

BIOLOGICAL SCIENCES

UPDATE OF TAXA OF LEGUMES IN THE PHILIPPINES

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Leguminosae (Fabaceae) ranks as third largest family of flowering plants and second to grass family in economic importance. Leguminous species have long been recognized as sources of food, fodder crops, timber, raw materials for industry, soil fertility amelioration and conservation. Countless numbers of species are associated with human activities and tapped for their aesthetic value. Treatment of this large group varies among systematists: the three subfamilies are treated as such or as distinct families.

Updating on taxa was undertaken in preparation for the rewriting of Philippine flora and as baseline information for basic and applied fields of study. The research study is an assessment of the diversity of the resources available after Merrill's publication, as a result of plant introduction. Since his last compilation on legumes in 1923, there have been substantial increases in number of genera and species both native and introduced taxa for the three families.

For Caesalpiniaceae, the introduced taxa are mostly woody ornamentals; for Mimosaceae, those that are concerned with reforestation activities; and for Papilionaceae, forage crops, protein sources, those for green manuring and soil amelioration.

Updating of nomenclature based on recent systematic accounts is another focus of the research studies.

SOME ENDEMIC FERNS IN MT. APULANG, KITANGLAD RANGE, BUKIDNON

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Field collections of pteridophytes and ecological data were conducted in Kitanglad mountains, Bukidnon. Live and herbarium specimens were used for morphological studies and their status was determined: whether endangered, rare, depleted, endemic or economic species. Results of the study revealed the presence of 88 species, 54 genera and these were grouped into 28 families. The description and classification, including local names, habitat and distribution of the species, are presented in the paper.

Ecological parameters were likewise collected such as temperature, relative humidity, altitude, soil organic matter, type of soil, rainfall, slope gradients and forest types.

CRUSTACEAN PARASITE FROM PHILIPPINE FISHES: A REVIEW

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Forty-two species of copepods, one species of branchiuran and some species of isopods comprise the crustacean parasites recorded from Philippine fishes. Most of the records are from wild marine fishes and the reports mainly consist of the original taxonomic records. Eight species belonging to five genera have been recorded from cultured or fresh water fish. Mortality of host fish has been recorded for four species. Little is known about the pathogenicity of the other species. There are few reports on the biology and life cycle of these parasites. Chemical treatment is the standard practice in the control of the parasites of cultured fish.

GOLDEN APPLE SNAIL: AN ABSTRACT BIBLIOGRAPHY 1981-1992

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The golden apple snail is an introduced freshwater gastropod in the Philippines that has become a major aquatic pest particularly in lowland rice. At present there seems to be some confusion regarding the identification and nomenclatural position of the golden apple snail. Historically, the earliest known information gathered on the golden apple snail as pest was in 1909.

In spite of the perceived significant role of this snail in agriculture there is a scarcity of information on its bionomics and geographical distribution. Whatever limited information is available comes from widely scattered scientific and popular publications. Thus far, no attempt has been made to compile research results into a meaningful abstract bibliography.

This abstract bibliography on golden apple snail has an international coverage with a compilation of more than 250 entries collected from various sources. The closely related genera referred to here are *Azpullaria*, *Pomacea* and *Pila*. These information on the related genera are included in this bibliography. The wide array of information collected to date was organized using the micro Computerized Documentation System/Integrated Set of Information System (CDS/ISIS) software. The golden apple snail in particular provides a data base which is available for searching and retrieval at the Surveillance and Forecasting Team Office, National Crop Protection Center, University of the Philippines Los Baños, College, Laguna.

A SURVEY OF THE RHOPALOCERA (LEPIDOPTERA) OF MT. MAKILING

BONIFACIO F. CAYABYAB, C.R. BALTAZAR, F.F. SANCHEZ, N.O. AGUILAR, and A.W. TEJADA, National Crop Protection Center, University of the Philippines Los Baños, College, Laguna

A survey of the Rhopalocera (butterflies: Lepidoptera) at Mt. Makiling, U.P. Los Baños was conducted from March 14, 1990 to April 3, 1992. The modified Pollard's transect technique was utilized.

The 26-month butterfly survey yielded 145 species and subspecies of Rhopalocera comprising 74 genera (butterflies) in 8 families of superfamily Papilionoidea and 16 genera from the solitary family (Hesperiidae) of superfamily Hesperioidea. Fourteen species and subspecies are new records for Luzon.

The range of temperature, where most Rhopalocera (butterflies) were counted, was between 25°C and 28°C. The peak of abundance of the Rhopalocera (butterflies) was recorded between 26°C and 27°C.

Most Rhopalocera (butterflies) on wings were observed from 0800 to 1000 hours. The peak density was observed between 0900 to 1000 hours.

There were two population peaks observed within a year. One is during the dry season in the months of April and May while the rainy season peak is from June to August.

An index of abundance was established for each major species. The combined data from 1990-1992 showed that five species reached the hundred mark of index of abundance. These are *Eurema sarilata aquilo* (Pieridae), *Emma hecabe tamiathis* (Pieridae), *Ypthima sempera sempera* (Satyridae), *Appias albina semperi* (Satyridae) and *Jamides cleodius semperi* (Lycaenidae).

ECTOMYCORRHIZAL FUNGI ASSOCIATED WITH DIPTEROCARPS IN MT. MAKILING

NELSON M. PAMPOLINA, R.E. DE LA CRUZ and M.U. GARCIA, University of the Philippines Los Baños, College, Laguna

Fourteen species of basidiomycetes belonging to the seven genera, i.e., *Russula*, *Lactarius*, *Scleroderma*, *Amanita*, *Boletus Paxillus*, and *Cantharellus*, were collected under the dipterocarp stand in Makiling Botanic Garden (MBG), University of the Philippines Los Baños College of Forestry. These were characterized morphologically and anatomically, prior to identification to at least genus level. The *Russula* species dominated the area representing five different species from *Lactarius* and one each for the other genera. *Lactarius piperatus* was observed to appear all throughout the period of collection. Among the identified dipterocarp host species, *Parahorea malaanonan* revealed a wide range of ectomycorrhizal association.

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