in references the volume is not indicated by the boldface type as is customary.

The above-mentioned defects are not of a serious kind and can be corrected in the second edition. As it stands, the book will be very useful in awakening interest in comets among amateurs and as a reference book for professional astronomers.

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SCIENTIFIC APPARATUS AND LABORATORY METHODS

FIBER TAGS FOR WET SPECIMENS

TAGS bearing catalogue numbers or other entries for the identification of single specimens are an indispensable item in various museum and laboratory collections of objects preserved in fluid. It is obvious that such makeshifts as paper and tape labels are to be avoided, since the first requisite of a tag is permanence. The tag should be made of a durable material which withstands handling and resists disintegration in preserving fluids; the entry which it bears must be permanently clearly legible, and the attachment to the specimen must be secure.

A variety of permanent tags have been devised. Strips of sheet tin, stamped with number dies, may be seen in some zoological collections; these occasionally corrode in preserving fluids. Payne[1] seals a small paper label within a piece of glass tubing, bent into a loop at one end for insertion of the thread for tying. Robertson[2] and Pollock[3] present accounts of the employment of fiber tags in the storage of pathological specimens, at the University of Minnesota and the Mayo Clinic, respectively. Dr. Maude Abbott, in a personal communication, commends the fiber tags, stating that they have been used for some years in the Medical Museum at McGill University. Several years ago the writer, then unaware that the material had been so employed, chanced upon fiber composition for the manufacture of tags. Inquiries indicate that such tags are not generally known, and this note is presented with the aim to emphasize their desirable features. Fiber tags have been used in our laboratory over a period of several years for anatomical specimens preserved in formalin, alcohol, Kaiserling and Bouin's fluid.

Sheets of "vulcanized fiber composition" of different thicknesses and in three colors (red, black and white) are obtainable from dealers in electrical supplies. I have been using the 1/16 inch thickness (red), though a thinner stock may be as serviceable and is perhaps even more suited to tags of small size. The material is sold by weight. A sheet measuring 3 x 3 feet, 1/16 inch thick, retails for about $2.50. The sheet is cut readily with a paper cutter or heavy shears into tags of the desired dimensions (in this laboratory, about $\frac{1}{2}$ x $1\frac{1}{4}$ inches). The tags are punched at one end for tying, and stamped with dies (in this laboratory, numbers $\frac{1}{4}$ inch high) to register the accession number of the specimen. Deep, clean-cut impressions are insured if the tag rests on a block of iron during stamping.

After some hours of immersion in fluid the tag undergoes a just appreciable swelling and becomes slightly limber. Excepting this initial change no alteration can be detected.

The features of the fiber tag may be summarized as follows: (1) permanence and practicability, evidenced by actual service in at least four institutions; (2) simplicity of manufacture; (3) low cost.

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SPECIAL ARTICLES

WESTERN DUCK SICKNESS PRODUCED EXPERIMENTALLY

FOR the past two decades mortality among waterfowl in western states has attracted the serious attention of conservationists. During certain of these years losses among ducks and shore birds have been so great at some points as to make the annual toll taken by hunters appear insignificant. In 1910 untold thousands of waterfowl perished in the marshes about Great Salt Lake, Utah, and the years immediately following saw a recurrence of the sickness but, fortunately, in reduced severity. Yet even under these improved conditions it was necessary to bury the bodies of nearly 50,000 ducks at the mouth of Bear River, Utah, in the period from September 7 to 26, 1913.[1]

In 1914 the Bureau of Biological Survey undertook a study of the malady, assigning Dr. Alexander Wetmore to the task. The summer and fall seasons of 1914, 1915 and 1916 were devoted to the work and the results published in two papers, a preliminary report[2] in 1915 and a final bulletin in 1918[1] (refer-

[1] J. F. Payne, "A Permanent Tag for Museum Specimens," Intern. Assoc. Med. Mus., *Bull.* 8, 1922.
[2] H. E. Robertson, "Difficulties Encountered in the Condensation of Museum Material," *ibid.*
[3] M. Pollock, "Methods for Concentration of Museum Specimens," *ibid.*, *Bull.* 10, 1924.

[1] Alexander Wetmore, "The Duck Sickness in Utah." U. S. Dept. Agri. Bul. 672, pp. 1–26, pls. 4, 1918.
[2] Alexander Wetmore, "Mortality among Waterfowl around Great Salt Lake, Utah," U. S. Dept. Agri. Bul. 217, pp. 1–10, pls. 3, 1915.