scope of the Carnegie monograph, but in South America and in other parts of the world. A mosquito taxonomist of great ability appeared in the British Museum of Natural History (F. W. Edwards) and, working largely with the Old World fauna, he arrived at conclusions coinciding in the main with those reached by Dyar. With the incoming of material from South America, and with the publication of the excellent "Monograph of the Mosquitoes of Surinam," by the Bonnes, the necessity for a supplemental volume to the Carnegie monograph became apparent. The interest of Dr. J. C. Merriam was enlisted and the consent of the trustees of the Carnegie Institution was gained for the preparation of a volume to include the mosquitoes of all the Americas. Dr. Dyar was a tireless worker, and by the close of 1928 he had completed the volume and had seen it published.

All these years he had been publishing shorter articles, both on mosquitoes and on Lepidoptera, and two as yet unpublished papers were left in completed form.

Thus has ended a life of intense scientific activity and one which undoubtedly has made important contributions to human knowledge.

L. O. HOWARD

U. S. DEPARTMENT OF AGRICULTURE

## SCIENTIFIC EVENTS

### THE BREEDING OF BENEFICIAL PARASITES

A LABORATORY for breeding beneficial parasites, established by the British Empire Marketing Board and under the control of the Imperial Bureau of Entomology, has now been at work for rather more than a year. According to a report in the *Journal* of the American Medical Association, consignments of insects have been sent out in response to requests from Canada, New Zealand, Australia, South Africa, Kenya, the Falkland Islands and different parts of England. Between 20,000 and 30,000 larvae of the pine tortrix, 90 per cent. infected with a parasite that attacks it in its larval stage, were recently collected (largely from Brandon, in Suffolk) for Ontario. Ontario also received 20,000 parasites of the greenhouse white fly, which was exported on whole tomato sprigs and sent over in cold storage. Adult parasites of a scale insect that attacks fruit were sent over in small sealed test tubes to Vancouver and provided with raisins for nourishment in transit. The wood wasp *Sirex* infests most timber-growing countries. Its larvae bore their way into tree trunks, leaving behind them neat circular tunnels in the wood. The *Sirex* parasite is another fly, *Rhyssa,* with a long ovipositor which it thrusts right through the grain of the wood until it penetrates the body of the wood wasp larva, on which it lays its egg. Three hundred and fifty of these *Rhyssa* larvae have been collected in Devon and shipped to the Cawthron Institute in New Zealand. Australia and New Zealand have also received 30,000 larvae of the pear-slug infected with three species of parasites, collected mainly from northern France. The sheep blow-fly, a big greenbottle, lays its eggs in dirty and matted wool on living sheep, and the maggots that hatch out eat their way into the animal's body. There is, however, a parasite which in turn lays its eggs in the blow-fly maggot and eventually kills it. Hundreds of thousands of these maggots, with their appropriate parasites, are being bred at the laboratories, and some have already been exported in the chrysalis stage to Australia, South Africa and the Falkland Islands, where the blow-fly causes enormous loss of sheep life. Other recent exports include parasites of the woolly aphis of the apple, sent to India and Kenya Colony, and of the earwig, sent to New Zealand and Canada. Three Australian scientific men from the commonwealth department of entomology are carrying out research at the laboratories under the superintendent, Dr. Thompson, who is himself a Canadian. One is working on the sheep maggot, or blow-fly, already mentioned; one on a parasite of the apple-ravaging codling-moth, and one on an insect that attacks a troublesome weed, Saint-John's-wort. Dr. Myers, of the Farnham Royal staff, has gone to the West Indies to deal with tropical parasites, and he will organize shipments of beneficial insects between the various islands and British Guiana.

### MINERAL PRODUCTION OF THE UNITED STATES IN 1928

THE total value of mineral production in the United States in 1928 was approximately $5,400,000,000, as estimated by the United States Bureau of Mines, Department of Commerce. This is a decrease of approximately 2 per cent. of the total value of mineral products in 1927 and is due almost entirely to a decrease in the total value of mineral fuels. Of these, the quantity and value of coal decreased; the quantity of petroleum produced changed little, but the value decreased, and the quantity and value of natural gas and natural gasoline increased as compared with 1927. The total value of metallic products shows an increase due to increase in quantity and unit value of copper and an increase in the quantity of iron produced. Decreases were shown for gold, silver, lead and zinc. The total value of non-metallic mineral products shows approximately no change. Decreases for some of these products were offset by increases for others.

The following figures give the estimated total value of metallic mineral products and non-metallic mineral