Inventory of Butterflies in Davao City, Philippines with a new locality record: An Urban biodiversity

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Butterflies are well studied group of insects taxonomically; however, no research had been done on butterflies found in urban areas especially in Davao City. Thus, a survey was done in selected areas in the city to record and identify the butterfly species present. This study revealed 45 species belonging to Hesperiidae, Lycanidae, Peiridae, Nymphalidae and Papillionidae families, 12 of them were Philippine endemic. Specimens were identified *in situ* and was confirmed by the third and fourth author. A new locality record of Genus *Mycalesis* was identified. The authors suggested further research on was identified. The authors suggested further research on *Mycalesis igoleta* and *Mycalesis mineus* on its seasonal variations which can be used as indication of seasonal changes in the area.

Keywords: butterflies, Davao City, inventory, *Mycalesis igoleta*, *Mycalesis mineus*

Research No. 8

Dermal Toxicity of Citric Acid and Sodium Bicarbonate to *Eleutherodactylus planirostris*: an innovative strategy for species management

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ABSTRACT

The Greenhouse frog (*Eleutherodactylus planirostris*) is one of the most successful amphibian invaders worldwide that has been recently introduced in the Philippines. Unfortunately, the invasion of the species and its impact to local ecosystems have not been well studied and few control efforts have been directed. Using standardized method, an experiment was carried out to seek an effective control for this non-native species exposing 35 adult individuals to Sodium bicarbonate and Citric acid in different concentrations. Results showed that frogs exposed in treatment 6 (50% Sodium bicarbonate solution with a pH of 8.5) showed the lowest survival rate of 0.440 compared to other treatments; treatment 1(15% Citric acid, 2.6 pH) with 5.660, treatment 2 (25% Citric Acid, 2.5 pH) with 2.580, treatment 3 (50% Citric acid, 2.4 pH) with 1.840, treatment 4 (15% Sodium bicarbonate, 8.3 pH) with 1.300, and treatment 5 (25% Sodium bicarbonate, 8.4 pH) with 1.120. A significant difference among the treatments used was observed as the obtained p value for Kaplan Meier analysis was < 0.0001. These findings could also be applied to help reduced other invasive frogs like the widely distributed cane toad (*Rhinella marina*) and banded bullfrog (*Kaloula pulchra*) that competes with the country's native fauna.

Research No. 9

Building local capacities for biodiversity conservation and rural development planning: the case for Indigenous *Bagobo Klata* researchers within the Talomo-Lipadas Watersheds

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ABSTRACT

The full and meaningful participation of Indigenous peoples in any biodiversity conservation and sustainable development initiative within ancestral domains is mandated by national (RA 8371) and international statutes (i.e. UNDRIP, CBD). With over two thirds of the total key biodiversity areas (KBAs) on Mindanao overlapping with ancestral domains, the island is a fertile ground for testing and evaluating local models of building Indigenous capacities. Using a culture-based conservation approach that combines Indigenous ecological knowledge and Science in conservation planning and the management of ancestral domains within KBAs, the Philippine Eagle Foundation (PEF) have been supporting recent efforts by the Indigenous *Bagobo Klata* communities with their self-governance of over 6,000 hectares of ancestral lands within the Talomo-Lipadas watersheds in Barangays *Sirib*, *Tamayong* and *Manuel Guianga*, Davao City beginning September 2017. Part of the partnership includes training and engaging five (5) young adults as members of the project's research and planning team. Using Carr's Model of the Empowerment Process as a heuristic guide, the training design involved a four-day ''crash-course" on Participatory Resource Assessment and Conservation Planning, and the subsequent engagement of the trainees as local researchers and planning assistants during (i) sustainable livelihood framework (SLF) baselining, (ii) biophysical profiling, (iii) Indigenous ecological knowledge documentation, and (iv) community development and conservation planning (CDCP). Through participant observation, and thematic analysis of one-on-one interviews and focus group discussions, this study describes the perspectives of the *Bagobo Klata* participants about their involvement during research and planning. Over-all, the Indigenous participants regarded the experience as fundamentally refreshing, transformational and, therefore, empowering. It is recommended that a systematic Indigenous capacity building component should be mandatory for any research or development project within ancestral domains. The role of mandatory training to strengthen Indigenous peoples' niche in the emerging biodiversity knowledge economy is also explored.

Keywords: Indigenous empowerment, Participatory Research, Participatory planning, *Bagobo Klata,* Talomo-Lipadas Watersheds