



# CONSERVATION ASIA 2016

## ABSTRACT BOOK

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some support this idea on conservation ground, others insist that locality information are indispensable for new species description, and no one should deviate from this tradition. Some further claim that the concealment of distribution data would impede future biogeographic and other studies of the species. The controversy on whether to disclose distribution information or not may not reach consensus; but researchers should weigh the cost and benefit when publishing researches/findings related to distribution of sensitive taxon groups.

### **Phylogeography of Philippine *Sundathelphusa* in surface-subsurface habitats: implications for conservation**

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*Sundathelphusa* species exhibit wide habitat diversity in the Philippine archipelago. They are observed to inhabit subterranean rivers, small upland streams, rock crevices near waterfalls, and even various microhabitats in caves. In this study, 39 freshwater crab samples were collected from four localities in Southern Luzon, Philippines. Species relationship and haplotype diversity were determined through analysis of the 16S mitochondrial DNA sequences. Eight lineages were uncovered –three of which are identified as *S. danae*, *S. holthuisi* and *S. vietae*. The other lineages remained to be unidentified species. Analysis also revealed one haplotype that is shared by freshwater crabs from three localities: Majajay streams of Mt. Banahaw, Cavinti Cave, and Hulugan Falls. This sharing of haplotypes indicates continuous gene flow and migration between these geographical areas. On the other hand, all four haplotypes in Nilulubugan Cave are unique, suggesting geographic isolation of the species from the rest of the studied areas. Intra-population haplotype variations were found in three localities except in Hulugan Falls. These haplotype variations suggest the presence of different species co-inhabiting these respective areas. In Cavinti Cave and in Mt. Banahaw, nearly indistinguishable *Sundathelphusa* species are considered distinct based on molecular results. Both morphological and molecular analysis suggests the harboring of cryptic diversity, implying a great deal of freshwater crab species yet to be discovered. Thus, conservation efforts should highlight on the continuous discoveries of *Sundathelphusa* species, as well as on protecting both surface and subterranean habitats for freshwater crabs.

### **Topographic association explains the variation in leaf traits of 19 dominant karst tree species in Guangxi, South China.**

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Karst flora exhibits strong habitat associations based on topography, water and nutrient availability. The karst hilltops are nutrient-poor and retain less moisture compared to foothills due to high drainage through the thin soil layer and porous limestone bedrock. Leaf ecophysiological traits reflect species' performance, strategies for resource acquisition, and determine plant responses to biotic and abiotic stressors. Leaf mass per area (LMA), a key trait indicating the overall fitness of a species for its growing environment, is often affected by abiotic factors. We tested whether (i) species associated with unproductive topographic positions show a more conservative leaf strategy such as higher LMA, in contrast to those associated with favourable habitats, and (ii) traits measured in a common garden setting predict the corresponding responses in the natural habitats. We used 16 leaf traits in 12 dominant karst tree species from the Nonggang National Nature Reserve and 13 species grown in a common garden setting in Guangxi, China with six species common to both sites. Species known to dominate the foothills and hilltops showed greater clustering compared to mid-slope and valley-bottom species. The LMA and leaf optical traits contributed to this pattern. However, all these traits showed a plastic response under the common garden setting while stomatal pore index and leaf thickness were the only traits that predicted the corresponding responses in the natural habitat. Among the traits we tested here, habitat association of karst flora is driven by traits related to nutrient availability, not necessarily by those related to water availability.

### **Phytogeography and floristic affinities of the limestone flora of Mt. Exianling, Hainan Island, China**

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