



Underground Enemies

➤ EARLY gardening operations are apt to turn up numbers of the fat white larvae commonly known as grub-worms, and once in a while a big brown beetle, its shell still moist and soft. It is natural to find them together, for the grub-worms are the larvae, or infants, of the beetles.

In ancient Egypt, these beetles would have been treated with the utmost respect, for they belong to the same general entomological cousinship as the scarab, which was a sun symbol.

Most widely distributed are the ones known sometimes as May-beetles, sometimes as June-bugs, depending on the month in which they become most numerous above ground in your neighborhood. These are found all over the country, except in the more arid regions.

In a large and regrettably growing section of the Northeast the pattern is repeated on a smaller scale—about one-fourth the May-beetle size—by a more recently introduced pest, the Japanese beetle. The two insects are fairly closely related, though their native homes are far apart.

Whenever your spade turns up either grub-worms or beetles, be sure to destroy

them. If you keep chickens, they will welcome such tidbits eagerly. The grub-worms also make good fish bait—if your mind tends to stray from the sober business of gardening. But even if you can't put them to any practical use, kill them anyway. Crush them with your spade, or drop them into a tin of kerosene.

If you live in Jap-beetle country, you don't need to be told why you should massacre all such insects you turn up. You have seen what havoc the swarms of adults can work on anything green and edible. The larvae underground duplicate on the

roots of plants what the adults do to the tops.

The bigger white grubs are even more destructive underground feeders than the Japanese beetle larvae, for their appetites are correspondingly larger and they are just as omnivorous. They will gnaw into the hearts of potatoes or carrots or other root crops; and what a lot of grub-worms can do to a strawberry bed can't be adequately discussed in print. These underground enemies show no mercy to your garden, and you should give them no quarter.

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ACOUSTICS

Deafness from Loud Noise

➤ THE temporary and partial deafness that you experience after listening to a very loud noise is not due to fatigue of the ear or the hearing nerve, because it takes place too quickly.

This is shown by new experiments conducted by Drs. E. Luscher and J. Zwillocki, at the Electro-Acoustic Laboratory, of the University Clinic for Oto-Rhino-Laryngology, in Basle, Switzerland, and reported in the JOURNAL OF THE ACOUSTICAL SOCIETY OF AMERICA (March).

By varying the time interval between the test tone and the one used to deafen the listener it was established that the loss of sensitivity of the ear reaches its maximum in less than 0.4 second after the exposure to the loud noise. This establishes the fact that the process is one of dulling of the hearing by adaptation, the investigators conclude.

That the adaptation occurs in the ear and not in the hearing centers of the brain was shown when the deafening noise was led into one ear and the test tone into the other. It was only when the deafening

noise heard by one ear was louder than 50 decibels, that the other ear was deafened. It has previously been established that sounds louder than 50 decibels are conducted through the head from one ear to the other, and therefore the ear tested heard the deafening sound by bone conduction.

The loss of sensitivity is approximately proportional to the loudness of the deafening noise. After exposure to a sound 80 decibels above the faintest audible sound, it takes a sound 40 to 50 decibels louder than the faintest one normally heard to be audible.

The dulling of the hearing affects not only sounds of the same pitch as the deafening noise; the adaptation spreads to neighboring frequencies, chiefly higher ones.

Not only does the hearing loss occur very quickly, but the return to normal takes place within a few tenths of a second. After you are exposed to a noise 80 decibels louder than the faintest you can hear, your ears' sensitivity will be back to normal in 250 millionths of a second.

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• Books of the Week •

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ATOMIC ENERGY AND CONVENTIONAL ARMAMENTS—*Gov't Printing Office*, 57 p., paper, 20 cents. Discussions in the United Nations General Assembly in Paris, September 21-December 12, 1948, of the issues of atomic energy and disarmament.

THE CHARLES LATHROP PACK DEMONSTRATION FOREST—Clifford H. Foster and Burt P. Kirkland—*Charles Lathrop Pack Forestry Foundation*, 36 p., illus., paper, free upon request to publisher, 1214 Sixteenth Street, N. W., Washington 6, D. C. Results of twenty years of intensive forestry management.

CHILDREN FOR THE CHILDLESS—*Consumers Union*, 34 p., paper, 50 cents. A report on infertility and what can be done about it.

CORAL SEA—Alan Villiers—*Whittlesey*, 310 p.,

illus., \$4.00. An exciting story of adventure and exploration in one of the least known and most dangerous areas of the world.

DIAGNOSIS OF VIRAL AND RICKETTSIAL INFECTIONS—Frank L. Horsfall, Jr., Ed.—*Columbia University Press*, 153 p., \$3.75. The first of a series to come from Symposia held by the New York Academy of Medicine Section on Microbiology.

ELECTRONIC TIME MEASUREMENTS, Vol. 19, MIT Radiation Series—Britton Chance and others, Eds—*McGraw-Hill*, 538 p., illus., \$7.00. Presents a method of approach to the problems of time and distance measurement by manual and automatic means.

ENCYCLOPEDIA OF WORLD TIMBERS—F. H. Titmuss—*Philosophical Library*, 156 p., \$4.75.

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