

SHORT COMMUNICATION

Rediscovery of the putatively extinct ant species *Simopelta minima* (Brandão) (Hymenoptera, Formicidae), with a discussion on rarity and conservation status of ant species

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ABSTRACT. Rediscovery of the putatively extinct ant species *Simopelta minima* (Brandão) (Hymenoptera, Formicidae), with a discussion on rarity and conservation status of ant species. *Simopelta minima* (Brandão, 1989) was originally described based on four workers collected in soil samples from a small cocoa plantation in Ilhéus, state of Bahia, northeastern Brazil. In the subsequent years after the description, this cocoa plantation was eliminated and the species was then considered extinct by the Brazilian environmental institutions. The recent rediscovery of *S. minima* workers in subterranean pitfall trap samples from Viçosa, state of Minas Gerais, southeastern Brazil, over 1.000 km distant from type locality, suggests that the rarity and vulnerability status of some ant species may be explained by insufficient sampling of adequate microhabitats, in time and space.

KEYWORDS. Brazil; conservation; hypogaeic fauna; new record; rare ants.

RESUMO. Redescoberta da espécie supostamente extinta de formigas, *Simopelta minima* (Brandão) (Hymenoptera, Formicidae), com uma discussão sobre raridade e estado de conservação de espécies de formigas. *Simopelta minima* (Brandão, 1989) foi originalmente descrita com base em quatro operárias coletadas em amostras de solo provenientes de uma pequena plantação de cacau localizada em Ilhéus, Estado da Bahia, nordeste do Brasil. Nos anos seguintes à descrição, esta pequena plantação de cacau foi eliminada e a espécie passou a ser considerada extinta pelas instituições ambientais brasileiras. Recentemente foram coletadas operárias de *Simopelta minima* em amostras de armadilhas subterrâneas do tipo “pitfall”, em Viçosa, Estado de Minas Gerais, sudeste do Brasil, a mais de 1.000 km de distância da localidade tipo. Esta redescoberta sugere que o *status* de raridade e/ou vulnerabilidade atribuído a algumas espécies de formigas pode ser explicado pela amostragem insuficiente de *microhabitats* adequados, no tempo e no espaço.

PALAVRAS-CHAVE. Brasil; conservação; fauna hipogéica; formigas raras.

Taxonomic account and collection data. Ants of the Neotropical ponerine genus *Simopelta* Mann (1922) share with Ecitoninae army-ants, by convergence, behavioral and morphological characteristics (Longino 2005). Workers forage in dense columns, generally raiding nests of other ants. When colonies are found with their own brood, this is generally of uniform size, suggesting synchronized immature development. Colony emigrations are encountered with workers transporting brood and the queen traveling with the column, suggesting nomadic behavior. In cases they are found inside cavities, it is unknown whether the *Simopelta* excavated the chambers themselves or occupied preexisting chambers, but the observations suggest periods of stable use of one nest site, similar to the stationary phase seen in Ecitoninae (Longino 2005). Workers also have small eyes, usually reduced to a single facet, and the queen is “dichthadiiform” (permanently wingless, with enlarged petiole and temporarily grossly swollen gaster) like those of Ecitoninae (Gotwald & Brown

1996). Almost all known specimens of *Simopelta* were collected below the soil surface level, suggesting the preference of this genus for the hypogaeic habitat.

Simopelta is known from scattered localities throughout the Neotropics, in special from mid-montane wet forests (500–2.000 m). Several features of their biology result in their being infrequently collected. They are most abundant in a spatially restricted and less frequently visited habitat (mid-montane forests) and, despite often forming large colonies, they present a low density relative to other ants (Longino 2005).

Simopelta minima (Brandão 1989) was described based on only four workers extracted from 0–15 cm deep soil samples in Berlese funnels from a small, old shaded cocoa plantation (“cabruca”) in Ilhéus, state of Bahia, northeastern Brazil. The specimens were collected by Dr. Jacques C. Delabie during 1986–1987. *S. minima* can be distinguished from other species of the genus by the combination of small size (total length less than 2.6 mm), fine sculpture, presence of single-faceted eyes,