2. Constant repetition of the museum idea with unlimited suggestions for projects will finally bring about activity.

3. The teacher must organize all types of abilities so that everyone may contribute something to the general plan as a whole.

4. As soon as the museum becomes fairly well established classroom organization in the handling of materials becomes a prime factor for efficient teaching.

Biological Briefs

TEALE, EDWIN WAY. *Children of the Sun.* Nature Magazine 35: 427–429; 444. October, 1942.

The activities of insects are in many ways correlated with temperature. Ants run much more quickly as the temperature rises, and decrease their rate of progress immediately when passing through a shady spot. Their speed, as well as the rapidity of the song of the snowy tree cricket, may serve as an accurate substitute for a thermometer. Certain butterflies and grasshoppers fly only when a certain temperature level has been reached, and bees are immobilized below 45° F. Although it is phototropism which attracts moths and other night-fliers to lights, this activity is greatly increased between 80° and 90°. The speed of cockroach growth is markedly influenced by temperature, and adults seek out homes where the range is between 70° and 80°. During the warm summer months, aphids reproduce asexually and only females exist; with the drop in temperature as fall approaches, males appear and the time between generations increases. The eggs of short-horned grasshoppers require winter cold to break their dormancy, and fail to develop normally if kept warm throughout the winter.

STANFORD, E. E. *Plants in a World at War.* Nature Magazine 35: 456–462; 498; 500. November, 1942.

Rubber is not the only plant product whose source of supply has been closed to us. The barks of many native trees are now being tested to replace a variety of imports from which leather-tanning extracts are obtained. The few California cork oaks have been stripped and more trees are being planted, while the potentialities of the barks of several firs for granulated cork are being investigated. Fibers from redwood bark may be adapted for insulation and for admixture with textile fibers. Of all textile and cordage materials, we are self-sufficient in cotton and rayon alone. A limited amount of fiber flax is produced in Oregon. The available supply of Manila hemp is carefully husbanded, and wherever possible sisal and cotton are substituted. Domestic hemp production is being emphasized. Milkweed floss may serve as a partial substitute for kapok. We need larger plantings of bush flax for linseed oil to substitute for tung, while Brazilian palm-oils and gums from pines may also help our drying-oil problem. We may manage to raise castor beans to replace imports for medicine, paints, leather finishing, and calico printing. Cottonseed, soybeans, and peanuts are our most important source of food-oils, and the first two of these, together with South American palm oils, must serve to replace coconut oil for soap and glycerine.

RUTH S. STEIN

Books

REESE, ALBERT M. *Outlines of Economic Zoology.* 4th edition. The Blakiston Company, Philadelphia. xii + 359 pp. illus. 1942. $3.25.

Opening with a discussion of the intestinal amebas of man, and closing with comments of the uses of whale ribs and porpoise leather, *Outlines of Economic Zoology* is a text-book for a general survey course in its field or a supplementary source for the traditional courses in biology and zoology.

For each phylum there is a brief review of classification. Appropriately the author devotes relatively more space to forms for which there is less literature ordinarily available. For example, the discussion on alligators takes seven pages, while all of the insects take only 25. A bibliography of 348 references is arranged by groups.

While there are occasional quotations from more technical reports, the vocabulary is no more difficult than that of the average elementary text in biology. A number of our students using the book for special report topics, have shown reasonable mastery of the ideas. Comparing it with his own biology text one high school sophomore said, "It has more in it that you want to know."

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