certainly should not have been considered valid at any time since 1926.

Furthermore, earlier serious students of the amebas —for example, Leidy, Penard, and Cash and Hopkinson (*Publ. Ray. Soc.*, 1905, **85**, 1–150)—recognized that the method of locomotion and the form of the pseudopodia were definite taxonomic characters and always included the details of locomotion in each taxonomic description. One of Schaeffer's major contributions was that he systematized these descriptions and defined the genera in such a way as to separate groups of species which differed from each other in form and in methods of locomotion.

Once we recognize that the method of locomotion is a valid generic character and that the number of nuclei can also be used as a generic character (as in the Endamoebidae, *e.g. Dientamoeba*), then the solution to the question of what to call organisms 1 and 2 is obvious. Let us consider that there are three genera: *Amoeba, Chaos,* and *Pelomyxa,* and that the type species are the organisms commonly known as *proteus, carolinensis,* and *palustris,* respectively.

This simple procedure merely divides the genus *Chaos* into two genera: *Amoeba* with one nucleus and *Chaos* with many nuclei. It violates no principles pertaining to generic characters as defined by Schaeffer (Publ. 345). It violates no international rules, except for the spelling of *Amoeba,* which perhaps should be *Amiba,* because in 1830 Ehrenberg changed the original 1822 spelling of Bory. A return to *Amiba,* however, would probably not be acceptable to most zoologists.

The question of the specific names of organisms 1 and 2 is still open to discussion, *i.e.* whether organism 1 should be called *Amoeba proteus* or *A. diffluens* and whether organism 2 should be called *Chaos carolinensis* or *C. chaos.* The answers to these problems hinge on the question of what organism some of the early investigators really saw. This cannot be determined with certainty. Therefore, the simplest solution seems to be to accept the earliest name that is accompanied by a description so adequate that modern students of the amebas feel fairly certain in recognizing the same organism at the present time. The earliest description which most students are willing to accept unequivocally as applying to organism 1 is that of Leidy; the species, therefore, should be *proteus,* as emended, however, by Schaeffer in his *Ameboid movement* (1920). For organism 2 the earliest unequivocal description is that of Wilson (*Amer. Nat.,* 1900, **34**, 535–550); the species, therefore, should be *carolinensis.*

This gives us the three names *Amoeba proteus, Chaos carolinensis,* and *Pelomyxa palustris* as those which should be applied to organisms 1, 2, and 3, respectively.

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Effect of Formaldehyde on *Picea* and *Tsuga* Herbarium Specimens

F. R. Fosberg (*Science,* September 12, 1947, pp. 250–251), in reporting the use of formaldehyde-alcohol mixtures in the preparation of herbarium specimens, suggests that the use of this technique might prove beneficial in preparing such specimens of *Tsuga* and *Picea* and the cones of *Abies,* all notorious for disarticulation upon drying.

To test this suggestion, specimens were prepared from available fresh material of both *Tsuga* and *Picea,* green cones of *Abies* being out of season. Specimens included one species of *Tsuga* (*T. canadensis*) and 10 species of *Picea* (*asperata, bicolor, excelsa, glauca, mariana, Omorika, orientalis, polita, pungens,* and *Wilsonii*). The specimens were made in duplicate, one of each species to be dried by the customary method to serve as a check on the chemically treated one. The specimens to be treated were dipped in a formaldehyde-alcohol mixture made according to Fosberg's formula and then placed in a plant press with the untreated ones. Artificial heat was used to facilitate drying.

Examinations made during the drying period showed, as expected, that the chemically killed material was drying faster than the untreated specimens. In both cases, however, as drying became complete, the needles fell from the twigs if they were touched or slightly jarred. There were some discernible specific differences in the ease with which the needles broke free, the heavier-leaved Asiatic species showing more resistance to fracture than some of the finer-leaved species.

From these results it was concluded that this type of chemical treatment is without value in the preparation of herbarium specimens from this type of material.

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