or he is continually being asked to make such identifications. If systematists were well organized and of ill-will, they could well bring much ecological and some physiological work to a near standstill by balking at these requests. Suppose the shoe were on the other foot. What would the physiologist say to a request from a taxonomist which went something like this: "Under seperate cover I am sending you some specimens of *Exus yus,* the salinity tolerance of which I would like to have ascertained at your convenience"? Or, an ecologist, to: "Please provide an account of the position of these specimens in the Eltonian pyramid"?

The problem of how to compensate a systematist for the service of identifying species in a group that has taken him years to master has recently troubled curators at the U. S. National Museum. It has begun to be apparent that it is unfair to burden an obliging specialist with such work, and that many of them now have more than they can handle. The alarming decrease in taxonomists is in part to blame for this situation, which further aggravates the shortage of taxonomists in a vicious circle. However, how can one estimate what the fair fee for naming material should be? Should it be on a per diem basis, or so much per specimen, or by permitting the specialist to sell the types? And who should pay these fees? The individual researcher, or his institution? Or could payment by arranged on the basis of release from academic or investigational duties by the institution that employs the systematist?[1]

Obviously, we need more systematists than we have, and expressions from bystanders such as Smith are all to the good. They emphasize the need for more enlightened employment of taxonomists, for greater salary budgets for museums, especially our hopelessly understaffed National Museum, and for more enthusiastic acceptance of budding systematists as Ph.D. candidates in our graduate schools. Further, they emphasize the need for really useful monographs of particular groups, which can be achieved only if systematists are allowed to pursue their work without the interruption of extraneous duties. (Were we full-time practitioners of our specialties we would not, of course, consider the requests of physiologists and ecologists as extraneous to our work.) Perhaps it might also be well to consider the endowment of posts specifically for monographers, whose sole duty it would be to produce monographs, with adequate provision for printing their work. But that is another story.

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[1] The possibility of establishing a closed union or guild of taxonomists, with set fees for identification services (with a special charge for naming new species after the collector), may be worth careful consideration. The writers would welcome suggestions.

Survival of Microfilariae of *Dirofilaria immitis* in Rats and Mice

DURING an investigation dealing with canine filariasis, measured quantities of blood containing known concentrations of the microfilariae of *D. immitis* were injected subcutaneously and intraperitoneally into rats and mice. In both series viable microfilariae were found in the peripheral blood at least three weeks following injection. Although Fulleborn (in Kolle and Wasserman. *Handbuch Pathologisch. Mikroorganism.*, 6, 1044 [1929]) performed one similar experiment, he did not report the findings in detail. In addition to determining the longevity of these larval forms in an unnatural host, the present experiments raise the possibility of utilizing infected rodents for screening filaricidal agents. Further information will be reported in a subsequent publication.

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Device for Transporting Kymograph Papers

CARRYING long kymograph papers between the smoking apparatus and the kymograph is a perennial problem in physiology and pharmacology laboratories. The apparatus for smoking and shellacking the papers is usually at some distance from the laboratory, and the common practice requires two people to slip the paper off the smoking apparatus and to walk carefully in lock step, maintaining the paper taut between their upraised hands. The return trip is even more hazardous in view of the value of the records on the kymograph paper.

Fig. 1 shows a simple device that has been used in this laboratory with complete satisfaction for the past three years. The dimensions are not critical and should be selected to fit the particular needs of a given laboratory. Basically, the device consists of two wooden bars *A* and *B*, approximately $\frac{3}{4}'' \times 1''$, which slide through two brass guides *C* and *D*. Guide *D* is provided with a wing-nut thumbscrew for clamping the bars in a given position of extension. On one end is

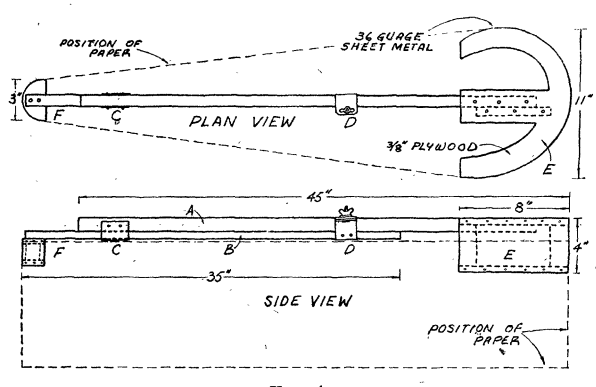

FIG. 1.

a larger ellipsoidal paper support *E*, and at the other is a smaller semicircular support *F*.

In lieu of thumbscrews a simple alternative mechanism may be used to maintain constant tension on the kymograph paper. A length of coil spring or rubber tubing connects the outer end of wooden bar *A* to the inner end of wooden bar *B*. The tension exerted will tend to increase the length of the apparatus. The length and elasticity of the spring or tubing, as well as the points of connection on the bars, are adjusted to conform with the anticipated length of the kymograph paper. To mount the paper, the device is shortened (which increases the tension in the spring) and slipped into the smoked paper, as described below. The spring is then allowed to extend the bars. This simple, constant tension arrangement obviates the necessity of manipulating thumbscrews.

In the use of the device, the coating of smoke is applied to the paper, and the paper is loosened on the drums and slipped halfway off. The carrier is inserted between the ends of the paper thus exposed, with the larger drum on the bottom and the smaller one on the top. Sliding the two bars and tightening the thumbscrew makes the paper taut, yet easily removed from the smoking drums. It can then be carried by means of the device to the kymograph, the device inverted, and the paper first slipped over the large driving drum. Then the smaller kymograph drum is moved to full extension, allowing the paper to be retained on the kymograph. The thumbscrew of the device is loosened and removed from the paper. After this maneuver the final adjustments of the paper on the kymograph drums are made. After the completion of the kymograph recording, the operation is carried out in reverse and the paper is transported back to the smoking apparatus for shellacking.

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Book Reviews

Microscopic Histochemistry: Principles and Practice. George Gomori. Chicago: Univ. Chicago Press, 1952. 273 pp. Illus. $6.00.

Microscopic Histochemistry is the first comprehensive review of both the theoretical bases and practical applications of the microscopic methods of histochemistry to be published since the classic but superannuated *Histochimie Animale* of Lison. Histochemistry is a relatively young laboratory discipline which deals with the identification and localization of the chemical constituents of cells and tissues. It embraces a variety of techniques that in general fall into two groups: (1) microchemical, the analysis of small amounts of tissue or isolated cellular components by modified biochemical procedures, and (2) microscopic, the characterization of chemical compounds in morphologically intact cells or tissues by such physical properties or chemical reactions as may be visualized with a microscope. This text is concerned only with the latter methods.

Dr. Gomori has divided his discussion into two parts: the first, a brief consideration of the general problems involved in microscopic methodology, including a commentary on the limitations and pitfalls likely to be encountered; the second, an extensive and systematic review of the various methods for demonstrating particular tissue components. In the latter section, each method is critically evaluated, and, in many instances, the author includes considerable information not previously published. Detailed directions are given for the procedures the author has found to be most satisfactory in his own experience.

As an acknowledged leader in the development of histochemical technique, Gomori is eminently qualified to write authoritatively on this subject—and indeed has done so. His presentation, however, can be understood with an elementary knowledge of inorganic and organic chemistry and is annotated with more than 1000 references to the original sources. The methods described do not require special apparatus and can be applied by anyone familiar with the routine procedures of histology.

Microscopic Histochemistry will be invaluable as a reference book for the cytologist, histologist, or pathologist interested in the chemical morphology of cells and tissues, and should also be of interest to other microscopists as a supplement to the more general handbooks on technique already in use.

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The Advance to Social Medicine. René Sand; R. W. Parnell, Ed.; Eng. trans. by Rita Bradshaw. New York–London: Staples Press, 1952. 655 pp. $8.50.

This scholarly volume by a distinguished proponent of the social uses and implications of medicine in its full range of services for the sick, and as an instrument of disease prevention and health promotion, reveals a lifetime of devotion, unusual industry, and tenacity of purpose. The 590 pages of economically phrased text, richly supplemented by generous footnotes, deals with practically all recorded civilizations and the history of science of nations around the world. The author quotes from many ancient and modern physicians, prophets, and philosophers.

The remarkably well-documented text is followed