

resistant organisms, it is imperative to continue search for organisms producing novel antibiotics.

Out of 388 Actinomycetes assayed, A5 from garbage soil in Pakil, Laguna showed antimicrobial activity against 9 clinical strains of MRSA (9.1-13.3mm) and 2 strains of *C. albicans*, Ca1 (13.15mm) and Ca4 (11.95mm). Minimum inhibitory concentration (MIC) (Marfori et. al., 2002) of ethyl acetate extract using *C. albicans* as test organism showed the same MIC as the positive control (Nystatin) 7.8 ppm. Bioautography (Marfori, 2002) produced 1 active spot against *C. albicans*. The same extract showed 4 active spots against MRSA. Fractionation of the active compound was done using solvents of increasing polarity.

Ethyl acetate extract of A5 was highly toxic to larvae of diamondback moth, *Plutella xylostella* and Asian corn borer, *Ostrinia furnacalis*, major insect pests of crucifers and corn, respectively.

Actinomycete isolate A5 is a potential source of active compound against antibiotic resistant organisms and pests in agricultural crops.

**Keywords:** Actinomycete, Methicillin resistant *Staphylococcus aureus*, MRSA, *Candida albicans*, bioautography

## ***SOCIAL SCIENCES***

### **SSD No. 1**

#### **ATTENTION DEFICIT HYPERACTIVITY DISORDER (ADHD) AMONG TEENAGERS AND IN SCHOOL CHILDREN AGES 3-8 IN ILIGAN CITY**

Cesar G. Demayo, Mark Anthony J. Torres, Concepcion Apao Jr.  
and Ianni Bea Garcia

Department of Biological Sciences, College of Science and Mathematics  
MSU-Iligan Institute of Technology, Iligan City  
Email: c\_demayo@yahoo.com

Attention Deficit Hyperactivity Disorder (ADHD) is a developmental disability that usually affects children and is usually characterized by behavioral and learning disorders. Some of commonly cited characteristics in children with ADHD are hyperactivity, distractibility and impulsivity. Children with ADHD find it difficult to perform a task assigned to them and focus on some of the important aspects of conversations. We used the SNAP-IV Teacher and Parent Rating Scale to get the information needed from the child in selected schools from Iligan City. In this

study, we allowed only the teachers to fill-out the survey form based on his observations of the children under his/her class. The SNAP-IV Rating Scale consisting of ninety (90) behavioral descriptions of the child is a revision of the Swanson, Nolan and Pelham (SNAP) Questionnaire (Swanson et al, 1983). We paid attention to four subtypes of ADHDs in the survey—the two subsets of symptoms: inattention (ADHD-I) and hyperactivity/ impulsivity items (ADHD-H/Im), items from the DSM-IV criteria for Oppositional Defiant Disorder (ODD) and items from the Conners Index Questionnaire (Conners, 1968) where the items which loaded highest on the multiple factors of the Conners Questionnaire, represents a general index of childhood problems. Our preliminary results on 251 schoolchildren ages 3–8 years old showed none of those surveyed have symptoms of ADHD based on the total 90 descriptors. However, when the four subtypes were assessed based on selected descriptors of SNAP-IV, results showed none has symptoms of ADHD-I (inattention), 2 females (0.8%) and 10 males (4%) showed ADHD-H/Im (inattention and impulsivity), 2 males (0.8%) and none for the females for ADHD-C. Thirteen (13) females (5.18%) and 32 males (12.75%) have the ODD descriptions.

A study to determine ADHD was also conducted on young adults. We now know that ADHD symptoms frequently persist in the adult lives of people who had ADHD as a child. Because it is not always practical, or possible, to obtain information from an informant such as a parent, employer or clinicians, we relied on the student's own account of his or her current symptoms and the subject's recollection of childhood symptoms. We used the Wender-Utah Rating Scale developed by Dr. Paul Wender in 1995 to determine adult ADHD among the 739 students in six colleges of MSU-IIT. Of the 739 students, 509 or 68.87% were observed negative for ADHD behavior, 151 or 20.43% probably had ADHD and 79 or 10.69% were observed positive. The result of this study is comparable to published reports that showed at least 10% of adult populations manifest this disorder.

**Keywords:** Attention Deficit Hyperactivity Disorder, ADHD, SNAP-IV, Conner's Index

SSD No. 2

**VALIDATED TRADITIONAL WEATHER FORECASTING METHODS IN  
ILOCOS NORTE, PHILIPPINES**

**Evangeline S. Galacgac and Criselda M. Balisacan**

Research and Development Directorate  
Mariano Marcos State University Batac, 2906 Ilocos Norte  
rddirectorate@yahoo.com

Traditional weather forecasting knowledge and methods (weatherlore), which guide Ilocano folks in their farming, fishing activities and for disaster preparedness, were documented and validated from year 2002-2004.

Indicators which are reliable to predict the onset of rainy season and upcoming rain are: ants storing foods, herons migrating to the mountain, lesser caucal (*Centropus bengalensis*) uttering its call "kok-kok", and frogs croaking near swampy areas. When dragonflies fly low, loose dogs defecate in the middle of the road, plaintive cuckoo (*Coccyzus merulinus*) utter its call "pee-to-pee", and Himalayan swiftlet (*Aerodramus brevirostris*) fly low chasing for insects, rain is imminent. Typhoon/storm will occur when a long parallel band of feathery clouds, moon with ring (lunar corona), giant seawaves, and sea roaring or visible seawater evaporation are observed. With Bristol, weather-wise folks could tell the seasonal outlook for the incoming year based on the prevailing weather condition of the last 12 days of December of the current year.

Animal behavior and appearance of clouds, moon and sea have scientific basis. They are highly reliable to Ilocano folks and are useful for agriculture, fishery planning and operation, and to prepare for adverse weather condition to supplement PAGASA forecasts.

**Key words:** weatherlore, forecasting, weather, rainy season, traditional

**SSD No. 3**

**MEASURING THE ECOLOGICAL FOOTPRINT OF LOYOLA SCHOOLS  
(2001)**

**Chloe Jean M. Mojica and Teresita R. Perez**

Department of Environmental Science  
School of Science and Engineering  
Ateneo de Manila University  
Loyola Heights, Quezon City, Philippines  
Email: chloemojica@yahoo.com

Ecological Footprint Analysis (EFA) is developed by Mathis Wackernagel and William Rees (1990s) to respond to the issues of carrying capacity and sustainability. It serves as an accounting tool that estimates the resource consumption and waste assimilation requirements of a defined human population in a defined productive land area. It is rapidly carving its niche in the scientific world as scientists continuously contribute to its broadening concepts and has been used in evaluating academic institutions.

The EFA of Ateneo de Manila University has been studied with the following objectives : (1) to measure the spatial impact (footprint) and the ecological footprint of Loyola Schools in terms of power and water consumption and solid waste generation during 2001; (2) to assess the availability, accessibility and quality of data necessary for this type of analysis; and (3) to present results that identify significant environmental impacts that will be instrumental in setting up future environmental management systems applicable inside Loyola Schools.

The calculated footprint from the three components studied is 139.79 hectares. This is four times larger than the estimated area of Loyola Schools which is 32 hectares. Loyola Schools had a population of 25,999 during 2001 thus per capita footprint is 0.005 global hectare. The footprint associated with power consumption is 101.11 hectares which is 72.33% of the total footprint – the highest contributing component. The footprint associated with water consumption is 37.76 hectares which 27.01% of the total footprint. The footprint associated with solid waste generation is 0.92 hectare which is only 0.66% of the total footprint – the smallest contributing component.

In terms of ecological footprint, Loyola Schools has a total ecological footprint of 226.17 global hectares which is three times larger than its potential productive area (70.40 global hectares). Per capita ecological footprint is 0.008 global hectare.

EFA offers a simplistic way of identifying and addressing activities ( resource consumption and waste generation) with large spatial impacts to the biophysical environment. Data required for this analysis were available but were mostly in

basic form which required conversions and several assumptions to fill information gaps to reconcile incomplete data.

EFA is a viable tool for analyzing the sustainability of a university unit similar to Loyola Schools since it has clearly identified that resource consumption and waste generation have definite ecological and economic consequences. This confirms that EFA is a practical method to measure ecological footprints of universities.

**Keywords** : accounting tool, carrying capacity, ecological footprint analysis, sustainability

**SSD No. 4**

**EFFECTIVENESS OF FOUR COMMUNICATION STRATEGIES IN  
CONVEYING BIODIVERSITY INFORMATION FROM THE  
UPLB MUSEUM OF NATURAL HISTORY TO SELECTED  
GRADE V PUPILS IN LOS BAÑOS, LAGUNA**

**Graciosa B. Romero,<sup>\*1</sup> Rosa Pilipinas J. Fadri,<sup>1</sup> Aimee Lynn A. Barrion<sup>2</sup>  
and Ireneo L. Lit, Jr.<sup>2,3</sup>**

<sup>1</sup>Department of Development Journalism  
College of Development Communication,

<sup>2</sup>UPLB Museum of Natural History, and

<sup>3</sup>Department of Forest Biological Sciences  
College of Forestry and Natural Resources

University of the Philippines Los Baños College Laguna 4031

\*E-mail: [graciousromero@yahoo.com](mailto:graciousromero@yahoo.com)

Extension and communication of biodiversity information is virtually an unexplored area of study in the Philippines. Previous efforts along this line focused mainly on conveying agricultural knowledge and technological innovations. Eliciting appreciation for biological diversity and its conservation, especially to the younger sectors of the population, is of paramount importance considering the fast decline and seemingly irreversible loss of our natural biological heritage. The University of the Philippines Los Baños Museum of Natural History is one of the informal learning institutions, that is considered also as a unique educational environment that impart life-long learning, particularly in the field of biodiversity and its conservation. To determine the effect of its new insect biodiversity exhibit on the cognitive learning scores of students, 76 Grade V pupils from Lopez Elementary School were randomly selected. The study adopted a pre-test and post-test scheme composed of four treatments, namely: T1 – exhibit viewing only,

T2 – exhibit with lecture / guided tour, T3 – exhibit viewing with brochure and T4 – exhibit viewing with lecture / guided tour and brochure provided. Mean cognitive learning pre- and post-tests scores were recorded, tallied and averaged. Ranked mean of the pre-test cognitive learning scores were: T2 (6.53) = T3 (6.53) > T4 (6.37) > T1 (6.16) whereas those of the post test were: T2 (10.26) > T4 (9.58) > T3 (8.84) > T1 (8.05). Results suggest that, by itself, viewing the insect biodiversity exhibit had improved the mean cognitive learning scores. However, combining the exhibit with a lecture or guided tour or with both a lecture guide and brochure generated the highest scores. These two treatments did not differ significantly suggesting that the pupils appreciated or learned more from listening to a guided tour where there is greater interaction than from mere reading of a brochure. Nonetheless, the higher scores for T3 compared to those for T1 suggest that compared to plain viewing of exhibits, an attractive yellow brochure helps a lot in cognitive learning. Despite limitations, this study yielded interesting results as far as communicating scientific information on biodiversity is concerned. More extensive and more detailed studies should be conducted to further refine biodiversity extension strategies and more efficiently communicate information on our remaining natural heritage.

**Keywords:** museums, biodiversity extension, insects, science communication