

**Vocalisations of the *Urocissa ornata* (Sri Lanka blue magpie)
in the Sinharaja world heritage site**

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We studied the vocalisations of the Sri Lanka Blue Magpie (*Urocissa ornata*), a threatened restricted range species to Sri Lanka, to investigate possible functions within the social organisation of the species during breeding and non-breeding seasons and its use of vocal mimicry. Behavioral observations and recordings were made of three groups of individually marked birds and in three additional localities in Sinharaja world heritage site during the intensive study of behavior and ecology of the species.

The magpie produced 15 distinct vocal displays as well as specialised reproductive and developmental vocalisations. We recognised 6 vocal displays ("Cracks", "Tings", "Cricks", "Up only", "Gargle" and "Whiny-L") were nonspecific and given in several circumstances: territorial, mixed species flock encounters, alarm, alarm & mobbing, contact, forging, and flight. The remaining vocal displays had specific context: "Whiny-H"(alarm & mobbing),"cuck"(contact),"sub song" (foraging), mimicry (alarm),"Up down" (alarm). The magpie vocalisations have a "combinatorial" property that consists of different acoustic elements combined with different sequence and produced vocal signals with different functions. The "crick" had combinatorial and transition characteristics and grade into "cracks" and "tings". "Crack" call type was the most used vocal display and consisted of various structural and temporal variations, which were produced in different contexts. The "Gargle" display had the greatest structural variation and possibly found individual stereotypy, which was important to recognise individuals. Specific reproductive calls produced before egg laying or during the incubation period with courtship display. "Begging" calls frequently produced by the nestlings, fledglings, first year juveniles and adult female bird during the incubation period. Low amplitude non-alarm mimicry was found mostly in "sub-song" often produced by first year or second year juvenile birds perched on a branch while forging within group. The loud alarm mimicry of *Accipitar* hawk calls and giant squirrel, which were produced both adult and juvenile birds. This tropical magpie's vocalisations were compared to other magpie species and it is suggested that imitation of predators may be a universal signal among several species of the same avifauna, as Greater Racket-tailed Drongo (*Dicrurus paradiseus*) mimic the same *Accipitar* hawk calls in the same area.

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