

offers the only opportunity for pupils to see live starfish, sea urchins, sea anemones, hermit crabs, king crabs, sandworms, corals and the like. To the inlander the feeding of marine animals presents a whole new set of problems. The observation of a starfish feeding on a barnacle is worth considerable reading of printed material. Some comparison with related fresh water forms is of interest. Transfer from fresh to salt water and vice versa offers possibilities for experiments for those so inclined. The adaptability of different animals to mixtures of various percentages of fresh and salt water can be tested.

## Biological Briefs

KAISER, ALBERT D. *Significance of the Tonsils in the Development of the Child*. *Journal of the American Medical Association* 115: 1151-1156. October 5, 1940.

The author of this article argues for a reduction in the numbers of unnecessary tonsillectomies performed on children. Where markedly hypertrophied tonsils persist after the age of four years, their removal is indicated, since repeated attacks of tonsillitis and adenitis impair physical development. Such a condition exists in no more than 20% of all children. Although it has been argued that tonsillectomies prevent frequent colds, sinusitis, and laryngitis, these statements have never been satisfactorily proved. Similarly, the tonsils do not appear to play any important role in the incidence of bronchitis, pneumonia, tuberculosis, rheumatic disease, or nephritis.

SHOUGH, W. WREN. *The Feeding of Ground Beetles*. *The American Mid-*

*land Naturalist* 24: 336-344. September, 1940.

The ground beetles are largely predaceous in habit, but a few will eat other types of food. An abundant source for them is under freshly mown clover or alfalfa, where the insects feeding on the living plants are still present to serve as prey for the beetles. They may be kept in small containers with damp sand or moistened filter paper. A great variety of living forms were given to the beetles, and in most cases any insect which could be penetrated was quickly eaten. Some jumping insects were able to resist attack, while larval forms were the most helpless. Small beetles attack the larvae of insects bigger than themselves, if the prey is slow-moving. The slime of earthworms and slugs is unpleasant to them, but proves no deterrent if the beetles become extremely hungry. A few are plant feeders to some extent, and some in captivity accepted raw beef or cheese for food.

GRIGGS, ROBERT F. *Timberline on Mount Washington*. *The New England Naturalist*, No. 8: 11-16. September, 1940.

The reasons for the occurrence of scrub forests and of timberline on the heights of mountains are difficult to analyze. Temperature does not seem to play the strongest role, since the disappearance of trees cannot be clearly correlated with decreased temperature levels. Wind apparently is the most important factor, both directly by mechanical injury to the struggling plant, and indirectly by controlling the depth and deposition of snowdrifts. The marked increase of foginess at higher levels must also play a part, since fog droplets clog the stomata and thus interfere with carbon dioxide intake.

RIPLEY, S. DILLON. *Wild Ducks for the Asking*. Natural History 46: 171-176, 186. October, 1940.

The hobby of keeping wild ducks is spreading, and can be started wherever a natural or artificial pond may be planted with shrubs and trees and protected from predators by a low fence. A nucleus of wing-clipped wild birds will soon attract others that will readily breed within the sanctuary. Wood ducks have been brought back almost from extinction largely by the efforts of one Connecticut man. New arrivals to a pond occasion considerable interest. Males are accepted readily; females are more aggressive and seem to be the ones which establish "peck order" in the flock. This order, whereby an individual may peck at certain birds at will but is in turn chased off by others, seems to be established upon the basis of bluff rather than of size.

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do not carry on some type of research or individual creative work. Some of these excuses are valid and perfectly understood, as when the nature of the problem is such that facilities, equipment, or material is not obtainable in the institution or region where one is teaching, or where there are other restrictions on the particular type of research.

The value of research to the average biologist is not so much that he will make outstanding discoveries or contributions to science, but that he will gain a great deal from the mental stimulation which comes as a result of creative or research activity. Research gives the worker an opportunity to utilize training and abilities along widely varied lines, and to acquire new skills. It gives him practice in some of the following: foreign language translation, experimentation, making and keeping collections, apparatus

construction, keeping posted on the new and most recent literature of a special field, drawing techniques, analysis, organization and compilation of research data, and writing for publication. It makes one really appreciate science, and feel as if he belonged in the field, because only by participating fully and actively in a field does one gain enthusiasm and real appreciation of that field. Another very important thing that research does for one personally is that it places him directly in touch with a select group of widely scattered scientists who are either specialists or are vitally interested in that particular field. Not infrequently these workers exchange data, specimens, and observations; and suggest problems for further research. They may even collaborate.

Naturally, the teacher's first duty is to teach his subject well. His second duty is to make a definite, tangible contribution to his field, in the form of research or creative activity. He should not do one and disregard the other. The schools training science teachers could do a great service if they impressed this important fact on their students. However, in stressing research as a part of a teacher's duty to his field, schools and universities should guard against excessive pressure for published results because too often that stimulates the production of a large amount of written work which is of very mediocre grade and which can do considerable harm in that it clutters up scientific literature with data which never should have got into print. The emphasis should be on *quality* of research and reliability of one's data and experiments, rather than on a speedy turning out of research. The editorial policies of some journals which cause articles to remain "in storage" for about a year before they are published are not so bad after all, be-