

Species distribution and abundance of amphibians in two vegetation types of Agusan Marsh, Philippines

^{1,2}Rainer P. Sularte, ^{2,3}Lilia Z. Boyles, ²Nilo H. Calomot, ^{2,3}Meljan T. Demetillo, ^{2,3}Leila A. Ombat, ^{2,4}Me C. M. Ngilangil, ⁵Gee M. Binag

¹ Division of Agusan del Sur - La Paz II District Office, Panagangan, La Paz, Agusan del Sur; ² Caraga State University, Ampayon, Butuan City, Philippines; ³ Department of Biology, College of Arts and Sciences, Caraga State University Ampayon, Butuan City, Philippines; ⁴ St. Paul University-Surigao City, Mindanao, Philippines; ⁵ Agusan del Sur State College of Agriculture and Technology, Bunawan, Agusan del Sur, Philippines. Corresponding author: R. P. Sularte, rainersularte2011@gmail.com

Abstract. Agusan Marsh is the 1009th RAMSAR site, a wildlife sanctuary which harbour unique and pristine faunal species. It is considered one of the most ecologically significant wetland ecosystems in the Philippines. The study assessed species distribution and abundance using Geographic Information System Map in Agusan Marsh between Sago Palm and Terminalia Forest. Results showed a total of 322 individuals, 11 species and 6 families of amphibians documented. Of the 11 species of amphibians documented in Sago Palm and Terminalia Forest, 6 were Philippine endemics, 3 were invasive species in the area. Terminalia forest had the highest number of individuals documented during the conduct of the study. Sago Palm and Terminalia Forest have almost the same type of vegetation where amphibian species thrive most. Furthermore, ecological and environmental threats (conversion of Terminalia Forest to agricultural land, run-off of environmental pollutants, pesticides run-off and *Kaingin* or Slash and Burns) being identified in the two habitat types should be given urgent attention. This shows that Agusan Marsh particularly Sago Palm and Terminalia Forest still harbour unique features of endemic amphibian species despite of the on-going anthropogenic activities in the said areas.

Key Words: Abundance, Agusan Marsh, biodiversity, distribution, frogs, Sago Palm, Terminalia Forest.

Introduction. Amphibians around the globe are an important bio indicator of our ecosystem, researchers also uses amphibians such as models of scientific research, biological control, energy flow, source of medicine and some populations consume them as food. Amphibians are the most common vertebrates in many forests and have potential to play an important role in ecosystem dynamics (Wahbe & Bunnell 2003 cited by Almeria & Nuñez 2013).

Philippines is a globally important hotspot for biological diversity and center for endemism, however, much of the studies are focused in terrestrial and marine biodiversity (Mallari et al 2001; Ong et al 2002). Less is known about the diversity and endemism of anurans in freshwater ecosystem which play a vital role as bio-indicator in the ecosystem.

The Philippine amphibians consist of 107 species with about 85% inhabiting the forested areas (Brown et al 2000; Diesmos et al 2004; Siler et al 2010), and about 78.5% endemism (Brown et al 2008). The level of endemism for amphibians in Mindanao is 42% where 7 of the 11 recorded species are found only in the Island. Of these, 9 species were in the threatened category, 8 vulnerable and 1 endangered (Nuñez et al 2010). Nearly half of the Philippine amphibians are threatened with extinction, and because most of the