Alan J. Scott, John E. Warme, Donald C. Rhoads, David Young, Steven M. Stanley, Eugene A. Shinn, James A. Howard, Robert W. Frey.

BIOLOGICAL SCIENCES (FG)

Biology and Society (27 Dec.)

Arranged by Paul DeHart Hurd.

The symposium will have the general purpose of exploring the interactions between biology, society, and education. These interactions will be examined by three recognized biologists who have special interests in "biology and society," but from separate points of view. One will examine the question from his special interest in philosophy, one from an historical perspective, and a third from the relevance of biological knowledge to the solution of certain social problems.

Edward Manier, Johannes Van Overbeek, Garland E. Allen.

DNA Content and Gene Multiplicity in Higher Organisms (30 Dec.)

Arranged by Clement L. Markert.

This symposium will be concerned with the quantitative variations in DNA content in different vertebrates and in different cells of the same vertebrate. Evidence has accumulated to demonstrate that the amount of DNA per diploid genome varies over more than 150-fold among vertebrates. The origin and functional significance of these widely differing amounts of DNA will be explored in the symposium. In addition, the variation in the amount of DNA per cell in a single organism will also be discussed with special reference to the amphibian oocyte in which it now appears that certain genes are extensively multiplied. This symposium should present some of the most recent information and current understanding of the structural arrangements and functional activity of the DNA of vertebrate cells.

Igor Dawid, Susumu Ohno, Jack Schultz.

Adaptations of Intertidal Organisms (27–28 Dec.)

Arranged by Charles M. Lent.

The intertidal zone is the ecotone between the marine and terrestrial habitats. Its inhabitants are exposed to a wide variety of physiological stresses concomitant to continual inundation and exposure: wide variations in salinity, desiccation, rainfall, oxygen availability, freezing, temperature, wave action, ice abrasion, and periodic food availability. In spite of these stresses, the populations are very dense.

It is the purpose of this symposium then to examine the adaptations which enable these organisms to survive under such rigorous conditions. The adaptations will be examined on several levels: biochemical-cellular adaptations, organismal-level adaptations, and behavioral-population adaptations.

This will be an attempt to unite the studies on the physiology, behavior, and distribution of the organisms of this interesting habitat. It is hoped that the discussions emerging from this symposium will shed light on this zone as a route for invasion of the terrestrial habitat and point out fruitful areas for future research.

Harold Barnes, Kenneth R. H. Read, Earl Segal, Richard C. Newell, Carl S. Hammen, Larry C. Oglesby, F. John Vernberg, Ernst S. Reese, Winona S. Vernberg, John Augenfeld, Jacques S. Zaneveld, Roger H. Green, D. Craig Edwards, Mario Pamatmat.

Physiological Ecology of Amphibians (29–30 Dec.)

Arranged by Victor H. Hutchison.

The symposium will have the general purpose of bringing together current work on physiological responses of amphibians to environmental changes. The amphibians, occupying the vertebrate evolutionary position of transition from aquatic to terrestrial existence, offer one of the most fruitful animal groups for study and eventual understanding of the evolution of physiological systems in diverse environments. A recent increase in interest in this field, as evidenced by the increasing number of investigators and publications suggests that this proposed symposium is both timely and appropriate.

O. A. Belkin, F. R. Gehlbach, L. L. McClanahan, M. R. Warburg, Bernard S. Martof, Francis L. Rose, Thomas B. Thorson, James A. MacMahon, Walter G. Whitford, Rodolfo Ruibal, Vaughn H. Shoemaker, Bayard H. Brattstrom, Harold A. Dundee, W. Frank Blair, Stanley Salthe.

BOTANICAL SCIENCES (G)

The Role of a Botanical Garden in a Modern University (28 Dec.)

Chairman: Donovan S. Correll.

Speaker: Warren H. Wagner, Jr.

What a "modern university" is is somewhat clouded by the current image of demonstrating students. Let us assume that peace will once again come, and that the modern university is a large educational and research institution which serves a wide variety of needs in society. Biological sciences seem to be undergoing changes in viewpoint over the past ten years. Science itself seems to be less popular among students than it was a decade ago, and in biology, students seem to be shifting their interests away from molecules and reductionist problems and toward questions of whole organisms and populations. Probably the outstanding subjects in biology in the coming years will be ecological in nature. Botanical gardens come in all shapes and sizes, of course. Many are devoted to research only, some entirely to public service, and others try to combine these functions. It seems a shame to have a purely research garden when, with a little additional effort, it can function as well for public service. I shall describe the University of Michigan Botanical Gardens as an example of the development and goals we are aiming for. There are several distinct functions: (a) basic research; (b) university teaching operations; and (c) public service. A good university botanical gardens should include all three. It is a center for research on a variety of problems at the organismal and populational levels. It provides the place where students can learn about plants, both in summer and winter, including such subjects as plant diversity, adaptation, and economic plants. Above all, the university botanical gradens can provide a much-needed bridge between the uni-

BIOLOGICAL SCIENCES (FG)

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