

EXTRACTS FROM THE REPORT OF THE FOURTH MEETING
OF THE CONSULTATIVE COMMITTEE FOR
THE INDIAN OCEAN BIOLOGICAL CENTRE

Participants

The fourth meeting of the Consultative Committee was held in New Delhi and Ernakulam during the period 22 February to 2 March 1966 and was attended by five members of the Committee, under the chairmanship of Mr. R. S. Glover, by Dr. Panikkar and Dr. Brinton, together with staff members from IOBC, and by several scientists from other Indian institutions and from Unesco.

The participants were welcomed by Dr. D. N. Wadia, F.R.S., Chairman of the Indian National Council for Oceanic Research and of the Advisory Board for the IOBC.

In accordance with the usual practice, members of the Consultative Committee, Professor Ganapati and Dr. Hempel gave lectures and participated in seminars with the staff of the IOBC.

SUMMARY OF DISCUSSIONS

1. Membership of the Committee

The Office of Oceanography, in consultation with SCOR, has appointed Professor J. Krey (Institut für Meereskunde, Kiel, Germany) to the vacant place on the Committee. Professor S. Motoda, having attended three meetings of the Committee, had completed his term of office and had been replaced by Mr. D. L. Tranter (C.S.I.R.O., Cronulla).

2. The future of the International Collection and the IOBC after the end of the International Indian Ocean Expedition

The IIOE ended in 1965, but the basic sorting of the plankton collections at the IOBC cannot be finished until the end of 1967. This must be followed by further sub-sorting and years of specialist research on the sorted material.

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Biogeographical assessments of the Indian Ocean were, and remain, the major objective in assembling the International Collection. The Committee wishes to assert, in the strongest terms, that international co-operation must be continued to ensure full use of the International Collection. Scientific co-ordination, during the coming years, should be directed towards the synthesis of the specialist analyses.

Therefore the Committee welcomes the incorporation of the IOBC as a permanent division of the new Indian National Institute of Oceanography, to be devoted to the International Collection. This action by the Indian CSIR will ensure the continued provision of a laboratory, staff and associated facilities for the sorting and local management of the Collection.

The Committee recommends most strongly that the co-ordination of sorting and specialist analysis, as well as the development of research programmes, should continue to be in the hands of a planktologist of high international standing, directly responsible to the Consultative Committee for the International Collection. The Committee believes therefore that the office of the International Curator must be continued at least until the sorting and allocation of samples to experts has been completed.

The Committee believes that the IOBC has an important part to play in the training of scientists from India and elsewhere in methods of sorting and taxonomy. The staff of IOBC, as well as visiting experts, should collaborate in these training activities, which should include organised courses as well as individual tuition. It is emphasised that the sorting staff includes experienced specialists with important skills which they could pass on to members of other laboratories proposing to engage in similar activities.

The Committee urges national institutions, as well as UNESCO and other international agencies, to contribute to the travel and other expenses of experts and trainees working on the International Collection. The Committee draws the attention of countries which have deposited samples in the care of IOBC and the International Curator to the need for continued support (through funds, equipment and participation in the research activities) if the potentialities of the International Collection are to be exploited fully.

During a discussion of the kind of research activities which might be developed at the IOBC, it was proposed by Indian scientists that the present scope of the work should be extended to include studies of the phytoplankton. The Committee suggested that new research projects should be confined to those which are likely to advance the primary objective of a biogeographical assessment of the plankton of the Indian Ocean.

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3. Buildings and Equipment

The IOBC is housed in accommodation made available through the generosity of the University of Kerala. The Committee wishes to record its appreciation for this assistance, without which the IOBC could not have made such an admirable start.

The further development of the work at the Centre will require additional accommodation and facilities. Although the Centre is well equipped for basic sorting, additional research rooms and equipment will be needed before visiting workers can be satisfactorily accommodated. The Committee made some detailed recommendations to UNESCO and the Director of IOBC for further improvements of equipment and of accommodation for visiting workers.

The Committee hopes that it will be possible to start soon the building of a new laboratory in Ernakulam to house the former IBP laboratory, the Physical Oceanography Laboratory and the IOBC (as proposed to the previous meeting of the Consultative Committee). There would be many advantages in the sharing of facilities and the mutual development of common interests in these three laboratories which are now constituted as divisions of the new National Institute of Oceanography.

4. Staff of the Centre

Demand with regard to manpower and scientific competence of staff will increase in the near future in consequence of (a) need to carry out extensive sub-sorting of some groups, (b) collaboration with visiting workers and (c) leave of absence for training and teaching.

Therefore, the Committee emphasises again that the staff of sorters should be increased, with research fellowships in addition.

5. Library and Identification Keys

The Committee acknowledges the contributions to the library through purchases by CSIR, as well as donations by institutions and individuals.

With the commencement of detailed taxonomic studies and the visits of specialists to the Centre, it will be necessary to augment the library, especially in the fields of morphology and taxonomy.

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At the meeting of the IIOE Co-ordination Group in Paris, June 1965, it was recommended that librarians and individuals should be asked to contribute duplicates and photo-copies to the Centre. A first draft for a basic bibliography (prepared by the Consultative Committee during the meeting) will be revised by the curator and Dr. Prasad, in consultation with selected specialists. A list of requirements for the library of IOBC will then be compiled and circulated widely. The Office of Oceanography of UNESCO is asked to publicise the request for donations which will be held at the disposal of those working on the International Collection at IOBC. It was agreed that a special effort should be made to obtain copies of identification keys.

6. Receipt of Material for Sorting

The Curator reported that the following samples had been received and sorted up to mid February 1966:-

	Received	Sorted
Australia	206	190
Germany	122	122
India	436	268
Japan	180	48
Pakistan	22	0
South Africa	360	0
U.K.	206	205
U.S.A.	457	441
USSR	79	6
TOTAL 2,068		1,280

Material received during recent months has reduced the gaps in the sampling coverage but the Committee repeats the request for additional material, especially from the central oceanic regions to the south of the equator. The Committee welcomes plans for the collection of further samples by Indian research vessels, using the Indian Ocean Standard Net, for deposition and processing along the lines established for the International Collection.

7. Sorting Methods

No changes are proposed in the basic sorting technique, but the Committee asked that an immediate assessment should be made of displacement volume of all samples received.

Additional sub-sorting will be necessary in those groups which are too big to be distributed to specialists. A member of the sorting staff has started to divide the category of fish larvae into five major orders. Other categories which require sub-sorting include: Copepoda, Decapoda, Pteropoda, Amphipoda, Euphausiacea, Foraminifera, Radiolaria and Anthozoa.

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The Committee recommends that an early start should be made on the sub-sorting of some of these groups. First priority should be given to the fish larvae and to those groups (such as Pteropoda and Foraminifera) which are difficult to preserve in formalin over a long period of time.

Another category which merits special attention is the "residue" which contains a wide range of small organisms, presumably including many of the young stages or organisms in the other categories. It is recommended that a small number of residue samples should be analysed in detail in order to make a provisional assessment of the overlap between this group and the other categories.

The Committee wishes to draw the attention of SCOR to the need for a general assessment of the problems of fixing and preserving samples of plankton. It is suggested that the co-operation of chemists might be sought in a search for new methods. A guide handbook would find many users. It is thought that these tasks might be allocated to a SCOR working group.

8. Allocation of Material to Specialists

The Committee believes that preference in the allocation of material should be given to those institutions whose experts can work at the IOBC for some period of time before the samples are despatched to the borrower. Preference should be given also to those specialists who are willing to analyse material on a broad geographical basis.

The curator should encourage collaboration between specialists with overlapping interests. It was recognised that, after material has been sent to a selected institution, further division of the material may be necessary on regional or taxonomic grounds. In such cases, the borrowing institution will be expected to consult the curator regarding the further allocation of the material, if necessary by sub-contracting to other institutions, but responsibility for the treatment of the samples will remain with the initial borrower.

A circular letter (signed by the Director, the Curator and the Chairman of the Consultative Committee) was sent in January 1966 to 125 specialists. About 45 people had indicated already by the end of February their wish to collaborate in the analysis of the International Collection. The curator was instructed to prepare additional copies of the letter for circulation according to the lists.

The Committee decided that allocations of material in most of the groups should be deferred until further replies to the circular letter have been received. The curator was instructed to consult with the members of the Committee by correspondence regarding the final selection of specialists for each group.

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The Committee recommends that prominent scientists should be invited to IOBC to draw up programmes of research, including sub-sorting, for certain selected groups.

The Curator was instructed to prepare a handbook for specialists, giving station lists, details of sorting methods and other basic information which the specialists would need as a background to their researches.

It is highly desirable that specialists should obtain copies of a standard chart of the Indian Ocean, in the hope that this would contribute towards a standard form of publication of the results. The Director and the Curator were asked to consider the preparation of such a chart.

9. Data Processing

The Curator reported that processing of the results of basic sorting has been started, designed to facilitate the retrieval of data regarding the distribution of samples and of the sorted categories of organisms, together with information about type of gear, depth and duration of haul, time of day, etc.

10. Atlas

The IIOE Co-ordination Group suggested that the Atlas on the zooplankton of the Indian Ocean should be primarily based on the International Collection. The Committee feels that the work can and should be done by the Curator and staff of IOBC. The specialist analyses will continue over a long period of time and the atlas will appear in a number of separate issues. It will be necessary to ensure continuity of preparation and publication during this period. The Committee, therefore, suggests that the Director of the IOBC would be the most appropriate general editor. It is hoped that CSIR will be able to provide the necessary financial support for this work.

With these points in mind, the Committee supported a draft proposal for submission to IOC for the preparation of the atlas by the staff of the IOBC under the scientific guidance of the Curator and the general editorship of the Director of IOBC.

The Committee suggested that there were three principal stages in the development of the work at the IOBC, in the first two of which atlas-making would play a major part. The stages are:-

- i. Atlases of the distribution and abundance of "general faunistic properties". These would include estimates of total biomass (or displacement volume) and of many of the major categories which form the basis of the routine sorting. Dr. Brinton was instructed to make an early start on this work.
- ii. Atlases of the distribution and abundance of species. These

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will be dependent on the work of specialists over many years. It is hoped that a measure of agreement can be reached regarding the presentation of results in a form which will facilitate their combination in atlas charts. To this end the Committee suggested that a meeting of specialists might be held in Ernakulam late in 1967 or in 1968 to discuss co-ordination and presentation of results.

iii. The analytical ecology of the plankton of the Indian Ocean. This is the obvious long-term objective of the work at IOBC, designed to contribute to an understanding of the distribution, abundance and composition of the plankton. Although this task will occupy many years and depends on a wide range of research activities, at IOBC and elsewhere, it will be greatly advanced by a sound biogeographical assessment of the International Collection at the IOBC.

11. Liaison with other Institutions

For the compilation of the Atlas a full exchange and comparison of the results of the specialist analyses of the International Collection and of the various national collections taken during IIOE is essential. The Committee encourages therefore the Curator to establish contacts with marine laboratories of the region and of other parts of the world which are engaged in work on plankton in the Indian Ocean. This kind of communication and co-ordination will be essential if the scientific value of the IIOE is to be realised.

12. General

The progress of the IOBC justifies the confidence of the nations which deposited samples in the International Collection. The great potential value of the IOBC is not in doubt. National and international institutions, as well as individual scientists, are asked to recognise the great potential of IOBC which provides the unique opportunity for international co-operation. Continuing support both by UNESCO and by participating countries will be needed as a logical follow up of the IIOE.

The Committee expressed its high regard for Dr. Brinton, who began his work as International Curator in October 1965 and who initiated the the developing research programmes on the International Collection, which will form the next phase of advancement of the Centre and its staff.

13. Election of Chairman

On the retirement of Mr. Glover, who has served as Chairman since March 1964, the Committee elected Professor Krey to assume this office as from 1 July 1966.