

THE SEARCH FOR NEW ANTIBIOTICS: Problems and Perspectives—G. F. Gause—*Yale Univ. Press*, 97 p., illus., \$4.75. Based on Trends in Science lecture at Yale, December 1959, by the Director of the Institute of Antibiotics of the Academy of Medical Sciences, Moscow.

THORACIC SURGERY BEFORE THE 20TH CENTURY—Lew A. Hochberg, foreword by Edward D. Churchill—*Vantage*, 858 p., illus., \$15. The history of chest surgery, from the beginnings in Egypt, through Greek, Roman, Arabian, European and American precursors of today's thoracic surgeons.

THE TRUE BOOK ABOUT MAN—Patrick Moore—*Muller (Sportshelf)*, 142 p., illus. by P. Cullen, \$2.75. Short history of earth and man. For young people.

VISTAS IN ASTRONOMY, Vol. 3—Arthur Beer, Ed.—*Pergamon*, 345 p., illus., \$18. International coverage of contemporary astronomical research, emphasizing new techniques and methods and their interactions with theoretical developments.

VOYAGE INTO DARKNESS: To Alaska with Bering—W. J. Granberg—*Dutton*, 190 p., \$3. Story of an expedition, for young people.

YOUNG SCIENTIST TAKES A RIDE: Guide to Outdoor Observations from a Car Window—George Barr—*Whittlesey House*, 160 p., illus. by William D. Hayes, \$3. Directs attention to many thought-provoking sights, sounds and other observations by those riding in a car.

Science News Letter, June 18, 1960

ORNITHOLOGY

African Cattle Egret Seen in Missouri

A CATTLE EGRET, a native African bird rare in the United States, has been sighted for the first time in the Trimble Wildlife area, Clinton County, Mo. Ted Pucci, regional reporter for the National Audubon Society, identified the rare bird, which is smaller than the American egret and has different coloring. The cattle egret has been spreading its range to South America and northward into the U. S. in recent years.

Science News Letter, June 18, 1960

ICHTHYOLOGY

Huge Shrimp Harvest Neglected in Indonesia

SMALL AND LARGE shrimps are so plentiful in Indonesian waters that experts estimate that more than one million pounds per month could be harvested, but the industry is so underdeveloped that fishermen catch only about twice as much as they can eat themselves. The U. S. Department of the Interior reports there are no foreign companies engaged in shrimp fishing in Indonesia, nor are there any facilities either for increasing the catch or for its efficient marketing.

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ENTOMOLOGY

Wasps May Control Pests

AN INSECT rearing technique developed at Riverside, Calif., may lead to bombarding a major citrus pest with millions of its enemies.

If grower organizations can raise natural enemies cheaply and in great numbers, they may be able to control the pest for the same cost as insecticide—but without harmful side effects.

The pest is California red scale, worst of all the insects attacking California oranges, lemons and grapefruit.

The "good" insect is a tiny wasp imported by the University of California from China. It is called *Aphytis lingnanensis*.

Success of the scheme hinges on getting 4,000 female wasps a year into each citrus tree, Dr. Paul DeBach explains in a new University of California publication, "Commercial Mass Culture of the California Red Scale Parasite," Bulletin Number 770.

Written with technician Ernest White, also of the Citrus Experiment Station, Riverside, the bulletin gives full instructions on rearing and releasing of the parasitic wasp. *Aphytis* stings the scale and lays its eggs on it. Hatching *Aphytis* larvae then eat and kill the scale.

In coastal areas of moderate climate, *Aphytis* wasps are usually able to control the scale unaided if insecticides are not used. In intermediate climatic areas, periodic release of the wasp has worked well in test plots.

In more rigorous climates farther inland, Dr. DeBach cautions, insectaries would have to distribute new colonies of wasps each month to boost their effectiveness, using a better-adapted strain, tolerant to greater variations of temperature.

Such a wasp has been developed by the Riverside scientists. It is currently undergoing field tests for possible use by growers.

Already the principal insect pest in most California citrus areas, red scale has spread in recent years to the Central Valley, mainly in Tulare, Fresno, and Kern Counties. In Ventura County, where the scale is becoming more serious, a growers' cooperative insectary is going into mass production of *Aphytis*.

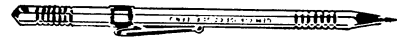
Upwards of 4,000 red scales can infest a single fruit. Several million of the sucking insects may attack a tree, severely injuring leaves, twigs, and branches, and ruining the appearance of fruit.

To combat scale, tremendous numbers of parasites must be used. A two-man insectary can produce 176,000,000 female parasites a year for release over a nine-month period.

Colonization is fairly simple. A half-pint carton containing 4,000 females is set in a tree in the center of each nine-tree block in the orchard. When the lid is removed the parasites rapidly disperse through the tree and fly to adjacent trees until they occupy all scale-infested trees.

Total cost per year to run the insectary would be \$17,000, the Riverside scientists estimate. This includes the expense of placing parasites in the orchard.

Science News Letter, June 18, 1960



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