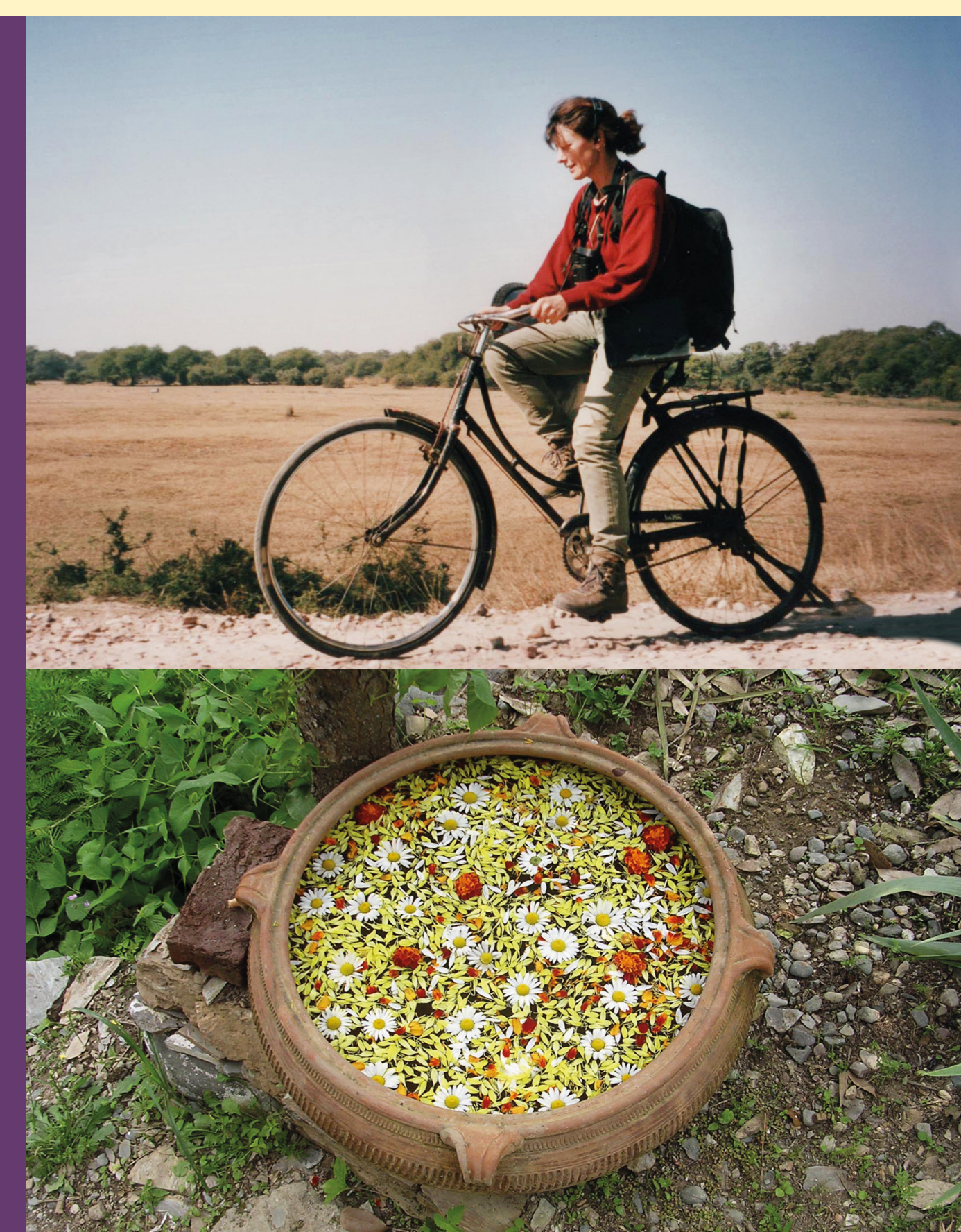
⁽²⁾ Alosa, sons de la natura, Barcelona, Spain.

⁽³⁾ Asian Adventures, Noida, India.

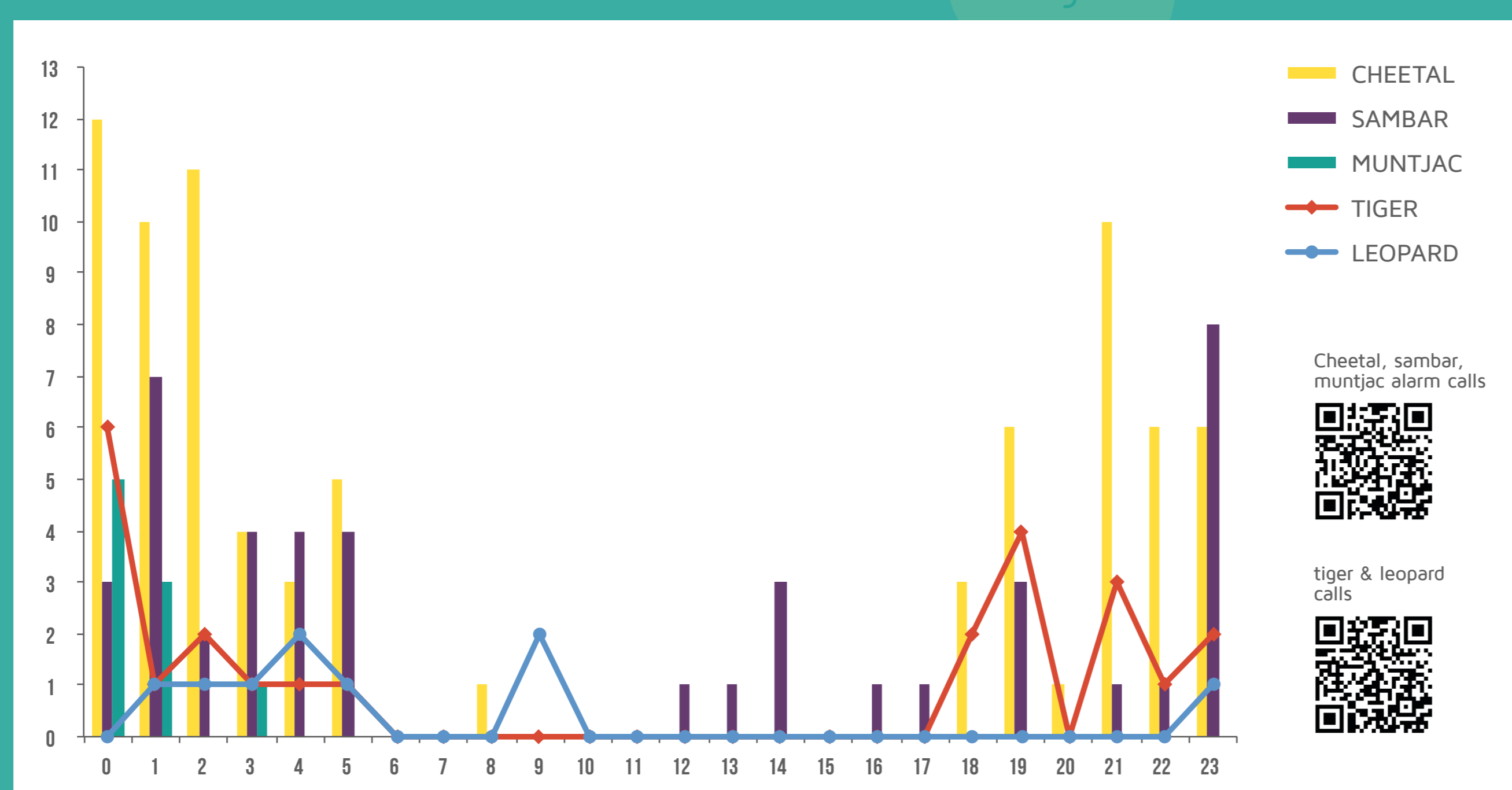
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Since the year 2000, a total of six trips have been made to India with the specific objective of obtaining sound recordings of different species and especially of soundscapes in a variety of places representative of the diversity of India's ecosystems. Special attention was paid to nocturnal recordings during dusk-dawn periods. Since the beginning of the project, one of the main objectives has been the use of the recordings as an educational resource, in order to divulge and increase awareness regarding India's natural patrimony. A selection of recordings are presented using QR code format to give an idea of the biodiversity reflected by the soundscapes. The audio files are in Soundcloud. We are still digitizing the recordings, new tracks will be published in the near future.



In January 2017 passive acoustic monitoring (PAM) was undertaken using Wildlife Acoustics SM4 recorder at a jungle farm adjacent to the Mudumalai Tiger Reserve (Tamil Nadu). Recordings were five minutes long with a one minute break. These recording have allowed us to make a first attempt at detecting specific vocalizations, such as the alarm calls of cheetah (*Axis axis*), sambar (*Rusa unicolor*), muntjac (*Muntiacus muntjak*), and their relationship with the calls of tiger (*Panthera tigris*) and leopard (*Panthera pardus*).



Using the *multiple_sounds* function of the *soundecology* package (vers. 1.3.2) developed by Villanueva-Rivera & Pijanowski (2016) for R (R Core Team, 2017), we calculated the *Bioacoustic Index* (Boelman, *et al.* 2007) using PAM undertaken during winter in a forested area of Mudumalai. The daily distribution of values illustrates morning and afternoon peaks, mostly associated with bird call activity. Values obtained from this index are a function of both sound level and the number of frequency bands used by avifauna (Boelman, *et al.* 2007).

