3. Ecological studies to provide the botanical information required for the description and understanding of important tropical ecosystems.

4. Development of means of exploring the canopy of tropical forests, and pursuit of such explorations.

5. Intensive emergency botanical exploration and collection of material and data on threatened tropical areas.

6. General botanical exploration of little-known tropical areas to fill gaps in knowledge and material.

7. Botanical aspects of IBP site development. This involves the following types of specific activities.

a. Physiognomic, or structural-functional, description of vegetation in general areas.

b. Detailed sampling and analyses of vegetation of preserved areas, establishment of permanent plots and photo-points, and marking of specific trees.

c. Phenological studies.

d. Annotated check-lists of ecological floras, with keys to genera and species.

e. Special keys to identify fruits, seedlings, and other items of ecological interest.

8. Small field conferences. It was suggested that small field-trip type conferences of 5–10 carefully selected participants interested in a particular problem, ecosystem, or methodology, would be productive. These would be conducted in the field, in the areas where the subjects of the conferences were well illustrated. The objectives would be mutual stimulation and generation of new ideas, approaches, and methods. An example of such a conference might be one on methods of exploring the canopy of the tropical forest.

9. Of special pertinence to Panama and the proposed sea-level canal investigation, the panel recommended giving every support and encouragement to the carrying to a successful conclusion the "Missouri Botanical Garden's Flora of Panama," now estimated to be about 55% finished. Five volumes and 3,000 pages have already appeared. Activities ancillary to this, and to the work of the Smithsonian Tropical Research Institute (STRI), would be the preparation of a new ecological flora of Barro Colorado Island and adjacent mainland areas under STRI control.

For this, cooperation between the Smithsonian, Missouri Botanical Garden, University of Panama, Army Tropic Test Center, and as many other organizations as could be interested in participation, should be encouraged and supported.

With great satisfaction, the panel received the information that a bilateral cooperative arrangement is being set up for botanical work in Panama between the University of Panama and the Missouri Botanical Garden. This is in line with a recommendation made by the UNESCO visiting committee for Tropical Herbaria, and will certainly be a matter of great satisfaction to that committee and its parent organization, too.

Of the proposed activities listed, the panel found it difficult to select any to which priorities could be assigned. Because the selection and development of IBP sites necessarily must be done in time for their use by the IBP, this activity should be initiated promptly. The exploration of threatened tropical areas also must be viewed with more than casual urgency, as the areas are likely to be changed and vital information lost. Likewise, the exploration of little-known regions is more than ordinarily urgent, as it may well yield data essential to other aspects of the program.

The panel concluded its report by pointing out that the urgent problems and needs in tropical botany are so great and widespread that they will require the participation and earnest efforts of all institutions with interests or capabilities in this field. It is suggested that the Smithsonian Institution, in addition to such efforts in tropical botany as its present and anticipated staff are able to make, use its prestige and experience to help secure support for the efforts and participation of any other qualified institution that needs such support to engage in the above listed activities in tropical botany.

Ornithology and Mammalogy (moderated by P. S. Humphrey)

In certain tropical areas of the world a critical need exists for general collections of birds and mammals to clarify important details of distribution and classification. Some of this work is already underway in relation to epidemiologi-