worms continued their development was not ascertained, as an autopsy could not be conducted on this animal. In all cases, the *S. douthitti* cercariae used were taken from *Stagnicola reflexa* (Say) collected in a pond near Edina, Minnesota.

Attention should be called to the fact that *Cercaria douthitti,* now shown for the first time to penetrate the skin of a very young primate and migrate through to the lungs, might also go at least this far in man, and particularly in children who swim in infested areas. Whether the worms can go farther than the lungs is not known. That the entrance of this species of larval trematode into the lungs might carry infections mechanically from the outside is of potential importance and in the infested areas where wading or swimming is done, may constitute a public health problem not yet realized.

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A CLOTTING FACTOR IN RABBIT PLASMA

WHILE working on the isolation of certain fractions of immune rabbit plasma a fraction that exhibits very high clotting capacity has been found. It was noted that this clotting factor in rabbit plasma is almost quantitatively localized in a very small fraction, namely, that which is precipitated by 20 to 30 per cent. ammonium sulfate (between 200 and 300 gm of dry ammonium sulfate per one liter of plasma). Furthermore, the clotting factor could be isolated in purer form from the mixture of inert proteins precipitable in the above-mentioned concentration of ammonium sulfate. Such separation was possible because the globulin fraction possessing this clotting property is insoluble at pH 5.3 in the absence of NaCl and passes in solution on addition of 0.1 per cent. of NaCl.

The clotting globulin of rabbit plasma prepared in this way is able to accelerate the clotting of freshly shed blood and to clot blood-plasma (prepared by addition of sodium citrate, potassium oxalate, heparin and germanin). Excess of these anti-coagulants did not prevent the clotting of the plasmas by this fraction. Human, horse and rabbit blood-plasmas were used.

The above-described preparation of clotting globulin possessed a high potency. Some of the preparations, when concentrated to contain 10 per cent. total solids, clotted 100 volumes of horse plasma within 30 seconds and 1,000 volumes in from 10 to 15 minutes. Our experiences so far have indicated that solutions of clotting globulin are comparatively stable. Some preparations of clotting globulin preserved with ether-phenol and phenyl mercuric acetate showed partial loss of potency after one year of storage in the ice box. The described properties of the clotting globulin prepared from rabbit serum suggest the possibility of its use as a hemostatic agent. Work in this direction is in progress.

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LITTLE KNOWN ENEMIES OF YOUNG OYSTERS

IT is well known that starfish and drills kill and devour large numbers of recently set oysters. Few persons are aware, however, of the fact that several other species of our common mollusks besides the drills are also inflicting extremely heavy losses among young oysters. Observations carried on during the last four summers showed definitely that two genera of mollusks, namely, *Anomia* and *Crepidula,* are responsible for the destruction of oyster spat in several areas of Long Island Sound, where at the beginning of each season very good set of oysters was recorded.

As a rule, setting of oysters, *Anomia* and *Crepidula,* occurs at approximately the same time. However, the rate of growth of oysters is much slower than that of *Anomia* or *Crepidula.* Therefore, the latter soon outgrow the oysters. While growing, the shells of *Anomia* spread over the oyster spat attached nearby. The oyster spat covered in this manner soon suffocate and die. Our examination of shells collected from the lots where sets of *Anomia* and oysters occurred revealed that in almost every instance there were several smothered young oysters under each *Anomia* shell. In one instance, for example, there were 22 dead oyster spat found under a single *Anomia* five eighths of an inch in diameter. *Crepidula,* although having but one shell, destroys the oyster spat in the same manner. Rapidly growing, it covers oyster spat, which soon dies on being deprived of oxygen and food.

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SCIENTIFIC BOOKS

ENTOMOLOGY

Entomophagous Insects. By CURTIS P. CLAUSEN. 688 pp., 257 figs. New York: McGraw-Hill Book Co. 1940. $7.00.

THE raw facts in the struggle for existence among organisms are nowhere better illustrated than by the diverse hordes of animals that form the class Insecta. Led by inexorable instincts and provided with innum-

erable "gadgets" in the way of exquisitely adaptive bodily structures, the insects have developed an unbelievably intricate ecological structure which involves practically the whole of their living environment.

This book deals with the most spectacular types of insect behavior, which are those associated with predatism and parasitism, particularly the latter. Both of these are concerned mainly with the insects themselves, since the hosts and prey are most generally other insects; nevertheless these phenomena have their reverberations among other diverse organisms, including man himself, so that they become of great human concern. As a consequence of the latter, one of the major developments of entomology during the past half-century has been the investigation of predatism and parasitism in their varied aspects, not primarily as problems of intense biological interest, but as a necessary prelude to their practical application in furthering the "natural" or "biological" control of noxious insects whose freedom and pursuit of happiness clashes with our own feeble attempts in that direction.

In "Entomophagous Insects" Dr. Clausen presents a brief account (of over 600 pages) summarizing our present knowledge of these insect predators and parasites. He is well fitted for the task, having made extensive contributions on insect parasites over the course of many years and having more recently been entrusted with the management of the work on extensive parasite introduction maintained by our Federal Government.

The material is presented in systematic sequence among the several orders beginning with the Hymenoptera which occupy about half of the book. The Diptera follow, including about 150 pages and the several remaining orders of minor importance are relegated to the last hundred pages. Much more space is devoted to the forms which are parasitic or parasitoidal and justly so, since their behavior is much more varied and complex.

Particularly valuable are the figures and descriptions of the many peculiarly modified types of larvae known among the parasitic Hymenoptera and the accounts of remarkable methods of oviposition whereby the larvae reach their hosts in unexpected fashion.

Altogether the book is highly accurate despite the vast amount of information that has been included. It will be most useful to professional entomologists, but students of more general biological topics will find a discussion of many matters of importance to them from the standpoint of evolution, adaptation, parasitism, speciation, etc. One feature that mars the otherwise excellent printing of the text is the almost complete omission of accents and umlaut marks in the citation of French and German publications.

The complaint is frequently voiced that the principal contributions of entomologists to the progress of science result from their ability to attach names to the insects their colleagues have chosen as materials for biological investigations. Clausen's book, with its extensive and diversified bibliography, will help to dispel this notion, and to indicate the vast opportunities open to students of insect parasitism.

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ANTHROPOLOGY

A Bibliography of Human Morphology, 1914–1939. By W. M. Krogman. 385 pp., sm. 4to, phototype. Chicago: University of Chicago Press, 1941. $3.00.

One of the foremost necessities to every modern branch of science is an exhaustive reliable bibliography; but the compilation of such is one of the most difficult, laborious and ungrateful of tasks, and that particularly in a field which involves so much as does physical anthropology, for that is really the field that Dr. Krogman's present contribution endeavors to cover.

Due to the amount of work involved the compilation had to be limited to publications between 1914 and 1939, which is very regrettable. An even more serious disadvantage was the necessity of limitation of the literature to that of several of the most used European languages, leaving out all the Slavic, besides others. The reason for beginning with 1914 was the publication in that year of the bibliography included in the Martin's text-book of anthropology, though that bibliography is not exhaustive, not generally available, and difficult to use except by an expert.

But to have done all that would have been desirable would have taken a whole staff of workers, years of time and much expense. Dr. Krogman has done what was possible for him, presents a bibliography both well organized and indexed, and deserves the thanks of all workers in this line.

There remains nevertheless with publications of this nature, however excellent and comprehensive they might be, the disadvantage of their being bound in a volume. Even before this is out of the printer's hands there is need of additions, which with a volume are impossible; and there is also no possibility, without much copying, of any regrouping. The only effective remedy for these and all other ills of such compilations would be their future publishing in card form. The ideal would of course be briefly annotated cards such as those being issued by the Wistar Institute.

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