

systematic review of the fishes of the eastern shore of the Californian Gulf, in the Mexican province of Sinaloa. Twenty-nine new species are recorded, many of which are here figured, including a new Saw-fish and several new Sting-rays. The present work, however, can be regarded only as the result of a reconnaissance, although it is clearly of great value. Except in the case of *Chanos*, it deals with no osteological characters; and from the nature of the Hopkins expedition, one can hardly expect that any definite information could have been obtained as to the larval characters of these fishes, or as to the ranges of sexual variation.

ACCORDING to the London *Times*, the British Consul at Piræus mentions in his last report that a Pasteur Institute for the treatment of hydrophobia by inoculation has now been in existence in Athens for some time. During the first 16 months of its existence 201 cases were treated, of which 176 were from Greece, 21 from Egypt, and 4 from Asia Minor. There was only one death, and in this case the patient had delayed going for treatment until 15 days after being bitten. The whole credit of founding the institution belongs to Dr. Pampoukis, the director, who was sent to study under M. Pasteur in Paris in 1886, and who, on his return, started a microbiological institute at his own expense and conducted a series of valuable experiments for the government. He opened the Pasteur Institute in August, 1894, at his own expense; small allowances have since been made to him by the municipality and the government. It is practically impossible to overestimate the value of such an establishment in the Levant, and its existence ought to be widely known. Not only does the curse of masterless dogs exist in Greece, but even more so in the neighboring countries. A muzzling order does exist in Attica, but it is not enforced, and the strewing of poisoned meat in the streets of Athens and Piræus is apparently the only attempt made by the authorities to deal with an increasing amount of rabies. The lack of water and the prevailing disregard of all forms of animal suffering largely contribute to this result.

THE N. Y. *Evening Post* states that the agricultural extension work carried on by Cornell pro-

fessors under the provisions of the Nixon fund is being yearly extended. Originally confined to the Chautauqua grape belt, it was last year extended to Genesee. This year Prof. Bailey has organized work in Oswego county, where experiments in strawberry culture are to be made, and in Onondaga and Oneida counties. The work in each county partakes of the prevailing local farm industry.

THE School of Applied Ethics, which for the past four years has held sessions at Plymouth, will omit the session this year.

UNIVERSITY AND EDUCATIONAL NEWS.

DR. B. I. WHEELER, of Cornell University, has been elected president of the University of Rochester.

PROF. GRAVES, of Tufts College, has been elected president of the University of Wyoming.

MRS. S. W. BOCOCK has given \$5,000 to Yale University for the purchase of books in social science.

AT Cornell University an appropriation of \$15,000 has been made for constructing a hydraulic laboratory for the College of Civil Engineering, and \$30,000 has been appropriated for an addition to Lincoln Hall, for the accommodation of the College of Architecture.

THE present and past students of Radcliffe College and the Cambridge School are uniting to found a scholarship at Radcliffe College to be known as the Arthur Gilman Scholarship in recognition of the services of Mr. Gilman, who is about to resign his office of Regent.

AT Smith College Miss G. A. Smith has been appointed assistant in botany, Miss H. W. Bigelow, assistant in astronomy; Miss L. D. Wallace, assistant in zoölogy, and Miss E. S. Mason, instructor in chemistry.

DR. WESTERMAIER has been called to a professorship of botany in the University of Freiburg, Switzerland; Dr. Peltz to the chair of mathematics in the Technical High School at Prague, and Dr. Went to the professorship of botany in the University of Utrecht in the place of Prof. Rauwenhoff, who has retired.

AT the commencement exercises of Cornell University, President Schurman made an ad-

dress on Liberal Culture and Professional Education, in the course of which he justified the recent action of the University in offering the B. A. degree in place of the degrees of Bachelor of Philosophy, Science and Law. He held that liberal culture does not come alone from the study of classics. "If it be said that the action of Cornell University destroys the conception of liberal culture, I reply that, far from destroying the conception, it enlarges and revivifies it and brings it into living relation with all the intellectual and æsthetic elements of our modern complex civilization. It is folly to suppose that some parts of human knowledge are liberalizing, and others neutral or negative; or that some institutions yield culture, and others merely science."

DISCUSSION AND CORRESPONDENCE.

THE APPLICATION OF SEX TERMS TO PLANTS.

TO THE EDITOR OF SCIENCE: If I do not mistake Prof. Bailey's meaning in his article 'On the untechnical terminology of the sex-relation in plants' (SCIENCE, N. S. III., 825), he advocates a use of the terms male and female in semi-popular language which he acknowledges to be in reality incorrect, since he accepts as true the present view of the morphology of the members involved. It should be remembered that this usage arose when the morphology of the stamen and pistil was not understood, and when the ovule in the pistil was really believed to be an egg within an ovary and the pollen grain in the anther, the sperm within a spermary. The question to be discussed is "Shall this usage be continued in 'common' language?"

It may be conceded at once that it is of no practical importance to a horticulturist (whose interests Prof. Bailey clearly has at heart) whether he is taught to apply sex terms to flowers and their members or not. Seed time and harvest will not fail because he does not know the plants he deals with. But suppose a student whom Prof. Bailey has inspired with a desire for more extended study goes to another teacher for a course in morphology. He has been taught to call a stamen a 'male organ.' He is given a staminate flower of a pine. He is permitted to call its members stamens, and

in their 'maleness' his professor of horticulture has led him to believe. Very good. He is then given a shoot of *Equisetum*, bearing what the Manual is pleased to call a 'fertile spike.' He discovers its close resemblance to the former specimen, and perhaps thinks to call it a 'male flower' and its members 'male organs.' But as he studies the life history and seeks to discover the 'function of paternity,' in some unaccountable way the maleness vanishes, and instead he finds an organ exhibiting at the same time both 'maleness' and 'femaleness'—discharging at the same moment 'the function of paternity' and 'the function of maternity'—quite as truly, at least, as the stamens 'discharge the paternal relation.'

Will Prof. Bailey hold that the stamen-like sporophylls of *Equisetum* should, therefore, 'in the broad sense of common language,' be called hemaphrodite organs? If so, what will he say to the sporophyll of *Botrychium* or *Onoclea*, whose spores produce a bisexual plant? By what sex term will he designate untechnically the office of such sporophylls? I do not take him here beyond the plants with which the florist deals and about which he may rightly demand instruction. Surely, in this day, Prof. Bailey would not desire to perpetuate, even among amateurs, the fiction that between the ferns and the flowering plants there is a great gulf fixed? Yet the loose use of language which he advocates would seem to require an affirmative answer. Into what hopeless confusion this would plunge the poor student, only he can imagine who has seen the difficulty with which one eradicates from his thought and language the misleading analogies which he has merely acquired accidentally. How much more difficulty would they give were they inculcated by a trusted teacher!

Although Prof. Bailey enunciates briefly in his introduction the doctrine of the alternation of the sexual and non-sexual phases in plants, he seems to have failed to grasp its significance when he writes: "Surely the prothallus is no more sexual than a stamen or a leaf." The essential character of the sexual phase is that it produces gametangia, *i. e.*, sexual organs, in which the sex cells are differentiated. The essential character of the non-sexual phase is that