

stages in several species of the thecate amoebae have been noted, but it is in the genus *Arcella* that the more careful study was made. For that reason the comments will be restricted to the life cycle in *Arcella*—though many of the stages described for *Centropyxis* have been seen.

Beginning with the last paragraph on page 246 Cavallini describes the splitting of the parent shell (in some cultures) and the emergence therefrom of "... an oval mass, 174 μ long and 78 μ wide, full of spherical refractive bodies of different sizes. . . ." This phenomenon has never been observed by me¹; although the spherical refractive bodies have been seen inside the shell and also in irregular masses of protoplasm protruding through the mouth of the shell. These refractive bodies have been isolated and amoebulae have been obtained from them.

It was found that growth and division of the amoebulae take place as described by Cavallini, the process being repeated so many times that I was forced to the tentative conclusion that I was dealing with a small amoeba which had nothing to do with *Arcella*. The process of shell formation has been observed in mass cultures and my observations agree essentially with Cavallini's; although she does not make it clear how the thecate form, which at first is nearly spherical, assumes the typical shape of the adult *Arcella*. This seems to be brought about, at least in part, by invagination.

There are two things in Cavallini's paper which should be specially pointed out: (1) My observations agree with hers regarding the lack of evidence for macro—and micro—gametes, yet my experiments have not been sufficiently controlled to preclude such a possibility and if hers were she has failed to give convincing evidence to that effect. (2) She says nothing concerning the cause of "sporulation." The season of the year in which her work was done is the same as that in which I found this phenomenon most marked, yet by changing the culture medium daily I have carried hundreds of *Arcellae* throughout the year without any evidence of "sporulation" or diminution in the rate of vegetative reproduction. On the other hand, these amoebulae have appeared in old cultures at practically all seasons of the year, but they occur much more commonly during the late autumn and winter months.

In concluding I wish to state that the evidence I have agrees more closely with Cavallini's account of the life-histories of these thecate amoebae than with that given by any other author.

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¹ This may be accounted for by the fact that *A. polyopora* and *A. discoides* were used principally.

THE TROPICAL RESEARCH STATION OF THE NEW YORK ZOOLOGICAL SOCIETY

THE Tropical Research Station of the New York Zoological Society, located at Kartabo, British Guiana, will be open this summer for a limited number of men and women capable of carrying on independent biological research.

The station has been used by the University of Pittsburgh for the past two summers, courses in field zoology being offered by Dr. Alfred Emerson in 1924 and by Dr. S. H. Williams in 1925.

This year it will be sponsored by Mr. William Beebe, director of tropical research of the New York Zoological Society and founder of the station. The laboratory will be managed by Jay F. W. Pearson, a member of tropical research staff, assisted by Mrs. Pearson.

The party will leave New York about June 12 and will return September 12.

The expenses of each person will be approximately \$750.00, including transportation, living expenses and incidentals after leaving New York. Stops will be made en route at the West Indian Islands of Grenada and Trinidad.

All communications and applications should be addressed to the undersigned at the department of zoology, University of Pittsburgh, Pittsburgh.

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SCIENTIFIC BOOKS

Taxidermy and Museum Exhibition. BY JOHN ROWLEY; Preface by Frank M. Chapman. D. Appleton and Company, New York, 1925 (our copy received December 26). Octavo, pp. xvi + 331, 29 plates, 20 figs. in text. \$7.50.

THIS book is the result of thirty-five years of continuous experience in devising and applying the technique of museum exhibition. As Dr. Chapman says in the preface, John Rowley has always held the highest ideals of the taxidermist's art and has fortunately been so situated that he has never been obliged to sacrifice them. The exhibits prepared by him in several different museums, notably those in the California Academy of Sciences building in Golden Gate Park, San Francisco, form an enviable record of achievement in this worthy line of endeavor.

Twenty-seven years ago Rowley wrote "The Art of Taxidermy," a book which registered the foremost accomplishments of that day. The author states in the forepart of the present book that the passage of a quarter of a century has seen the development of so many ideas and improvements in museum matters that but few of those described in the earlier volume are now being applied. The present book sets forth the