

Papers from the International Conference on Comparative Physiology and Biochemistry, Kruger National Park, South Africa, 31 August to 5 September 1997

Introduction

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The first International Conference on Comparative Physiology and Biochemistry to be held in South Africa in the new democratic era took place at Skukuza Rest Camp, Kruger National Park, from 31 August to 5 September 1997. The aims of the conference were:

- (i) To enable historically underprivileged African scientists to interact personally with comparative physiologists from all over the world;
- (ii) To focus attention of the scientific community abroad on the unparalleled diversity and uniqueness of African animals;
- (iii) To help save Africa's natural history for its peoples;
- (iv) To try to get international physiologists and biochemists involved with Africa's biological opportunities and problems.

A total of 123 research scientists and students from 19 countries around the world presented a total of 115 research papers and scientific posters. There were 12 paper sessions focused on different specific themes and four poster sessions generally coordinated with each day's themes. The following nine papers are a representative sample of both plenary and review papers presented.

Comparative animal physiology and biochemistry are areas of study largely concerned with the ways in which diverse kinds of animals perform similar functions. Levels of organizational complexity studied range from the molecular to the organismic. As aptly stated by K. Schmidt-Nielsen, 'the comparative and environmental approach provides deeper insight into physiology' (and biochemistry). Both fields have some of their major roots in medicine, since medical physiology and biochemistry rely for much of their basic information on studies of many different animal model systems. Ecological concerns also underlie both fields since full understanding of the internal workings of ecosystems requires understanding of how the component systems in those ecosystems also work.

The ruthless exploitation of nature by humans seems well on the way to putting much of animal life in the basket of extinction long before completion of the wonderful discoveries of how those animals work. The Skukuza conference was a small effort at documenting at least some of those discoveries, particularly some with relevance for current conditions in Africa. The conference also contributed to the appreciation (at least by many of the participants) of another aspect of the comparative approach rarely mentioned in scientific papers. The following quotation is taken from an old zoology text book:

'The intellectual values of zoology may be less obvious, but they are important. A student's mind is awakened to the importance of observing his surroundings. This is valuable, since psychologists inform us that a confirmed habit of introversion is conducive to mental disease. An interest in the living world enables a person to use his spare time profitably, building up his mind and character while he has pleasant entertainment at the same time.'

Organisers: Prof. W.J. van Aardt and Dr A. Vosloo, Zoology Department, Potchefstroom University, Private Bag X6001, Potchefstroom, 2520

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