in developing a practical bat roost which can be colonized with bats and from which an annual "crop" of guano, of considerable monetary value, can be gathered. Our one important criticism would be that emphasis should be directed, not to the supposed service of bats in mosquito control, but to the fact that they feed upon night-flying insects, especially noctuid moths, many of which, in their larval stages, are important agricultural pests.

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SPECIAL ARTICLES

APPLICATION OF THE GENERIC NAME PHYLLOCOENIA MILNE EDWARDS AND HAIME AND THE INTERNATIONAL CODE OF ZOOLOGICAL NOMENCLATURE

IN my paper on the "Fossil Corals from Central America, Cuba and Porto Rico," I pointed out that the generic name *"Phyllocoenia"* of Milne Edwards and Haime must be placed in the synonymy of *Orbicella* Dana, because the type species of *Phyllocoenia, P. irradians* Milne Edwards and Haime, is referable to the genus *Orbicella* Dana, 1846, type species *Madrepora annularis* Ellis and Solander.[1] Professor J. Felix has just published the paper cited below,[2] in which he agrees with me that *Phyllocoenia irradians* belongs to *Orbicella,* but he retains the name *Phyllocoenia* for species of corals which are not congeneric with the type-species of the genus. This procedure is not permissible under the rules of the International Code of Zoological Nomenclature. The following are three quotations from the International Rules of Zoological Nomenclature adopted by the Ninth International Zoological Congress at Monaco in 1913:

> If a genus is divided into two or more restricted genera, its valid name must be retained for one of the restricted genera. If a type was originally established for said genus, the generic name is retained for the restricted genus containing said type.[3]
>
> When in the original publication of a genus, one of the species is definitely designated as type, this species shall be accepted as type, regardless of any other consideration.[4]
>
> If an author, in publishing a genus with more than one valid species, fails to designate (see *a*) or to indicate (see *b, d*) its type, any subsequent author may select the type, and such designation is not subject to change. (Type by subsequent designation.)[5]

Milne Edwards and Haime in 1848 at their original publication of *Phyllocoenia* cited *P. irradians* as an example of the genus, and in 1850 definitely designated *P. irradians* as the type-species.

No coral that does not agree generically with *Phyllocoenia irradians* may receive the generic designation *Phyllocoenia,* which by its type-species is a synonym of *Orbicella.*

Professor Felix in his paper cited makes an important contribution to the morphology of the hard parts of certain Triassic and Upper Cretaceous corals which *have been erroneously referred to Phyllocoenia.* These species must receive another generic designation, if they all belong to the same genus; or other generic designations, if they represent more than one genus.

One of the striking defects of the work of many paleontologists is that it does not conform to the rules of the International Code of Zoological Nomenclature. There are so many errors in many of the publications that I have occasion to read that I have wished to analyze the nomenclature in a number of papers to show why the names can not stand. Pressure of other work has rendered undertaking the task impracticable; but a few glaring failures to comply with the rules will be mentioned.

Munier-Chalmas in 1891 proposed the generic name *Orthophragmina* for certain foraminifera for which at least five previously published names were available, which is in conflict with Article 28 of the code:

> A genus formed by the union of two or more genera or subgenera takes the oldest valid generic or subgeneric name of its components. . . .[6]

H. Douvillé has proposed *Isolepidina* as a subgenus of *Lepidocyclina* and designated as the type-species of *Isolepidina* the type-species of *Lepidocyclina, L. mantelli* (Morton) Gümbel; and he has proposed *Orbitella* as a substitute for *Oribtoides* s.s. and included in it *Orbitoides media* (d'Archiac) d'Orbigny, which is the type-species of *Orbitoides.* The names *Isolepidina* and *Orbitella* must lapse. The first is in conflict with Article 9 of the Code:

> If a genus is divided into subgenera, the name of the typical subgenus must be the same as the name of the genus.[7]

The second name, *Orbitella,* conflicts with the rules quoted as notes 3 and 5 of this paper.

Many eminent paleontologists have committed and are committing errors of the kind indicated above. It is a great pity that any scientific work should

[1] Vaughan, T. W., U. S. Nat. Mus. Bull., 103, pp. 363, 394, 395, 1919.

[2] Felix, J., "Ueber die Gattung Phyllocoenia," *Centralbl. für Min.,* etc., Jahrg., 1925, pp. 363–368.

[3] IXe Cong. Internat. Zool., Art. 29, p. 902.

[4] *Op. cit.,* Art. 30, *a,* p. 29.

[5] *Op. cit.,* Art 30, *g,* p. 903.

[6] *Op. cit.,* pp. 901–2.

[7] *Op. cit.,* p. 897.

need revision other than that caused by progress in knowledge. The investigations of Professor H. Douvillé on the morphology of the tests of the larger foraminifera are almost certainly the best that have yet been made—his work is classic—but this will not prevent the necessity of having to revise his nomenclatorial treatment of the organisms he has studied so profoundly.

Strict adherence to the rules of the International Code of Zoological Nomenclature in paleontologic publications is a fundamental necessity, for unless this is done there will be perpetual instability in paleontologic nomenclature.

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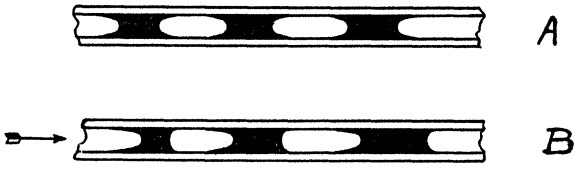
A NEGLECTED CAPILLARITY EFFECT

THE principle of the phenomenon of the "chaplet of drops," due to Jamin, is simple. The annexed figure shows glass tubes containing series of water drops separated by air bubbles. With both ends open to the atmosphere as at A the drops and the bubbles are symmetrical, but at B, the air in the left-hand end of the tube being under pressure, the symmetry is disturbed and in consequence of the different curvatures of the left and right ends of each drop there is a resultant force from right to left. With a sufficient number of drops in a tube of fine bore Jamin found that the force was great enough to resist a pressure of several atmospheres.

Thinking that possibly the Jamin effect might be responsible for some of the numerous cases of engine failure which have caused airplane disasters the author has made experiments with chaplets of water drops in gasoline.

Many methods were tried for introducing the chaplet of drops into a glass tube, the simplest proving to be a suction method. The capillary tube, one end of which is drawn out to a fine jet and crooked at right angles, is laid flat upon a table. A bracket fixed to the left-hand end of the table supports a beaker which is thus held just below the level of the table. The crooked end of the capillary tube reaches



nearly to the bottom of the beaker, which is filled, the lower half with water and the upper half with gasoline. A rubber pipe is fitted tightly over the open end of the capillary tube so as to form a straight extension to that tube. In order to draw up liquid from the beaker into the capillary tube a wooden roller is laid across the rubber pipe and rolled along from left to right. Water is drawn up when the jet is at the bottom of the beaker, gasoline when the jet is raised.

It is important to draw out the end of the tube into a fine jet, since otherwise a water-spout is apt to form between the water below and the gasoline above.

The following is a brief summary of results obtained:

(1) The head of water supported by a water-gasoline chaplet in a glass tube of given bore is about constant for a given number of drops no matter what are the lengths of the drops.

(2) Between the limits of ten and thirty drops the head supported by a chaplet is roughly proportional to the number of drops.

(3) The head supported by a given number of drops is inversely proportional to the diameter of bore of the tube.

(4) The head supported per ten drops of ordinary gasoline (Texaco brand) in a glass tube of 1.5 millimeter bore is about five centimeters of water. Thus a chaplet consisting of thirty drops of gasoline alternating with twenty-nine drops of water supports a head of about fifteen centimeters of water.

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THE thirteenth annual meeting was held at Cleveland, from December 28 to 30, 1925, in conjunction with the Federation of American Societies for Experimental Biology. Dr. George H. Whipple, of Rochester, New York, presided.

Among the interesting papers was a communication by Dr. George H. Whipple, on "The Hemoglobin of Striated Muscle," in which he showed that there was a considerable variation in the hemoglobin content of muscle which, however, can not be robbed by anemia's demands. It is obvious that muscle hemoglobin is of importance whether one studies the end products of hemoglobin disintegration or the parent substances suitable for construction into mature hemoglobin; also that muscle hemoglobin must be considered in any study of body pigment metabolism.

Drs. H. Cushing and S. J. Maddock produced an experimental obstruction of secretion from the Pars Nervosa of the Pituitary by means of small metal clips. Marked changes in the posterior lobe, with the production of diabetes insipidus, indicated that the pituitary was intimately involved in this condition.