

covered by about fifteen large mammillary bosses. Accompanying this specimen there is a distal phalanx, which may belong to the same animal. It is rather less than two inches long. The articular surface is transversely elliptical, $1\frac{1}{4}$ inch wide, and 11 lines deep, and feebly depressed, so as to indicate a moderate degree of mobility. The upper surface of the bone slopes to the end, and is transversely convex. The extremity is expanded at the borders. Beneath are several vascular perforations. Though the specimens are not sufficiently characteristic to determine positively whether they belong to a mammal or a reptile, or whether they even belong together to the same animal, the former one is so peculiar that I am disposed to regard it as representing a genus and species, which may be named *Tylosteus ornatus*.—Mr. Cope made the following remarks on a curious habit of a snake:—"I had for some time a specimen of *Cyclophis astivus*, received from Fort Macon, N. Ca., through the kindness of Dr. Yarrow, living in a warden case. The slender form of this snake, and its beautiful green and yellow colours, have led to the opinion that it is of arboreal or bush-loving habits. It never exhibited such in confinement, and instead of climbing over the caladia, ferns, &c., lived mostly underground. It had a curious habit of projecting its head and two or three inches of its body above the ground, and holding them for hours rigidly in a fixed attitude." In this position it resembled very closely a sprout or shoot of some green succulent plant, and might readily be mistaken for such by small animals.

PARIS

Academy of Sciences, October 7.—M. Faye, President. M. A. Trécul read a paper entitled "Observations on the various parts of the Flower of *Campanulaceae*," and his long paper was followed by an account of some "new experiments intended to show that the germs of the ferment which produces wine come from the exterior of the skin of the grape," by M. Pasteur. The author prepared forty flasks with long necks, which were twisted and bent in the now so well known fashion first used by this chemist. Ten flasks were partly filled with grape-juice, and allowed to rest; ten others, also containing juice, had introduced into them a few drops of water, in which a small piece of grape-skin had been washed; the next ten had juice and water from the skin like the last, but were boiled; and the last ten contained juice and a few drops of the interior of a grape carefully extracted by means of a glass tube, without bruising the skin. The series containing the unboiled juice and grape-skin washings were soon full of mycelium and beer-yeast, and a few days after of *Mycoderma vini*, within forty-eight hours of the appearance of which they were in a state of violent fermentation. None other of the flasks were changed in the slightest degree, even after days; and the author states that they will remain unchanged for years. M. Fremy replied to this in a note on ferments, in which he states that M. Pasteur confounds ferments with the spores of mould. M. Fremy believes the ferment to be generated in the fermentable liquor, and that fermentation can also be started by mould spores by a secondary action, hence he considers that M. Pasteur has only proved that this latter kind of fermentation is produced by the grape-skin. M. Pasteur replied that he only intended to prove that the juice of the grape is not of itself alone capable of fermenting, and that neither the albuminous matters of the juice nor the parenchyma cells are developed into ferment cells by the action of atmospheric oxygen alone. At the request of M. Dumas, M. Pasteur then read an account of some "new facts serving to elucidate the theory of true fermentation." M. Fremy again criticised the paper, and after a reply from M. Pasteur, the subject dropped. M. A. Trécul then read a note confirming several of M. Pasteur's observations, and was followed by M. Faye with a note on a memoir of Mr. Clerk-Maxwell, "On the stability of the Saturnian Rings."—A note from M. Otto Struve, "On the exactness which should be attributed to the constant Coefficient of Aberration determined at the Pulkowa Observatory," was then read, and next came "Researches on Crystalline Dissociation" (continuation), by MM. P. A. Favre and C. A. Valson. This paper, containing a great number of numerical results, was followed by "Studies on the Echinodermata," by M. S. Lovén, and by a paper on the structure of heterogeneous vegetables, by M. Th. Lestiboudois.—M. de Caligny then read a note on the effects of the communication of a lateral movement to a stream of water traversing a reservoir, and on the sand-banks which thence result. This was an account of some experiments made by the author. He finds that banks are deposited almost parallel to the stream.—M.

Chevreur then read a note relating to a work on colour, by M. P. Havrez, which he presented to the Academy; and M. Dumas presented a pamphlet by M. de Jacobi, entitled "On the galvanic deposition of iron by a powerful electro-magnetic solenoid." The author hoped by these means to deposit permanently magnetic iron, but failed; the deposit, however, was composed of agglomerations of crystals, whilst iron deposited in the ordinary way is smooth and amorphous.—M. J. M. Gauguain then presented his second memoir on the induction currents produced in M. Gramme's machine, which was referred to the Physical Section.—A note on the efficacy of lightning conductors, by M. W. de Fonvielle, was sent to the commission on that subject. A note from M. Laborde, on aurora, storms, and waterspouts, was sent to the Physical Section, and the Aerostatic Commission received memoirs from M. Reynal and M. Babé and a letter from M. Braconnier, all on aerial navigation.—A note from Raoul de Couesquelon on a "New System of Masked Batteries" was sent to the Commission on Military Art, and two notes from M. Duclaux, two from M. Cornu, and an article from the Journal *La Gironde* by M. Laliman, all on *Phylloxera*, were sent to that Commission.—M. de Saint-Venant then presented a note from M. J. Boussinesq on "Lines of Summit (*faîte*) and Thalweg," which was followed by a note from M. Béchamp "On the action of borax on fermentation." The author demonstrates that the boric acid of the borax is not the cause of the peculiar action of this body, as that acid does not produce the effects of borax. Hydric sodic carbonate, however, acts in a strictly analogous way; hence the author decides that it is the sodium present in the borax which determines its action.—A note from M. E. Monier "On the determination of the amount of vegetable matters in contaminated potable waters" then followed. The author uses a method now abandoned by all the best analysts of water in this country, namely, titration with potassic permanganate.—M. E. Gouriet then read a paper "On certain exterior characters which distinguish the different sexes of the River Craw-fish (*Astacus fluviatilis*)." The author finds the following differences:—If the length of the animal be taken as 100, then the antennæ in the male are 67·83, and in the female 57·18. The weight of the animal being 100, the great claws are in the male 27·81, in the female 12·92; moreover, the female abdomen is much more developed than that of the male.—A note from M. Brown "On the relations between electricity and mephitic emanations" closed the session.

BOOKS RECEIVED.

ENGLISH.—The Clematis as a Garden Flower: T. Moore and G. Jackson (Murray).—The Travelling Birds: Cuthbert Collingwood (C. Bea).—Synopses: Physical Geography, Geology, Mineralogy, and Palæontology, D. Page (Blackwoods).—Revised List of Vertebrate Animals in the Gardens of the Zoological Society.

FOREIGN.—Grundriss der Chemie gemäss der neueren Ansichten: der unorganischen Chemie dritte Auflage: C. Rammelsberg.—Incendio Vesuviano del 26 Aprile, 1872: L. Palmieri.—Der Ausbruch des Vesuv vom April 26, 1872: L. Palmieri.—Vereins für Erdkunde zu Dresden, Nos. 8 and 9.

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