

of streams of rock talus with the interstices filled by ice, so that the whole mass can move like a glacier. They therefore resemble the stone rivers of the Falkland Islands, in which the flow was due to interstitial mud.

Bulletin 431 contains a series of short papers and preliminary reports dealing with mineral fuels, including petroleum, natural gas in North Dakota, and the coals and lignites of Alabama and various western States.  
J. W. G.

#### RECENT WORK ON INVERTEBRATES.

NO. 3 of vol. iv. of "Memoirs of the Department of Agriculture of India" is devoted to the life-history and habits of the big brown Indian cricket (*Brachytrypes achatinus*), the various stages of development being illustrated by a coloured plate. According to the author, Mr. C. C. Ghosh, these insects, which measure nearly two inches in length, and are burrowing and nocturnal in habit, have recently been the cause of considerable injury to various crops, such as jute, rice, and tea.

The parasites of the hymenopterous family Dryinidæ form the subject of Bulletin No. 11 of the Entomological Reports of the Experiment Station of the Hawaiian Sugar-planters' Association. After a review of the classification of the group, Dr. R. C. L. Perkins, the entomologist to the association, describes a number of new species from various parts of the tropics.

To the fourth part of vol. cxxi. of the *Sitzber. K. Akad. Wiss. (Math.-Naturwiss. Klasse)* several specialists contribute further accounts of the organisms collected during Dr. Werner's recent zoological expedition to the Egyptian Sudan and northern Uganda, Prof. F. Klapálek describing the Neuroptera, Dr. F. Ris the Libellulæ, the Rev. E. Wasmann the Termites, Dr. Werner the genus Embidaria, and Prof. O. Fuhrmann the cestodes of birds.

Students of distribution, as well as specialists in this particular group, will be interested in Mr. M. Connolly's list of the South African land and fresh-water molluscs in the South African Museum, published in vol. xi., part 3, of the *Annals* of that institution. The total number of species recorded is 596, of which no fewer than forty-one are included in the characteristically Ethiopian genus *Achatina*.

In part 4 of the same volume Messrs. Goddard and Malan commence a descriptive account of South African leeches (*Hirudinea*), so far as they are at present known. Although all the families of the group are represented in South Africa, land-leeches have not hitherto been detected, this being due, no doubt, to the unsuitability of the zoologically explored portions of the country to their existence.

The nets of trawlers returning to Hull from the North Sea and the neighbourhood of Iceland have yielded to the search of Mr. John Thompson a rich harvest of the hydroid zoophytes of those waters. These have been studied by Mr. James Ritchies, the results of whose investigations are published in vol. xviii., No. 4, of the *Proceedings* of the Royal Physical Society of Edinburgh. A considerable increase in our knowledge of certain species has been made, and one form is described as new.

In *The Entomologist's Monthly Magazine* for November Mr. Claude Morley discusses a certain mysterious sibilant humming in the air said to be not uncommonly heard during the summer in this country. That the sound is due to insects there can be no reasonable doubt, and Mr. Morley considers himself justified in attributing it to two species of Chironomids, *Chironomus dorsalis* and *Tanyphus varius*, both of

which normally fly at a high elevation. The ground for this identification is that during a bout of the humming gusts of wind arose which drove specimens of these insects within reach. That Chironomidæ are capable of producing sounds has been previously recorded in America.

To the *Sitzungsberichte der Kgl. Böhm. Ges. Wiss.* for 1911 Dr. E. Schera communicates the first two parts of a study of Turbellarians, mainly based on specimens collected in various parts of Bohemia. Such a critical study, it is claimed, was urgently needed, since many of the genera and species have been named on insufficient materials, and synonyms are consequently rife, and even now certain forms cannot, for the same cause, be properly described. In the first part of his memoir the author describes certain new genera and species, while in the second he monographs the group *Olisthanellini*.

To *Records of the Indian Museum*, vol. vii., part 4, Messrs. F. H. Gravely and S. P. Agharkar communicate notes on the habits of the Indian fresh-water jellyfish (*Limnocoñida indica*), the discovery of which was recorded in *NATURE*, vol. lxxxvii., p. 144, 1911. The species occurs in western Indian in the Yenna and Koyna, tributaries of the Krishna, and it is believed also in the Krishna itself near Dhom. It has been observed in April and May, and is well known to the natives, by whom it is called *chakra-phul* (wheel-flower), deep pools forming its favourite haunts. From the lack of any evidence of the occurrence of special resting eggs, it is inferred that there must be a fixed hydroid generation.  
R. L.

#### MIGRATIONS BETWEEN AUSTRALIA AND AMERICA.

A PAPER by Mr. Hans Hallier on former land-bridges, and plant and human migrations between Australia and America, appears in *Mededeelingen van's Rijks Herbarium*, Leyden, for 1912, No. 13. At the outset the author refers to earlier conclusions, based on botanical evidence, that Indonesia, Australia, and Polynesia at one time formed a great Australian peninsula, most of which subsequently sank, either wholly or in part, leaving the mountains of Tasmania, New Zealand, New Caledonia, the Louisiades, New Guinea, the Moluccas, Celebes, the Philippines, Formosa, &c., to serve as centres of plant-dispersal between China and Polynesia, these being separated by deep sea from the mountains of eastern Australia. In earlier times the peninsula was connected by land with America, the northern boundary of this bridge extending from southern Japan through the Sandwich and Revilla-Gigedo Islands to Lower California, while the southern limit seems to have passed by way of the Society and Paumotu Islands from Tasmania through the Auckland, Campbell, Antipodes, and Chatham groups, and thence through Easter Island, Sala-y-Gomez, and Juan Fernandez to the south of Chile. To summarise the evidence of community of origin of the flora of this area, and of the relationships of language-roots, is here impossible, but reference may be made to certain American designs, considered by Wiener to represent lamas, but, according to the author, intended for kangaroos. After stating that, from linguistic evidence, southern Asia should be regarded as the dispersal-centre for the life of Indonesia and Polynesia, and referring to the community of type between ancient Egyptian, American, and south Asiatic art, the author expresses the opinion that Egyptian and American culture travelled from a south Asiatic source by two routes, one to Africa, and the other by way of Indonesia and Polynesia to America.