

(3) support of the Council's program of furthering research in the social, biological, and medical sciences in Borneo; (4) subscription to the Borneo Research Bulletin.

The Fellows of the Council serve as a pool of knowledge and expertise on Borneo matters which may be drawn upon to deal with specific problems both in the field of research and in the practical application of scientific knowledge.

Fellowship in the Council is by invitation, and enquiries are welcomed in this regard.

INFORMATION FOR AUTHORS

Research Notes: These should be concerned with a summary of research on a particular subject or geographical area; the results of recent research; a review of the literature; analyses of state of research; and so forth. Research Notes differ from other contributions in that the material covered should be based on original research or the use of judgement, experience and personal knowledge on the part of the author in the preparation of the material so that an original conclusion is reached.

Brief Communications: These differ from the foregoing in that no original conclusions are drawn nor any data included based on original research. They also differ in consisting primarily of a statement of research intentions or a summary of news, either derived from private sources or summarized from items appearing in other places that may not be readily accessible to the readers of the Bulletin but which have an interest and relevance for them. They will be included with the contributor's name in parentheses following the item to indicate the source. Summaries of news longer than one or two paragraphs will appear with the contributor's name under the title and prefaced by "From."

Bibliographic Section: A Bibliography of recent publications will appear in each issue of the Bulletin, and, consequently, reprints or other notices of recent publications would be gratefully received by the editor.

Other Items: Personal news, brief summaries of research activities, recent publications, and other brief items will appear without the source specifically indicated. The editor urges those contributing such news items to send them in the form and style in which the contributor wishes them to appear rather than leaving this to the discretion of the editor.

STYLE FOR CONTRIBUTIONS

Please submit all contributions double spaced. Research Notes and Brief Communications should be limited to approximately eight double-spaced pages. Footnotes are to be avoided wherever possible. Bibliographies should be listed alphabetically by author at the end of contributions. For punctuation and capitalization refer to Bibliographic Section.

BORNEO RESEARCH BULLETIN

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Master of Science Program, Department of Forestry, the Australian National University, Canberra as an external student. The topic of his thesis is "The Development of Silvicultural Policies for Dipterocarp Forest in Sabah." Dr. R. G. Florence of the Australian National University, and Mr. A. J. Hepburn of the Chief Minister's Department, Sabah, are his supervisors. The thesis is expected to be completed by 31st August, 1974.

Mr. Domingo Chai Nai Ping, a Forest Officer, returned from the University of New Brunswick with a BSc. Forestry and was posted to the Forest Research Branch as a Silviculturist recently.

Mr. P. F. Cockburn, Forest Botanist, has completed his Volume One of "Trees of Sabah" and this was sent for printing. The second Volume is well under way. The book covers approximately 250 important timber trees of Sabah other than members of Dipterocarpaceae.

MAMMALS OF BORNEO WHOSE SURVIVAL IS THREATENED

From G. N. Appell
Brandeis University

The Survival Service Commission of the International Union for the Conservation of Nature and Natural Resources is concerned with the problem of preventing the extinction of plants and animals. It also is involved in the preservation of viable wild populations of all species in their native habitats. As part of this program they periodically publish surveys of species threatened with extinction. The data included in these surveys are the distribution of the threatened species, the status of the wild populations, the status of their habitat, conservation measures in effect, conservation measures needed or planned, list of references, and an estimation of the degree to which the species is threatened with extinction. This material for mammals may be found in the Red Data Book Volume 1: Mammalia. However, I thought it might be useful to list here the mammals in Borneo threatened with extinction and summarize their status.

The Red Book classifies the status of threatened species as either Endangered, Vulnerable, Rare, or Out of Danger.

The category of Endangered indicates that the taxonomic group or entity is in danger of extinction, the survival of which is unlikely if the causal factors now at work continue operating. Vulnerable species are believed likely to move into the endangered category in the near future if the causal factors now at work continue operating. The category Rare refers to taxonomic groups with small world populations which are not at present endangered or vulnerable but which are nevertheless at risk of possible extinction. Out of Danger classification indicates that the taxa were formerly included in one of the above categories but are now considered relatively secure because effective conservation measures have been taken or the previous threat to their survival has been removed.

The species of mammals threatened with extinction in Borneo include the following:*

Pongo pygmaeus Orangutan

Endangered by the continuing elimination or alteration of its habitat and by selective killing of adult females to obtain live juveniles for the animal trade. Lowland forest habitats are now being rapidly eliminated or altered by mechanized agriculture and the timber industry. Adaptations or shifts of the species to sub-optimal habitats are slow. Extensive mechanical exploitation of forests followed by tree poisoning in habitat areas can therefore result in elimination of resident populations

Lariscus hosei Four-striped ground squirrel

Rare. This species is extremely rare within a circumscribed range. It is recorded only from the north and northwest of Borneo, and it is thinly distributed within this area. Life history and habitat requirements should be studied to determine the factors limiting its numbers and whether its survival is at risk.

Neofelis nebulosa Clouded leopard

Vulnerable. Judging from the infrequency of sightings and the reduction in the number of pelts brought to market its numbers appear to be severely reduced. The current status, range, food and habitat requirements need to be determined as a basis for its protection and management since the information on this species is unusually scanty.

Elaphus maximus Asian elephant

Vulnerable. Its long-term survival is uncertain. There has been a precipitous decline in numbers as deforestation and agriculture have reduced its habitat, and its prospects for survival are uncertain. Existing populations are restricted in remnant, isolated habitats. There appears little hope for maintaining wild populations outside protected areas.

Dugong dugon Dugong

Vulnerable. The dugong has been over-hunted and is seriously depleted throughout its range. In many areas it has virtually disappeared. Its habitat is restricted to warm, shallow coastal waters where it feeds on a variety of algae and grasses, and may rest in deeper water during the day. It has been heavily hunted for many years for its meat, oil, and hides.

* Lucas Chin in his article, "Protected Animals in Sarawak," Sarawak Museum J. 19:359-361, 1971, discusses the state of endangered animals in Sarawak and has listed those birds and animals which are on the government's protected list under the Wild Life Protection Ordinance.

In some areas where fishery development includes the use of large sea nets, the inadvertant destruction of dugongs may be inevitable. However, this species could, with proper management and enforcement, provide a local supply of meat. Therefore, since it provides a high quality food, protective measures should be enforced, and when local populations have been rebuilt, the harvest could be managed on a sustainable yield basis.

Didermocerus sumatrensis Sumatran rhinoceros

Endangered. This rhinoceros occurs in small isolated populations. Overhunting has reduced its populations to critically low levels, and its range continues to be restricted by logging operations and expanding human populations. It now occurs in Sabah, and it formerly ranged over Kalimantan, but its present status there is not known. Needham (1972:177) reports that in the areas hunted by the Penan, rhinoceros have become practically extinct within the lifetime of older men.

Bibliography: International Union for the Conservation of Nature and Natural Resources, 1972, Red Data Book Volume 1: Mammalia, Morges, Switzerland; International Union for the Conservation of Nature and Natural Resources, 1973, Mammals Listed in the Red Data Book Volume 1, Special Supplement to the IUCN Bulletin 4 (4) April; Needham, Rodney, 1972, Penan, in Frank M. LeBar (editor and compiler), Ethnic Groups of Insular Southeast Asia, Volume 1: Indonesia, Anadaman Islands and Madagascar, New Haven, Human Relations Area Files Press.

RECENT RESEARCH PROJECTS SUPPORTED BY THE
AGRICULTURAL DEVELOPMENT COUNCIL

From G. N. Appell
Brandeis University

The Agricultural Development Council in its Core Program supports research activities undertaken by Asian social scientists affiliated with government agencies or Asian universities. In the recent issue of its "Research and Training Network Newsletter" (June 1973), the Council listed two research projects it has supported that may be of interest to Bornean researchers.

The first project is a study on "The Economic Geography of Tapioca in Malaysia," which is being undertaken under the supervision of the Department of Geography, University of Malaysia. The major focus of this study is on the role of tapioca in Malaysian agriculture and its uses and prospects in the Malaysian economy. The analysis will include geographic distribution, cultivation techniques, processing, economics of production, marketing, and export potential.

The second project is a study of "Land and Peasants in Malaysia" undertaken by the Department of Anthropology and

Sociology of the University of Malaysia. This project is a socio-economic investigation of selected rural communities in West Malaysia. The study will focus on social structure, aspects of land ownership and tenure relationships, changing features of agricultural production, and the existing patterns of rural employment.

NEWS AND ANNOUNCEMENTS

INSTITUTE OF POPULATION STUDIES, GADJAH MADA

UNIVERSITY, INDONESIA OPENS

The Gadjah Mada Population Institute was opened on the 1st of April 1973 under the directorship of Dr. Masri Singarimbun. Its aims are to gain an improved understanding of Indonesia's population problems and assist in their solutions. These objectives will be pursued through an integrated program of research, education, and extension. The Institute is an interdisciplinary center with the status of a faculty whose director is directly responsible to the Rector (President) of the University. The staff are drawn from various university faculties and serve on a joint-appointment basis.

The Institute is not directly involved in teaching, but some staff members offer courses in population studies in other faculties. In its early stages, training activities will emphasize the provision of research training for students engaged in thesis writing.

Research activities and plans of the Institute include both projects undertaken cooperatively by the Institute's staff and small projects reflecting the interests of individual staff members.

The current activities of the Institute include: (1) Preparation for publication by the Institute of The Population of Indonesia, 1930-72, a Bibliography by Masri Singarimbun; (2) further analysis of data on fertility and family planning collected in Sriharjo in 1970 and preparation of a report discussing the major findings of the survey; (3) planning of a resurvey of the Sriharjo sample.

Projects planned for the next few years include: (1) an intensive longitudinal survey of social, cultural, and economic factors in social and demographic change. It is hoped that the project will make a contribution to the limited knowledge of social aspects of fertility in Java and also have important policy implications for improvement of government programs in the field of population; (2) a detailed comparative study of the results of the 1961 and 1971 censuses in Jogjakarta. The study aims at investigating the quality of census results in the region and the immediate demographic causes of the apparently very low population growth rate in Jogjakarta; (3) a detailed evaluation of the present completeness of vital registration in different provinces. The project aims at finding out the