

# Comments and Communications

## On Paraffin Embedding

I suspect that the reason Popham (*Science*, November 14, 1947, p. 475) is having so much trouble in his paraffin embedding is that he is trying to do it at a room temperature that is some 40° above the boiling point of his paraffin (!). Disconsidering these two obviously typographical errors, may I mention that all cavitations in paraffin embedding are a direct result of contraction of the paraffin in the center of the block after cooling at the borders first. This is purely a problem in physics, a study in coefficients of expansion. The trouble with all techniques of embedding in which the surface of the paraffin is blown upon to form a surface crust, followed by the immersion of the block, is that the block, now solidified at the surface, must still contract in its center. The obvious result is contraction spaces around the embedded object which interfere with its sectioning.

The solution to this problem is simply to fill the paper boat with hot paraffin (I use a temperature of 67°C), let the boat float upon water at room temperature until a thin film forms over the paper, let the specimen drop through the hot upper paraffin upon the congealed layer below, then allow the boat to cool slowly. The top will cool last, contracting as it does so, and concavities will not occur.

A. WEIR BELL

*Los Angeles City College*

## Proposed Changes in Article 25 (the Law of Priority) of the International Rules of Zoological Nomenclature

At the International Zoological Congress held at Budapest in 1927, Article 25 of the International Rules of Zoological Nomenclature was amended by the addition of a third section (Section c), the provisions of which seemed so very reasonable and desirable that few taxonomists even yet have awakened to the nomenclatural confusion that may train from them. The paradox of provisions that can be characterized as reasonable and desirable and at the same time as potential sources of serious confusion and instability arises through their inclusion as mandatory parts of the Rules rather than as Recommendations, advisory in character. As mandatory parts of Article 25, there is a penalty for failure to comply, namely, "no generic name nor specific name published after December 31, 1930 shall have any status of availability (hence, also, of validity) under the rules, unless and until" the provisions of the new Section c are complied with.

In practice, a large percentage of the names proposed since 1930 appear to comply with the provisions of Section c, and with these names there are no difficulties. If

the mandatory form of Section c has helped bring this about, as no doubt it has, that is to its credit. But there is still, and probably will continue to be, a significant percentage of names that are not proposed in compliance with Section c and hence, technically, are unavailable and invalid. For example, sampling indicates that something like 25% of the names proposed since 1930 to replace preoccupied names are invalid for failure to comply with the provisions of Article 25, c 2, as interpreted in Opinion 138. Nevertheless, few workers have recognized the fact. The invalid names enter into nomenclature, are employed again and again, and may become validated, perhaps inadvertently, somewhere in their history, but as of a different date and author.

If the penalty feature of Section c is ever generally recognized and a serious attempt to enforce it is made, great confusion will result, and a tremendous volume of otherwise useless bookwork will have to be undertaken. The penalty thus will not fall so much on the negligent author who earned it as on all subsequent workers who must deal with the name. Since the penalty features that arise through including the provisions of Section c as mandatory parts of the Rules are, in general practice, unenforced, and since their enforcement would create incalculable confusion, no time should be lost in removing these provisions from a mandatory status to an advisory one, from a section of Article 25 to the status of a Recommendation.

The Smithsonian Institution Committee on Zoological Nomenclature, composed of taxonomists of the U. S. National Museum, the Bureau of Entomology and Plant Quarantine, the Geological Survey, and the Fish and Wildlife Service, has considered what action might be taken and has approved the following suggestions for rewording Article 25 of the present Code and for Recommendations to accompany it.

It was the first thought simply to restore Article 25 to its original condition by removing the present Section c and setting up its provisions as Recommendations. Article 25 would then appear to have the advantages of brevity and succinctness—advantages, however, that are more apparent than real. For example, it took a long Opinion (Opinion 1) to interpret the word "indication" alone. Furthermore, some of the Opinions, notably 1 and 138, extend even farther the rigors of Article 25 and the evils that follow from unenforceable penalties. In addition, its coverage was incomplete in a number of important respects. Therefore, a complete rewording of Article 25 was undertaken and, with the accompanying Recommendations, is hereby laid before interested taxonomists in zoology and paleontology for discussion and constructive criticism. If it passes the tests of criticism and meets the approval of various organized groups to which it will be submitted, it is planned to send it to the International Commission on Zoological Nomenclature with the recommendation that it be passed on to the International Congress for consideration as an amendment to the Rules.

This amendment to Article 25, if adopted, will mark a deliberate halt to a dangerous trend that has been