that such infections have not been recorded as yet in the literature on this disease.

The main purpose of this note is to direct attention to the infections on the petals. When a single petal containing one or more localized infections is mounted in water and examined under the microscope the bacteria can be observed within the living tissues without recourse to sectioning or staining. The very delicate, translucent, petalary tissues admit of remarkably clear views of the interior structures, and at magnifications of around 800 the live bacteria can be readily observed. For studying the activity of micro-organisms within living tissues it would be difficult to find more suitable material than these petals. Aside from this, any one who has attempted to study blighted tissues knows how difficult it is to avoid losing large numbers of bacteria in the process of obtaining histological sections.

The forty-eight-hour-old infections take the form of dark, discolored spots which are more or less limited in size and have a well-defined margin. Under the microscope the discolored tissue is readily distinguished from the adjoining healthy part and is seen to consist of a zone of cells between which the bacteria can be traced to the very margin of the discolored region, strongly suggesting that the discoloration and possibly other pathological phenomena are associated with the immediate presence of the bacteria.

This close association of diseased cells with the bacteria is further emphasized by the enormous numbers of rods that are wedged in tightly between the cells, numbers far beyond anything that has previously been noted or pictured for any blighted tissue. For the present it may be briefly recorded that a great deal more is involved here than passage through intercellular spaces. *B. amylovorus* within petals acts as a strict parasite whose growth and reproduction is confined to living host cells. The method of penetration and the cytological and pathological phenomena noted in the infected region will be reported later.

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PROPOSED AMENDMENTS TO THE INTERNATIONAL RULES OF NOMENCLATURE

1. Art. 19. Amend to read:

Botanical nomenclature begins for all groups of plants (recent and fossil) at 1753 (Linnaeus, "Species Plantarum," ed. 1).

It is agreed to associate genera, the names of which appear in Linnaeus's "Species Plantarum," ed. 1, with the descriptions given of them in the "Genera Plantarum," ed. 5 (1754).

2. Art. 49 bis. Amend by eliminating the words: "starting from Fries, *Systema*, or Persoon, *Synopsis*"; and for the words "teleutospore or its equivalent" substitute the words: "uredospore or teleutospore (sporophyte)."

Also replace the first example by the following: The names *Aecidium* Pers., *Roestelia* Reb., *Aecidiolum* Unger. and *Peridermium* Chev. designate different states of the gametophyte in the group *Uredinales*. The generic name *Aecidium* Pers. [in Gmel. Syst. Nat. II. (1791)], belonging to a gametophytic state can not displace *Gymnosporangium* Hedw. f., [DC. Fl. Fr. II. (1805)] based upon the sporophyte.

3. Add the following genera to the list of Nomina Conservanda: *Uromyces* (Link) Unger, 1833 (in place of *Nigredo* Rouss., 1806, *Caeomurus* (Link) S. F. Gray, 1821, or *Pucciniola* March., 1829); *Puccinia* Pers., 1794 (in place of *Puccinia* [Micheli] Adans., 1763, or *Puccinia* Willd., 1787); *Gymnosporangium* Hedw. f., 1805 (in place of *Puccinia* [Micheli] Adans., 1763; *Melampsora* Cast., 1843 (in place of *Uredo* Pers., 1794).

Comments: In the considerable number of replies to the circular letter distributed to many botanists early in March, and printed in *Mycologia* (21: 172–174), there was almost unanimous agreement to the proposed amendment to Article 19, as given above. The replies came from leading writers in systematic botany, mycology, algology, bacteriology, paleobotany, bryology and other divisions of the subject.

The proposed amendment to Article 49 bis., as previously suggested by the author, met with decided opposition. As now worded, it has the effect to restore the original intention of the "Rule," as adopted at Brussels. It eliminates the aecidiospore, and thereby disposes of many recent combinations, to which much objection has been made. It retains the uredospore, which belongs to the same state of the fungus as the teleutospore, for otherwise many familiar names would be rejected, such as *Coleosporium Ipomoeae* Burr., *Uromyces Fabae* deBary, *U. appendiculatus* Fries, *Puccinia glumarum* Erikss. and Henn., *P. Porri* Wint. and other generally accepted names. It also conserves such names as *Puccinia graminis, P. sessilis, P. coronata, P. Poarum, P. limosa,* etc.

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ODD STORIES ABOUT SCIENTIFIC NAMES

The other day I was swapping taxonomic yarns with a fellow entomologist and it occurred to me that there must be many readable stories of that kind that have not yet been published. So I am sending two of those stories, that I told, to Science with the idea that perhaps other zoologists and botanists will send others in from time to time, so that eventually a large number of hitherto unrecorded yarns may be found in print.

When the Fluted Scale was doing great damage to the citrus groves of California, it became rather generally known by its generic name Icerya. People inquired the meaning of this strange word. A scientific man with some philological knowledge wrote a letter to the Los Angeles *Times* (in 1888, I think it was) in which he explained that it was one of those unfortunate bastard names derived from two languages—the Greek *isos,* meaning straight, and the Latin *cerum,* meaning wax—the names evidently being descriptive of the straight waxy secretions of the insect. This was plausible and ingenious. But to those of us who knew that Signoret, the French authority, named it after Dr. Icery, of Mauritius, who sent him the original specimens, the *Times* letter was a rather good joke!

Many years ago a writer in Mexico established a genus which he called Freisuila for certain curious insects of the family Psyllidae. We puzzled long about the possible etymology of this name. It stumped the best zoological philologists in Washington. Years later I met the Mexican savant and asked him about it. He told me that he had a great reverence for his old master, Alfredo Dugès, of Guanajuato, and that he had named this genus after his master's wife's maiden name—Louisa Frey—putting it in anagrammatic form.

Will SCIENCE open its columns to botanists and zoologists who may think it worth while to send in other curious stories like these?

L. O. HOWARD

SCIENTIFIC APPARATUS AND LABORATORY METHODS

NEW METHODS IN THE STUDY OF FOSSIL SHARK TEETH

SINCE Mid-Paleozoic times sharks have been an important type of marine life. Unlike other forms of fish, however, they have been marked throughout their range of development by the possession of a cartilaginous skeleton which is incapable of preservation in fossil form except under unusual conditions. Studies in their evolution in bodily form and structure, therefore, are generally relegated to the field of theory and conjecture.

It is true that sharks have at different periods shown tendencies of developing partially calcified skeletons, but the process has never developed beyond the point of a slight calcareous strengthening of the cartilage in some forms, and in others the formation of rings of the same material imbedded in the vertebrae. At times, also, they have developed protective calcareous tubercles and spines capable of preservation as fossils, but of doubtful value in establishing relationships because these features are merely the result of specialization. Early in their development, however, and due to their predaceous habits, the sharks acquired a remarkably efficient dentition which they have retained ever since. Many of these teeth are found to-day in perfect condition, and form the basis of most studies of extinct sharks.

Soon after the death of an individual shark the decay of the cartilaginous jaws results in the teeth becoming separated and scattered over a wide area. Very rarely are more than several teeth from the same individual found in one place, and since a single shark may have had as many as several hundreds of teeth the reconstruction of the dentition has been almost impossible. This not only affects the determination of the number of teeth of the different species but the classification of the teeth themselves, since in the same jaw the forms of the teeth varied greatly.

As a result of this unfortunate situation the classification is in a chaotic condition, and is probably correct only as far as determination of family. In many instances teeth originally adjacent in the jaw of an individual shark have shown differences sufficiently great that they have received separate specific names; or the differences may have been so marked as to lead to their being placed in different genera. Several such cases are known, the errors becoming evident only in the rare instances when the teeth were finally discovered in their proper relationships. Naturally, the result of such unsound interpretations has been that in both laboratory and field work little geologic importance is now attached to fossil shark teeth. The writer believes, however, that examination of them on an entirely different basis from outward form will result in positive determination of species, and that such fossils will become of great value in stratigraphic geology. The basis of this new method of determination is the proven fact that in the same species, no matter to what extent the teeth may vary in form or in number, they all show the same internal structure, and in no two species is this structure identical. Besides enhancing their value in stratigraphic work, the possibility of their certain identification in the future makes them of great importance in studies of morphology.

With this fact in mind the writer has undertaken to examine the collection of fossil shark teeth in Walker Museum at the University of Chicago. This collection, though large, is far from complete. Because of