In addition, Latreille, 1810, 422, definitely designated *Astacus fluviatilis* as type of *Astacus*.

Potamobius Leach in Samouelle, 1819, EuC, 95, was proposed as a new genus with *Potamobius fluviatilis*, syn. *Cancer astacus*, as monotype. Accordingly *Potamobius*, 1819, is an objective synonym of *Astacus*, 1775.

"*Astacus* Leach's MSS." in Samouelle, 1819, EuC, 95, is cited as if it were the publication of a new genus, monotype, *Astacus gammarus* Linn., syn. *Astacus marinus* Fabr., "the common lobster" of the London markets, from Scotland, Norway, European ocean. If this be interpreted as a new genus, the name is a dead homonym of *Astacus*, 1775; if it be interpreted as a division and restriction of *Astacus*, 1775, the elimination of *fluviatilis* syn. *astacus* is contrary to Article 30d of the International Rules.

All later references, together with the discussions as to the course adopted by Milne-Edwards, and others, are irrelevant under the International Rules.

This particular case is more than one of simple academic nomenclature. It involves the technical names of several animals which come into important consideration in connection with the subject of food poisoning and food inspection; and, however much systematists may differ in argument and opinion in respect to the names of animals discussed only in technical publications, it seems desirable that the technical names which eventually get into administrative work and even into law should be as uniform and unambiguous as possible.

Dr. Ortmann, after reading the foregoing discussion, writes us under date of February 4, 1926, that he concurs in the views expressed here.

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THE DECOMPOSITION OF CERTAIN TOXINS BY KNOWN ORGANISMS[1]

SINCE the writer[2] reported that vanillin decomposing organisms do not decompose resorcinol, cumarin, quinoline, benzidine or caffein in dilute solution cultures it has seemed desirable to test several known organisms from the Parke Davis Laboratory and from the Laboratory of Public Health, for their ability to decompose such toxins as vanillin, cumarin, caffein and resorcinol in solution cultures.

Suitably modified Robbins' solution, containing vanillin, was prepared and inoculated in duplicate with pure cultures of the organisms listed below. After incubation at room temperature for about one month observations for the growth of the organisms and tests for the decomposition of the vanillin were made.

It was found (a) that Bacillus Hartlebii, Bacillus cyanogenus, Bacillus carotovorus, Bacillus phaseoli, and Bacillus mycoides failed to grow or to decompose the toxin; (b) that Bacillus tumefaciens, Staphylococcus, tetragenus, Bacillus megatherium, Bacillus aerogenes, Bacillus coli communis, Bacillus prodigiosus, Micrococcus tetragenus, Spirillum rubrum, Aspergillus fumigatus, Bacillus tracheophilus, Vibrio Metchnikovii, Vibrio tyrogenus, and Azotobacter chrococcum, grew but did not decompose it; (c) while, on the other hand, Pseudomonas pyocyaneus and Bacillus fluorescens liquifaciens did decompose it.

It appears from these results that though the organisms multiplied in many cultures sufficiently to render the solution turbid yet there was decomposition of vanillin by two organisms only.

In case of cumarin, caffein and resorcinol, which were treated in the same way, equal care was taken that proper conditions, such as suitable substratum and correct reaction, were maintained, but in no case was there complete decomposition.

While the results are mostly negative they do in a large measure support the contention that the organisms which decompose toxins are specific.

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[1] Published with the permission of the director of the Alabama Experiment Station.

[2] SCIENCE, 60, 390 (1924).

CAVALLINI'S "ASEXUAL CYCLE IN ARCELLA"

IN view of the existing confusion regarding the life histories of the rhizopods, especially the thecamoeba, it seems apropos to offer any available evidence that might help in clarifying this situation.

The two papers by Francesca Cavallini, *viz.* "The Asexual Cycle in Centropyxis aculeata and its Variability in Relation to Heredity and Environment" and "The Asexual Development of Arcella vulgaris," which appeared in the January issue of the *Journal of Experimental Zoology*, represent such painstaking efforts, and apparently the interpretations are so justly warranted that special attention should be called to their merits.

For the last six years I have spent most of my research time on the thecamoebae, being primarily interested in experiments other than those dealing with life histories: but during this period stages in the development of these forms have been encountered often and many observations and drawings have been made. What was interpreted to be developmental

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 me[1]; 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. polypora* 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