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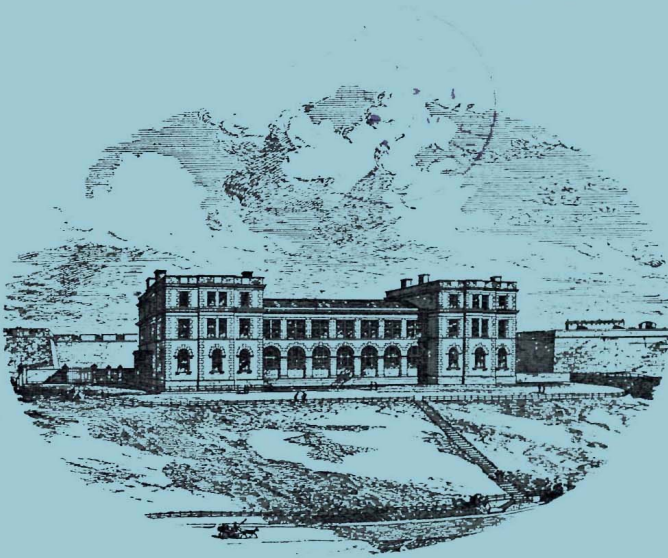
# Journal

OF THE

## MARINE BIOLOGICAL ASSOCIATION

OF

### THE UNITED KINGDOM.



THE PLYMOUTH LABORATORY.

LONDON :

PRINTED FOR THE MARINE BIOLOGICAL ASSOCIATION BY ADLARD AND SON,  
AND  
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SENT FREE BY POST TO ALL MEMBERS OF THE MARINE BIOLOGICAL ASSOCIATION :  
ANNUAL SUBSCRIPTION FOR MEMBERSHIP, ONE GUINEA.

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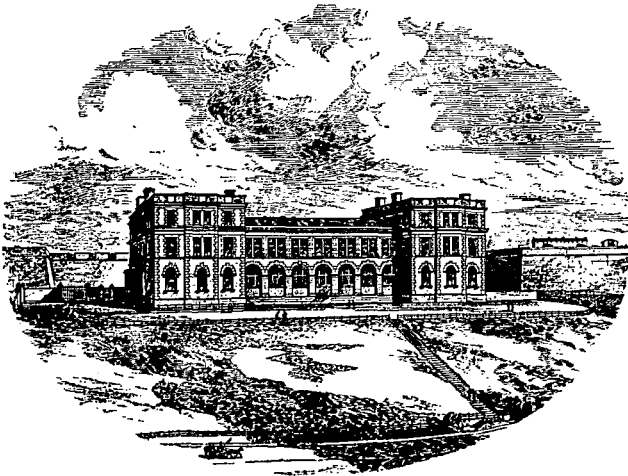
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**Journal**  
OF THE  
**MARINE BIOLOGICAL ASSOCIATION**  
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THE PLYMOUTH LABORATORY.

VOLUME I (N. S.).  
1889—90.

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*The Council of the Marine Biological Association wish it to be understood that they do not accept responsibility for the accuracy of statements published in this Journal, excepting when those statements are contained in an official report of the Council.*

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# OBJECTS

OF THE

## Marine Biological Association of the United Kingdom.

---

FOUNDED “for the purpose of establishing and maintaining Laboratories on the Coast of the United Kingdom, where accurate researches may be carried on leading to the improvement of Zoological and Botanical Science, and to an increase of our knowledge as regards the food, life-conditions, and habits of British Food-fishes and Molluscs.”

---

The Association was founded at a Meeting called for the purpose in March, 1884, and held in the Rooms of the Royal Society of London.

Professor HUXLEY, the President of the Royal Society, took the chair, and amongst the speakers in support of the project were the Duke of ARGYLL, Sir LYON PLAYFAIR, Sir JOHN LUBBOCK, Sir JOSEPH HOOKER, the late Dr. CARPENTER, Dr. GÜNTHER, the late Lord DALHOUSIE, Professor MOSELEY, Dr. ROMANES, and Professor LANKESTER.

The Association owes its existence and its present satisfactory condition to a combination of scientific naturalists, and of gentlemen who, from philanthropic or practical reasons, are specially interested in the great sea fisheries of the United Kingdom. It is universally admitted that our knowledge of the habits and conditions of life of sea fishes is very small, and insufficient to enable either the practical fisherman or the Legislature to take measures calculated to ensure to the country the greatest return from the “harvest of the sea.” Naturalists are, on the other hand, anxious to push further our knowledge of marine life and its conditions. Hence the Association has erected at Plymouth a thoroughly efficient Laboratory, where

naturalists may study the history of marine animals and plants in general, and where, in particular, researches on food-fishes and molluscs may be carried out with the best appliances.

The Laboratory and its fittings were completed in June, 1888, at a cost of some £12,000. Since that time investigations, practical and scientific, have been constantly pursued at Plymouth. Practical investigations upon matters connected with sea-fishing are carried on under the direction of the Council; in addition, naturalists from England and from abroad have come to the Laboratory, to carry on their own independent researches, at the expense of a small rent for the use of a working table in the Laboratory and other appliances, and have made valuable additions to zoological and botanical science. *The number of naturalists who can be employed by the Association in special investigations on fishery questions, and definitely retained for the purpose of carrying on those researches throughout the year, must depend on the funds subscribed by private individuals and public bodies for the purpose.* The first charges on the revenue of the Association are the working of the sea-water circulation in the tanks, stocking the tanks with fish and feeding the latter, the payment of servants and fishermen, the hire and maintenance of fishing-boats, and the salary of the Resident Director. The gentleman holding this post receives £200 a year and a residence. A naturalist has also been appointed at a salary of £250 a year, whose duties are confined to the study of food-fishes, and provision has been made for an assistant to the Director. THESE ARE THE ONLY SALARIED OFFICERS OF THE ASSOCIATION: its affairs are conducted entirely by voluntary service.

The Association has at present received some £15,000, of which £5000 was granted by the Treasury. The annual revenue which can be at present counted on is about £950, of which £500 a year for five years is granted by the Treasury, whilst £180 is in the uncertain form of Annual Subscriptions.

The admirable Marine Biological Laboratory at Naples, founded and directed by Dr. Dohrn, has cost about £20,000, including steam-launches, &c., whilst it has an annual budget of £4000.

**The Marine Biological Association urgently needs additional funds for the purchase and maintenance of a sea-going steam-vessel, by means of which fishery investigations can be extended to other parts of the coast than the immediate neighbourhood of Plymouth; for the maintenance and completion of the library; and in order to increase the permanent staff engaged at Plymouth.** The purpose of the Association is to aid at the same time both science and industry. It is national in character and constitution, and its affairs are conducted by a representative Council, by an Honorary Secretary and an Honorary Treasurer, without any charge upon its funds, so that

the whole of the subscriptions and donations received are devoted absolutely to the support of the Laboratory and the prosecution of researches by aid of its appliances.

## TERMS OF MEMBERSHIP.

---

	£	s.	d.	
ANNUAL MEMBERS . . . . .	1	1	0	per ann.
LIFE MEMBERS . . . . .	15	15	0	Composition Fee.
FOUNDERS . . . . .	100	0	0	,, ,,
GOVERNORS (Life Members of Council)	500	0	0	,, ,,

---

Members of the Association have the following rights and privileges: they elect annually the Officers and Council; they receive the current numbers of the Journal free by post; they are admitted to view the Laboratory at Plymouth at any time, and may introduce friends with them; they have the first claim to rent a table in the Laboratory for research, with use of tanks, boats, &c.; and have access to the library at Plymouth.

The special privileges of Governors, Founders, and Life Members will be found under the Regulations for the working of the Laboratory.

# BYE-LAWS.

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## MEMBERS.

1. The Association shall consist of Governors, Founders, Life Members, and Annual Members, from whom shall be chosen the Council, Officers, and not more than twenty Vice-Presidents.

2. A number of Associate Members, not exceeding fifty in all, may be elected from among persons connected with Marine Fisheries or interested in Marine Botany or Zoology.

## COUNCIL.

3. The affairs of the Association shall be conducted and its laboratories managed by a Council consisting of the Governors, the Officers, the Prime Warden of the Fishmongers' Company for the time being, and fourteen other Members to be chosen annually, who shall be eligible for re-election. Five shall be a quorum.

## OFFICERS.

4. The Officers of the Association shall consist of a President, a Chairman of Council (who shall be *ex officio* a Vice-President), an Honorary Treasurer, and an Honorary Secretary, all of whom shall be chosen annually from amongst the Members, but shall be eligible for re-election.

5. In the event of any vacancy occurring in the Council, Officers, or Vice-Presidents, the Council at their next Meeting after such vacancy has been made known shall elect some duly qualified person to the vacant office.

6. The President shall preside at the Meetings of the Association, and shall regulate the discussions and proceedings thereat.

7. In the absence of the President at any meeting of the Asso-

ciation, a Vice-President shall preside ; and, in the absence of all the Vice-Presidents, a Member of the Council shall preside ; and, if no Member of the Council be present at any Ordinary Meeting, the Members present shall appoint such Member as they shall think fit to be Chairman.

8. The Chairman of Council shall preside at the meetings of the Council, and shall regulate the discussions and proceedings thereat. In his absence the Members of the Council present shall appoint such Member of the Council as they think fit to be Chairman.

9. In case of an equality of votes at meetings of the Association, or of the Council, the Member presiding shall have a second or casting vote.

10. It shall be the duty of the Hon. Treasurer to receive all sums of money due to the Association, and to disburse all sums payable by the Association out of the funds in his hands.

11. No payment exceeding £15 (except for rent, taxes, or wages) shall be made by the Hon. Treasurer without the consent of the Council.

12. The Accounts of the Hon. Treasurer shall be audited previous to each Annual Meeting by a Committee of two Members of the Council and two Members of the Association, to be appointed by the Council at the last Council Meeting in the session, of which Committee three shall be a quorum.

#### DIRECTOR.

13. A Director of the Laboratory, who shall also act as Assistant Secretary of the Association, shall be elected by the Council at such a salary as shall from time to time be determined.

14. It shall be the duty of the Director to maintain the laboratories, aquarium, and library, and other property of the Association, in a state of efficiency ; to superintend and direct the scientific work at the laboratories ; to prepare and edit the Journal of the Association ; to keep a list of all the Members of the Association, together with their addresses ; to summon meetings of the Association and the Council ; to conduct all correspondence ; to take minutes of the proceedings of the Association and the Council, and generally to act under the direction of the Council in all matters connected with the affairs of the Association.

15. The Council may employ an Assistant to the Director, who shall receive such remuneration and shall be subject to such directions as they shall from time to time determine.

ELECTION, WITHDRAWAL, REMOVAL, AND PRIVILEGES  
OF MEMBERS.

16. Every candidate for election as a Member or Associate Member shall be proposed in writing by a Member, and such proposal shall be forwarded to the Director, who shall lay it before the Council at the next succeeding meeting.

17. The method of voting for the election of Members shall be by ballot, and a majority of the Council balloting shall elect.

18. The payments to be made by the Members shall be as follows:—A Governor shall pay £500, a Founder £100, and an Ordinary Member shall pay £1 1s. annually. The annual contribution may be compounded for at any time on payment of £15 15s. Any University of the United Kingdom, on the payment of £500 to the Association in the name of the University and for the purpose of acquiring the right herein specified, shall, if the Council of the Association assent thereto, become a Governor of the Association, and acquire the perpetual right of nominating annually one Member of the Council of the Association to serve for one year (from the Annual Meeting in one year to that in the following year), and any resident Member of the University subscribing £100 or more to such fund of £500 shall, in virtue of such subscription, become a "Founder" of the Association.

19. The annual contribution shall become due on the 1st June, in advance; but any Member elected in the months of February to May inclusive will not be called upon for a second contribution until the 1st June in the year following his election.

20. Every Member having paid all sums due to the Association shall be at liberty to withdraw therefrom upon giving notice in writing to the Director.

21. Whenever written notice of a motion for removing any Member shall be delivered to the Director, signed by the President or Chairman for the time being on the part of the Council, or by five or more Members, such notice shall be sent by post to each Member seven days before the next Annual or Special Meeting of the Association, when such motion shall be taken into consideration and decided by ballot. If a majority of the Members balloting shall vote that such Member be removed, he shall be removed from the Association accordingly.

22. Whenever any Member shall be in arrear for two years in the payment of his annual contribution, notice thereof in writing shall be sent to him by the Hon. Treasurer; and in case the same shall remain unpaid, the Hon. Treasurer shall give notice thereof to

the Council, who shall cause a similar notice to be sent to the Member, with an intimation that at the expiration of three months he will be liable to have his name erased from the list of Members. In default of payment the Council may order his name to be erased accordingly.

23. Members shall have the right to be present, to state their opinions, and to vote at all meetings of the Association; to propose candidates for admission as Members; to introduce visitors at meetings of the Association; to have personal access and to introduce strangers to the laboratories, and to make use of the library, subject to such regulations as the Council may from time to time prescribe.

24. Members shall be eligible to any office in the Association, provided they are not more than one year in arrear in the payment of the annual contribution.

25. A Member shall not be entitled to vote on any occasion until he shall have paid his contribution for the year last past.

#### ASSOCIATE MEMBERS.

26. Associate Members shall not be required to pay any contribution to the funds of the Association, but are expected to communicate information to the Association on Marine Fisheries and on Marine Zoology or Botany, to supply specimens, and to otherwise advance the objects of the Association.

27. Associate Members shall not be eligible to any office in the Association, nor shall they be entitled to vote at any meeting.

28. Associate Members shall have personal access to the laboratories and library of the Association, subject to the regulations of the Council in force for the time being.

#### ANNUAL MEETING.

29. The Annual Meeting of the Association shall be held in June in each year, on such day and at such time as the Council shall from time to time direct.

30. The object of the meeting shall be to receive from the Council their annual report on the affairs of the Association, and to elect the Council, Officers, and Vice-Presidents for the ensuing year.

31. The Council shall cause to be prepared a list containing the names of Members whom they shall recommend to be elected as the Council, Officers, and Vice-Presidents for the year ensuing, and a



copy of such list shall be hung up in the office of the Association not later than the 15th May.

32. If any five or more Members shall desire to substitute for any of the names in the said list the names or name of any other Member or Members, they shall give notice in writing to that effect, specifying the names or name proposed to be substituted; such notice to be given on or before the 31st May to the Director, who shall cause the same to be forthwith hung up in the office of the Association.

33. If no such notice is given to the Director, the Members named in the list prepared by the Council shall be held to be elected as the Council, Officers, and Vice-Presidents for the ensuing year.

34. If any such notice is given, the election shall be by ballot at the Annual Meeting, and the President shall appoint two or more Scrutineers from the Members present, not being Members of the Council, to superintend the ballot, and to report the result to the meeting.

35. Any balloting list containing a greater number of names proposed for any office than the number to be elected to such office shall be rejected by the Scrutineers.

36. No ballot shall be taken unless five or more Members vote.

#### SPECIAL MEETINGS.

37. Upon the requisition of any twenty or more Members presented to the Council, a Special Meeting of the Association shall be convened. A notice thereof shall be sent to every Member whose last known residence shall be in the United Kingdom, seven clear days before such meeting shall take place, and the general nature of any proposition to be submitted to such meeting shall be stated in the notice.

38. No vote shall be taken at any Special Meeting unless twenty or more Members shall be present.

39. Any of the Bye-Laws of the Association may be repealed or altered or others adopted in lieu thereof at an Annual or Special Meeting, but no resolution for effecting any such repeal or alteration shall be proposed at any Annual Meeting unless at least fourteen days' notice in writing specifying the terms of such resolution shall have been given to the Director.

## REGULATIONS FOR THE WORKING OF THE LABORATORY.

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At a Council Meeting, held on July 25th, 1888, the regulations with regard to the admission of Naturalists desiring to make use of the Plymouth Laboratory were amended and enlarged as follows :

1. Any Governor or Founder of the Association is entitled to occupy *in propria personâ* a table at the Plymouth Laboratory without payment. A Founder or Governor shall have the privilege, upon signifying to the Director his intention to forego permanently the right of personally occupying a table in the Laboratory, of nominating an eligible person to make use of a table for one month in each year free of charge.

2. The charge for a table shall be £40 a year, £25 for a half-year, and £5 for a month, to be paid in advance. No table shall be let for less than a month, and the monthly charge shall be as above for any number of months less than six.

3. Members of the Association have the first claim to become renters of tables.

4. Life Members of the Association are entitled to occupy *in propria personâ* a table at a reduction of one fourth from the above rates.

5. The Council of the Association may remit, in whole or in part, the payment of rent for a table in special cases. No charge will be made to a State-recognised authority for the use of a table.

6. Applications from Members and others desiring to occupy tables must be made in writing to the Director, and a notice of at least seven days will be expected before any table is ready for use.

7. The Association undertakes, so far as possible, to supply the material required for any investigation, and such facilities for obtaining it as may be at the command of the Association.

8. The Association supplies to the occupant of each table ordinary glass jars, dissecting dishes, bottles, pans, &c., not to be removed from the Laboratory, also the ordinary chemical reagents, and

ordinary methylated alcohol to the amount of two gallons per month. Absolute alcohol will be supplied to the extent of half a pound per month. Each Naturalist must pay for what he requires in excess of these amounts. The Association does not supply microscopes or other instruments. The more expensive reagents, as well as glass slips and covers and other portable apparatus, may be purchased of the attendant. Each Naturalist will be provided on arrival with a list of the free equipment supplied by the Association.

9. For the purpose of enabling the Director to draw up the half-yearly statement of the work of the Laboratory required by H.M. Government, and for the information of the Association, all Naturalists working in the Laboratory, at the completion of their work, or if not completed after three months then at intervals of three months, are expected to furnish the Director with a summary statement of the investigations carried on by them in a form suitable for publication in the Journal of the Association.

10. No Naturalist can be permitted to make zoological collections in the Laboratory. The Association undertakes to provide collections of marine animals, and to supply them at a fixed price to those who wish to buy them. This rule must be understood to apply only to general zoological collections. Every Naturalist is at liberty to collect and take away with him any material that is necessary for the prosecution of his special line of research on payment of the cost of bottles and packing-cases necessary for its removal.

11. The animals collected by the fisherman will be delivered to the Superintendent of the Laboratory, and distributed by him. The fisherman of the Association is prohibited from delivering specimens directly to the Naturalists.

12. Naturalists who are desirous of making use of the boats of the Association must apply to the Director for permission to do so.

13. A portion of the tank apparatus in the main Laboratory will be allotted to each Naturalist. Applications for small aquaria, glass vessels, caoutchouc and glass tubing must be made to the Laboratory Superintendent. Naturalists are not permitted to overcrowd the aquaria or contaminate the sea water in circulation.

14. There will be a collection of named specimens which may be used for reference and identification. Any Naturalist desiring to use the named specimens will be supplied with them on application to the Director. He will be required to return the specimens uninjured as soon as he has done with them.

15. Naturalists working in the Laboratory will have free access to the tank-room at any hour of the day, but they are not permitted to have access to the interior of the tanks without the permission of the Director. Facilities for conducting experiments on a large scale

XX REGULATIONS FOR THE WORKING OF THE LABORATORY.

will be granted as far as space permits, but each Naturalist will be held responsible for the consequences of such experiments.

16. Any Member of the Association is at liberty to view the Laboratory and tanks between the hours of 10 a.m. and 6 p.m. on presenting his card to the Director.

17. The Director has control of the Laboratory boats and apparatus of the Association. Persons are admitted as renters of tables solely on the condition that they accept this control, and agree to abide by the regulations drawn up by the Council of the Association.

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