

## Territorial song in the Oriental Magpie-Robin *Copsychus saularis* in suburban areas of Kota Samarahan, Sarawak

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**Summary.** Despite its reputation for unique and melodious vocalisations, the Oriental Magpie-Robin *Copsychus saularis* remains remarkably under-studied in Borneo. We undertook an examination of the territorial song of this species at the Universiti Malaysia Sarawak campus and Kota Samarahan, Sarawak, to learn more about its structure, repertoire size and physical characteristics. Throughout the breeding season, males started to sing intensely usually half an hour before sunrise until 09:00 or 10:00 hrs. Fifty minutes of song were collected from each of five colour-ringed breeding males. From the total of 2,198 phrases, 112 different phrase types were identified. Spectrograms revealed that most singing episodes consist of a repeated phrase, many of which vary by including dissimilar syllables. We confirmed that the purpose of males singing was to secure and maintain their territories, as males aggressively responded to playback near their nesting sites by increasing their singing rates. The female's song seems to initiate male territorial singing during the entire breeding season.

**Ringkasan.** Meskipun dikenal karena suaranya yang unik dan merdu, namun mengejutkan ternyata suara Oriental Magpie-Robin *Copsychus saularis* ternyata masih kurang diteliti di Kalimantan (Borneo). Maka, kami melaksanakan sebuah penelitian suara teritorial spesies ini di kampus Universiti Malaysia Sarawak dan di Kota Samarahan, Sarawak, untuk mempelajari mengenai struktur, ukuran repertoar, dan karakter-karakter fisiknya. Sepanjang musim berbiak, burung-burung jantan mulai bernyanyi secara intens biasanya setengah jam sebelum matahari terbit sampai jam 09.00 atau 10.00 pagi hari. Akumulasi 50 menit nyanyian dikumpulkan dari lima jantan. Dari total 2.198 frase, 112 tipe frase berbeda teridentifikasi. Spektogram menunjukkan bahwa bagian-bagian (episode) yang paling banyak nyanyian terdiri dari satu frase yang diulang, banyak dari pengulangan ini bervariasi dengan memasukkan suku suku kata berbeda. Kami mengonfirmasikan bahwa tujuan nyanyian burung-burung jantan adalah untuk menjamin dan mempertahankan teritori-teritori mereka, karena burung-burung jantan secara agresif merespon kepada suara rekaman yang diputar dekat lokasi-lokasi sarang mereka dengan cara menaikkan tingkat suara nyanyian mereka. Suara burung betina nampak dimaksudkan untuk memulai nyanyian teritorial burung jantan selama musim berbiak.

### Introduction

Avian vocalisations are generally classified as calls or songs (Catchpole & Slater 2008). In many species, calls are associated with enhancement of daily activity performance: food acquisition, predation alarms and social contact (Kumar & Bhatt 2001). Songs last longer and are more complex than calls. They are usually associated with male individuals, territoriality and breeding (Weary *et al.* 1992; Lambrechts & Dhondt 1995; Catchpole & Slater 2008).

The production of songs in the breeding season and particularly at dawn is influenced by many factors, including hormone cycles, environmental cues and social interaction (Staicer *et*