

## Nest density of *Aneuretus simoni* Emery (Sri Lankan Relict Ant) and *Stereomyrmex horni* Emery in three forest regions in western and southern Sri Lanka

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**ABSTRACT.** *Aneuretus simoni* Emery and *Stereomyrmex horni* Emery are two endemic and rare ant species in Sri Lanka. The presence or absence and nest density of these species was surveyed to find out if they inhabit locations outside the previously recorded habitats, and to verify their conservation status. Colonies were surveyed by thorough inspection, breaking decaying pieces of wood and the removal of leaf litter in a forest in Western Province (Kalugala Proposed Forest Reserve – KPFR) and two forests in Southern Province (Kuluna Kanda Proposed Forest Reserve – KKPFR and Wilpita “Aranya Kele” in Oliyagan Forest Reserve – WFR). *Aneuretus simoni* nests were recorded in 7.5% of quadrats, with a nest density of 0.30 nests m<sup>-2</sup> at the site of KPFR, whereas this species was more common at KKPFR, occurring in 23.3% of samples with a nest density of 0.93 nests m<sup>-2</sup>. At WFR site, *A. simoni* nests were found in 6.7% of samples at a nest density of 0.27 nests m<sup>-2</sup>. *Stereomyrmex horni* Emery was found in 15% of quadrats at 0.6 nests m<sup>-2</sup> at KPFR and 3% of quadrats at 0.13 nests m<sup>-2</sup> at WFR. At KKPFR, *S. horni* was not encountered. The discovery of the presence of *A. simoni* in the three forests, *S. horni* in two of the forests, and the co-occurrence of the two endemic species in two habitats, are new findings of this survey. Nest density of *A. simoni* at the current sites was higher than those recorded from Gilimale Forest Reserve and Kirikanda forest, whereas this is the first record of nest density of *S. horni* in Sri Lanka. Our findings suggest that *A. simoni* is much more common than previously reported and that its present conservation status as a Critically Endangered species should be re-assessed.

**Keywords:** nest density, frequency of nest occurrence, Kalugala Proposed Forest Reserve, Kulunakanda Proposed Forest Reserve, Wilpita “Aranya Kele”

### INTRODUCTION

*Aneuretus simoni* Emery (subfamily: Aneuretinae) and *Stereomyrmex horni* Emery (subfamily: Myrmicinae) are rare endemic ants in Sri Lanka (Bolton 1995). Distribution of *A. simoni* was earlier reported from only a few forests (Wilson *et al.* 1956, Jayasuriya and Traniello 1985, Dias and Perera 2011) but it was discovered in Sinharaja

Forest Reserve (Perera *et al.* 2006, Gunawardane *et al.* 2008) and Kirikanda Forest (Dias *et al.* 2011, 2013) more recently. Sinharaja Forest Reserve is bounded by Kalutara District in Western Province to the west and Galle and Matara Districts in Southern Province to the south, and surveys of *A. simoni* in the forests that lie close to Sinharaja Forest and situated in the above Districts (Fig. 1) are essential to determine its conservation status