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PROCEEDINGS OF SOCIETIES.

CAMBRIDGE ENTOMOLOGICAL CLUB.

(Continued from p. 116.)

11 May 1883.—The 93rd meeting of the Club was held at 19 Brattle Square, Cambridge, 11 May 1883. In the absence of the President, Mr. S. H. Scudder was chosen Chairman. Three members were present.

The minutes of the last meeting were read and approved. The additions to the library of the Club were announced by the Secretary.

Mr. R. Hayward exhibited a specimen of Chlaenius tomentosus taken at Milton, Mass., which varied strikingly from the common form of this insect.

Mr. S. H. Scudder showed a collection of colored figures of insects drawn by Major J. E. LeConte. These figures were a continuation of the collection which was exhibited at the last meeting.

Mr. S. H. Scudder described the habits of Myrnaecophila and gave a history of specimens previously mentioned as from America. Living specimens of young M. pergandi, taken among ants under bark, at Washington, D. C., were shown.

Mr. S. H. Scudder called attention to the "eleventh part of W. H. Edwards' "Butterflies of North America" and showed specimens of eggs and larvae of Lemonias nais.

Mr. G. Dimmock described a mode of mounting eggs of insects, or other small objects, for the collection, in such a way that they may be examined easily with the microscope. The eggs or other objects are mounted in rings of cork between two thin cover-glasses such as are used for microscope slides. Thus mounted, and sealed with black lac or other means, the specimens can be pinned in the collection with safety and neatness. Specimens can be mounted in Canada balsam in these cork rings, in the way described by Cameron (Proc. nat. hist. soc. Glasgow, 1881-1882, v. 5, pt. 1, p. 47), who used, however, paper in place of cork. Cork is lighter than paper, is more convenient for pinning, and can be cut easily into rings of different sizes with a cork-borer such as is used in chemical laboratories. If circular cover-glasses are used the cells can be sealed neatly on a turntable for preparing microscope slides. Specimens illustrating several styles of mounting were shown.

Mr. A. F. Foerste communicated (through the Secretary) a note upon the fluid thrown out by Ataucus luna just after it emerges from the chrysalis.

BIOLOGICAL SOCIETY OF WASHINGTON.

14 Dec. 1883.—A paper by Dr. C. V. Riley on "The use of naphthalein [sic] in medicine and as an insecticid" was read for Dr. Riley, in his absence, by Dr. W. S. Barnard. It was in the main abstracted from Dr. Ernst Fischer's "Das naphtalin in der heilkunde und in der landwirthschaft ... 1883." Naphthalin [C_{10}H_{8}] was first made in 1808. Nothing was said by Dr. Riley of its use in medicine. Its use as a substitute for camphor, for killing museum pests, was suggested in 1840. Placed in insect boxes, it kills acari and psoci, but not other museum pests. Experiments were made with it against Phylloxera vitifoliae in 1872. Fischer began ex-
experimenting with it in 1881. It is a better insecticide and cheaper in its crude form than when pure, but is more injurious to plants in that form. It has been applied to grape vines by pouring a kilogram of it in a trench from 15 to 20 cm. deep near the stock of the vine, and then filling the trench with earth.

Dr. T. Taylor said that he had recommended the use of naphthalin for killing phylloxera about ten years ago, and promised to read a paper on the subject at the next meeting of the society. He had not placed the substance in the ground.

Dr. W. S. Barnard said that naphthalin might prove valuable as an insecticide; if made cheap enough and so applied as not to injure the plants. He had devised a method and apparatus by which those insecticides which are dangerous to plants, such as kerosene, cyanide of potassium [KCN], and bisulphide of carbon [CS₂], might be used so as to be safe for the plants and destructive to insects in the ground. These substances have usually been applied on the surface of the ground or buried shallowly, either among the roots or above them, but when brought in contact with the roots, in strength, they kill them. When applied in volatile form they are not so injurious. Naphthalin and kerosene especially should be placed deep below the roots. The apparatus, which Dr. Barnard names a "nether-insertor," consists of a tube which is made to fit closely around a central solid shaft somewhat longer than the tube and pointed at its lower end. The tube may have an internal diameter of 13 mm. and the shaft a diameter of 12 mm. The upper end of the tube expands like a bowl. The upper portion of the shaft is weighted with a heavy ball so disposed that the shaft can be grasped above the ball. By withdrawing this shaft partially from the tube and then returning it with force, as the lower end of the tube rests on the ground, both tube and shaft can be driven into the ground to any required depth. The shaft is then wholly withdrawn and the insecticide poured into the tube, by which means it is placed beneath the roots without coming in contact with them. The tube is then withdrawn, and the hole made by it filled with earth. The insecticide, being volatile, rises through the ground and becomes diffused. With this method of application kerosene is probably superior to naphthalin.

Dec. 1883. — Dr. T. Taylor read a paper "On naphthaline [sic], its effects on seeds, plants, insects and other animals," describing the results of experiments made by him in 1872 and since. He found that its vapor produced asphyxia in various degrees in different animals. Winged Phylloxera vitifoliae were killed almost instantly. Aphis succumbed readily when confined with the vapor. Coleoptera resisted its effects several days. Imagoes of Doryphora decemlineata died in ten days, but recovered if sooner brought into fresh air. Females of Calliphora vomitoria aborted their eggs and then recovered. Flies, bees and wasps were anaesthetized, but recovered if soon brought into fresh air. Ants and termites were killed by the vapor, or were driven away if free to depart. Crickets, roaches, locusts and other insects were driven away. Rats and mice were driven away, and frogs were rendered torpid. Earth worms were driven out of the ground and killed by placing naphthalin in the bottom of a flower-pot where the worms occurred. Insects infesting seeds were killed by enclosing the seeds in jars with naphthalin. Seeds enclosed with naphthalin for two years afterwards germinated, though the odor of the naphthalin was as strong at the end of that time as at the beginning. Three tender plants were kept in an atmosphere of naphthalin vapor for thirty-six hours causing a single leaf on two plants to wilt, and not affecting the third plant. One hour was sufficient to kill the insects on the plants. Naphthalin acts more powerfully when moistened.