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SCIENTIFIC AND CULTURAL ORGANIZATION

REPORT OF THE FIRST MEETING OF THE CONSULTATIVE COMMITTEE FOR
THE INDIAN OCEAN BIOLOGICAL CENTRE

The Consultative Committee met in Cochin from February 25th to 26th, 1963. A list of persons attending this meeting is attached (Annex I). During the first part of the meeting general statements on the purpose and aims of the Indian Ocean Biological Centre were given by members of the Consultative Committee, Indian scientists and representatives of Unesco. The second part of the meeting was devoted to the discussion of various items of specific interest to the establishment of the Centre.

The Consultative Committee held a further meeting in New Delhi from February 28th to March 1st. The first part of this meeting was devoted to a discussion of the draft report on items discussed in Cochin. The second part of the meeting was held in conjunction with a meeting of INCOR. A list of persons attending this meeting is attached (Annex II). The report and recommendations of the Consultative Committee were presented to INCOR at this meeting (copy is attached as Annex III).

Annex I

Meeting of the Consultative Committee for the Indian Ocean Biological Centre

(February 25 and 26, Indian Ocean Biological Centre, Cochin)

Members of the Consultative Committee

Professor M.W. Johnson (Scripps Institution of Oceanography)
 Professor S. Motoda (Hokkaido University)

(Note: Prof. M. Vinogradov (USSR) was unable to attend the meeting)

Other representatives

Dr. J.E. Wallen (Smithsonian Institution)
 Dr. T.R. Parsons (Office of Oceanography, Unesco)
 Dr. C.V. Kurian (University of Kerala) *
 Dr. N. Balakrishnan Nair (University of Kerala) *
 Dr. V.K. Hansen (Expert, Unesco)
 Dr. R.R. Prasad (Central Marine Fisheries Research Institute, Mandapam Camp)
 Mr. Myrland (Indo-Norwegian Project) *
 Mr. S.T. Tholasilingam (Central Marine Fisheries Research Sub-Station, Ernakulam) *
 Dr. A.N. Bose (Central Institute of Fisheries Technology, Ernakulam) *
 Dr. A. Evstafiev (Unesco, SASCO)
 Dr. R. Serene (Unesco, SEASCO)
 Dr. S.M. Krishna Menon (Indian Ocean Biological Centre)
 Dr. N.K. Panikkar (Indian National Committee for Oceanic Research)

Annex II

Meeting of the Indian National Committee on Oceanic Research and the Consultative Committee for the Indian Ocean Biological Centre.

(March 1st, 1963, Conference Room of C.S.I.R., New Delhi)

Members of INCOR

Dr. D.N. Wadia (Chairman)
 Dr. N.K. Panikkar (Secretary)
 Dr. K.R. Ramanathan
 Mr. C. Ramaswamy
 Capt. S. Rajendra (Chief Hydrographer)
 Capt. N.S. Tyabji (Director, Naval Operations)
 Dr. S.H. Zaheer (D.G., C.S.I.R.)
 Dr. C.R. Jayaraman

Members of Consultative Committee

Dr. M.W. Johnson (Scripps Inst. of Oceanography)
 Prof. S. Motoda (Hokkaido Univ.)

Observers

Dr. J.E. Wallen (Smithsonian Inst.)
 Dr. T.R. Parsons (Office of Oceanography, Unesco)
 Dr. V.K. Hansen (Expert, Unesco)
 Dr. A. Evstafiev (Unesco, SASCO)
 Dr. R. Serene (Unesco, SEASCO)
 Dr. J. Swarbrick (Unesco, SASCO)

* Persons attending only the first part of the meeting

Annex III

Report and Recommendations of the Consultative Committee, Indian
Ocean Biological Centre, 1st March, 1963

Interim Proposal for Treatment of the International Standard Zooplankton Samples at the Indian Ocean Biological Centre, Cochin.

The organization of the analysis will consist of three parts:

- I - Sorting of the plankton samples into a fairly low number (30-50 categories) of taxonomic groups.
- II - Descriptive treatments of the variations of the above groups according to their occurrence in time and space distribution in the Indian Ocean. This work will be done by the staff of Indian Ocean Biological Centre when sufficient material has become available.
- III - Studies on taxonomy, ecology and zoogeography will be started by the personnel of I.O.B.C. and by specialists from India and abroad in accordance with the description of the activities of the Centre.

Description of the sorting technique:

In order to be able to handle the samples within a fairly short time it is necessary to limit the sorting to main groups. An exact definition of these will not be possible until the Curator has initiated his work.

From the total sample will be sorted;

1. All fish eggs and larvae.
2. All large specimens of invertebrates in order to provide a fairly homogeneous composition of the samples based on size categories.
3. The unsorted residue will when possible be fractioned in two parts of which
 - a) One part will be preserved unsorted for planktonologists who will want to do their own processing of the samples according to their special requirements;
 - b) The second part will be further sorted by the staff of the Centre. Sorting will be accomplished by the use of soft brushes under hand lenses with appropriate lighting. The sorted material will then be transferred to sample tubes placed within closed glass containers and kept in the dark.

Standard preservation:

6% Formalin buffered by Hexamine (Hexamethylenetetramine)
ref: R.I. Currie: The Indian Ocean Standard Net, N.I.O.
int.rep.B. 1.1962)

Standard labelling:

Written in India ink and treated in celluloid solution.

Registration of samples and sorted fractions:

A simplified clip card system will be developed. All catches will be referred to a standard volume of water filtered, as determined for each haul by the collecting ship.

The Curator's duties and responsibilities in an approximate order of priorities

1. To establish methods and techniques to be used in the processing of the international samples.
2. To determine the order in which the international samples will be sorted.
3. To supervise the preparation of station lists, of catalogues of material in the international collections, identification sheets * to facilitate internal sorting at the Centre, and atlases dealing with distribution etc. of major groups which have been sorted.
4. To assist in training local staff and visiting investigators, where appropriate.
5. To select, with the advice of the I.O.B.C. Consultative Committee, the specialists for study of the various fractions of the standard samples from a current international list of specialists who have expressed willingness in studying the material. (ref. NS/9/45A P.5).
6. To supervise the preparation of, and provide on request from recognised institutions, Named Collections from the international samples.

Staff of the Indian Ocean Biological Centre

The Curator of the Indian Ocean Biological Centre has been appointed by Unesco for a period of two years starting on April 1st, 1963.

* The Committee recommended that the preparation of identification sheets for external distribution should be postponed until a study could be made of the best techniques that could be utilized for this work.

The Indian staff appointed by March 31st 1963 will be as follows:

Senior Scientific Officer (Grade I)	-	1
Senior Scientific Officer (Grade II)	-	1
Junior Scientific Officer	-	1
Scientific Assistants	-	4
Stenographer	-	1
Accounts Clerk	-	1
Library Assistant	-	1
Store Clerk	-	1
Laboratory Assistants	-	4

Some of these persons have already been appointed and in other cases a decision on applicants will be made prior to March 31st, 1963. An Assistant Director will be named in the future. In addition it was reported that 16 fellowships (8 junior, 8 senior) had been given by the Indian National Committee on Oceanic Research and that some of these were for Indian scientists to work at Indian Ocean Biological Centre on biological and chemical problems in oceanography.

On the basis of this report it was recommended by the Consultative Committee that special attention be given to the selection of persons in the Laboratory Assistants grade who had special skills that could be used in the Laboratory. Effort should be made to obtain a few Assistants having familiarity with electrical equipment, optical equipment and an ability to construct and repair simple apparatus. At the professional level it was recognised that the policy followed of choosing candidates majoring in zoology, preferably with previous experience in marine work and with minor subjects in Chemistry or Botany, was consistent with the primary aims of the Centre. It was recommended, however, that all the professional grades including the Curator, take part in the sorting program and that a timetable of the division of time between sorting and other work should be drawn up. For merely preliminary sorting and counting it was felt that Laboratory Assistants should be trained in order that they also can carry out these tasks on a routine basis.

The need was recognised for the appointment of additional staff in the near future. It was felt that appointments should be made with consideration to the amount of material which would become available for sorting. Using the approximate rate of 2 samples/week/man, the Committee recommended that the staff should be increased so that samples do not accumulate. In order to anticipate the staff requirements it was felt that some approximate estimate should be procured of the number of samples which are likely to be sent to the Centre. The assistance of SCOR and IOC in providing this information would be useful.

Availability and adequacy of space:

Space for the Indian Ocean Biological Centre has been given by Kerala University and is within the new University Oceanographic Laboratories. The area of the Centre is 342 m² and is divided to provide a store room, one large laboratory, a smaller laboratory for senior scientists, a laboratory for the Curator and a fifth room for a library and typing facilities. The Committee considered that this space was adequate for the primary aims of the Centre as a laboratory for zooplankton sorting. It was noted, however, that some of the research fellows appointed by the Indian National Committee for Oceanic Research were also proposed for work at the Centre. It was felt that while the Committee welcomed a close liaison between persons concerned with the primary aims of the Centre and other biological and chemical oceanographers, nevertheless it considered that the space available at the Indian Ocean Biological Centre is inadequate to allow for the development of other activities. At the appropriate time the possibility of moving the administrative section and stores to other quarters and thereby making more space available for activities other than sorting was considered as a possible method to meet the situation.

Equipment:

Approximately \$9,000 worth of scientific equipment has been ordered by Unesco for the Centre. An additional \$4,500 * remains to be spent on items suggested as a result of the meeting of the Committee. It was anticipated that delays in shipping could amount to six months from the time of ordering of this equipment and it was considered expedient, therefore, that every effort should be made to borrow some equipment from local sources until the Unesco equipment arrived. In this respect, the Committee was informed that four microscopes made in India had been ordered by the Indian Government on a trial basis and that these would be available immediately. The possibility of borrowing additional equipment will be investigated.

A list of items for purchase under the remaining \$4,500 of the Unesco contract was presented by the Curator. The purchase of phase contrast equipment was considered unnecessary at this time but the need was expressed for some type of photo-copying apparatus. Other items which was suggested as being desirable were hand counters, a "Projectina" type microscope, large glass storage jars and the items already mentioned by the Curator.

Of equipment supplied by the Indian Government approximately \$1,500 has been spent on providing furniture for the Centre, \$2,000 on glassware and office equipment and \$1,000 for books. The Committee expressed the need for considerable shelf space to be provided in the laboratories. It was also considered necessary that additional lighting and plumbing facilities should be provided. The problems of minimising the effect of formalin vapours either by auxiliary ventilation or the use of counteracting agents was emphasized. The Committee recommended further that one room should be air conditioned and that delicate instruments should be kept in this room.

* A total of \$15,000 has been provided by Unesco during 1961/62 for the purchase of equipment. Approximately 10% is required for the cost of shipping.

Duties of the Indian staff

The policy of leaving all administrative problems to the Director and staff of Indian Ocean Biological Centre was considered highly advisable. It was agreed that the sorting of standard collections would have priority over all non-standard collections including Indian collections. It was felt, however, that at a later time the Consultative Committee should consider what policy should be followed in the future.

Future planning

Regarding the future planning of Unesco support to the Centre, the Committee felt that it was too early to formulate an opinion on the desirability of Unesco support for a Curator beyond the two year period already arranged. The Committee felt, however, that some way of preserving the international nature of the Centre should be found. It was considered advisable that Unesco should continue to support the project and the Consultative Committee up to at least 1966. In addition, it was felt that ways should be explored for attracting scientists from other countries to the Centre for periods of study.

It was felt that the next meeting of the Consultative Committee should be for a period of approximately two weeks and that it should take place in Cochin with members devoting most of their time to scientific study and informal discussions. It was decided that if a member could not attend the meeting he should suggest an alternate member to Unesco.

A small advisory body will be appointed by INCOR in the near future. This body is to advise INCOR and CSIR on activities of the IOBC. It was felt that this advisory body might meet with the Consultative Committee at its next meeting in order to formulate a joint policy for action. It was further suggested that the Curator be appointed Unesco representative on this advisory body and that SCOR be asked to nominate a member.

It was decided that the future planning of activities of IOBC should be left until the primary aims of the Centre had been more fully developed.

In-put of biological material to the Centre

The only collections at present received by the Centre are from the ARGO (U.S.) and samples collected by Indian ships. It is expected that samples collected by the USSR and Japanese scientists will arrive in the near future and this will make approximately 300 standard collections. The Committee felt that samples should be processed as rapidly as possible in order to stimulate and maintain the interest of scientists engaged in collecting. From past experience on zooplankton collecting it was not anticipated that there would be any shortage of material with which to work.

It was hoped that a short report on the progress made in sorting at the Centre would be included in the IIOE Information Sheet.

Activities related to IOBC

The Committee recommended that the Secretary of IOC compile and distribute a list of taxonomists who are prepared to work on Indian Ocean material. It was considered that the list should not be limited to planktonic organisms but include specialists working on all marine animals or organisms. Assistance from various competent agencies should be sought by the Secretary of IOC in order to facilitate this project.

It was further suggested that INCOR should prepare a report on the present status of marine collections already retained in India.

With regard to the suggestions made by the Israeli scientists on providing assistance in sorting and taxonomy it was felt that this was a useful suggestion but that no money was available with which to support the suggested programme. It was felt that in such cases, however, it might be possible to refer special requests for sorting to Israeli scientists if the Centre became overburdened with such requests. In such an event it was assumed that financial support would be obtained from the organisation requiring material to be sorted.

The Committee considered the suggestion made by the President of SCOR (for which Dr. M.B. Allen prepared a working paper) that the Centre be used to retain phytoplankton cultures. The Committee considered that this was not advisable at the present time but that it would be a good activity for future consideration. The Committee felt that the programme of the "Anton Bruun" in this field should be drawn to the attention of interested persons.

With respect to the treatment of zooplankton samples collected by a non-standard technique and for which a specific and detailed request was made for sorting by an agency, it was considered that such requests should be carried out provided they did not interfere with the sorting of standard collections. The charge for special requests would be based on the number of hours required to do the sorting. Only very approximate estimates of the charge could be made without seeing the samples to be sorted. The Committee felt that for research contracts of this type there should be some separate account and that a suitable way of carrying out such work should be developed without interfering with the primary aims of the Centre.

Training and study at the Centre

The Committee was informed that for persons wishing to study at the Centre, Kerala University was providing a small apartment building within the next year for the total accommodation of about 12 persons at minimal cost.

It was further stated that persons in the category of qualified students from countries in the region and in the category of specialists from any country would be welcome to study at the Centre. It was emphasized by the Committee that in the former category only persons who had some previous experience with zooplankton and who possessed a B.Sc. or equivalent should be encouraged to study at the Centre. Careful consideration of a training programme for these persons would have to be given by the Curator and Assistant Director of the Centre. In the latter category it was felt that specialists who wanted to come to the Centre should give some indication of what they expected to do and what equipment they would require in order that the Curator and Assistant Director could decide whether the Centre had the facilities required. It was felt, however, that it was as yet too soon to encourage the presence of either categories of scientists. In the interim period it was suggested that organisations which gave fellowships for study in marine science should be contacted so that they could plan ahead for the possibility of giving fellowships for study at the Centre.