

modification of the spermary of the host is simply a concomitant circumstance of the parasitism. It seems hard to believe that the simple presence of the packets of Crustacean ova in the brood sac of an Amphiuira would lead to a destruction of the ova of the brittle-star, but it does not seem impossible that the adult Crustacean could have spayed the Amphiuira.

The character of this phenomenon is so unusual that one hesitates to accept it on insufficient data. There are gaps in my observations which may be serious to the theory. In the first place, it has not been observed that the Crustacean spayed the Amphiuira. The ovarian gland of the brittle-star is destroyed, and indications point to the Crustacean as the culprit. Secondly, it is not known that the parasite enters the brood sac through the genital slits to deposit the ova. Thirdly, the difficulties of determination whether the ova are in the body cavity, stomach walls, or brood sac, are very great. I believe it is probable that they are in the brood sac. Lastly, the family name of the strange parasite who repays hospitality so ungraciously is unknown. There is no doubt that it is a Crustacean, as I have traced the egg through a nauplius into an adult.

As this condition of life is believed to be a novel one, and needs verification, the writer takes this opportunity to call the attention of marine zoologists to it, and to request correspondence from anyone who may have made similar observations. Before we can definitely accept the conclusions towards which my observations lead, there is a call for re-examination and verification of the observations. The most important question is to determine whether or not the ova of the Crustacean live in the brood sac.

Cambridge, Mass., U.S.A.

J. WALTER FEWKES.

Raised Beaches *versus* High-Level Beaches.

If you can find space for the subjoined list of shells from the ancient beach on the Thatcher rock in Torbay, it may prove acceptable to such geologists as interest themselves in the question recently resuscitated by Prof. McKenny Hughes, as to whether the ancient Devonshire beaches are "raised," as commonly supposed, or merely high-level, as some hold them to be.

Added to the late Mr. Godwin Austen's "Hope's Nose" list, my list runs up the total number of species from the two beaches to forty-six, and this without reckoning Mr. Godwin Austen's *Cardium tuberculatum*, which I think must have been an oversight for *C. echinatum*. This number has not, I believe, been beaten by any British raised beach hitherto.

When the Thatcher beach was accumulated, the northern shell *Trophon truncatus* was abundant in the neighbourhood; so was *Tellina balthica*, a shell which only occurs, I believe, in this vicinity, in or near the tidal harbours of Torbay.

The Thatcher collection evidences the great antiquity of the beach, a considerable change of temperature, differences in the rock-components of the coast-line, and variation in its contour. Of these subjects I hope to see day to treat, but in the meantime the facts so far as they have been ascertained are presented to geologists in the following list of shells for them to deal with as they please:—

Ostrea edulis
Pinna rudis
Mytilus edulis
M. modiolus
Nucula nucleus
Cardium echinatum
C. clu'e
C. norvegicum
Cyprina islandica
Astarte sulcata
Venus exoleta
V. fasciata
V. gallina
Tellina balthica
Lutraria elliptica
Mactra subtruncata
Solen virgin
Mya arenaria
Saxicava rufosa

Patella vulgata
Trochus zizyphinus
Lacuna pulchella

Litorina obtusata
L. rudis
L. litorea
Turritella terebra
Salvia turtoni
Natica alderi
Alcorbis subcarinatus
Cerithium reticulata
Purpura lapillus
Buccinum undatum
Murex erinaceus
Trophon truncatus
Fusus gracilis
F. jeffreysianus
Nassa reticulata
N. incrasata
Pleurodoma striolata
P. brachystoma
P. turricula
Cylichna cylindracea

42 species.

The shells have been identified in odd lots and at different times by the late Mr. Gwyn Jeffreys, Mr. J. T. Marshall, and Mr. D. Pidgeon, to whom my warmest thanks have been due. The bulk of the work has, however, been done by the last-named gentleman, without whose hearty co-operation, both in searching the beach material and naming the shells and fragments found therein, the list would have been shorn of much of its goodly proportions.

A. R. HUNT.

Torquay, December 28, 1887.

Vegetation and Moonlight.

THE letter of your Trinidad correspondent, given in NATURE, vol. xxxvi. p. 586, referring to a Committee appointed to determine moon influence, has a practical interest for me. Among the wood-cutters in Cape Colony, both east and west, there is a fixed belief, which no arguments can turn, that to cut timber at, or shortly after, full moon, is to cut it when the sap is up; and when, consequently, it is out of season. The same belief prevails in various parts of Southern India, notably in Travancore. I have always combated the belief, pending time and opportunity to test it, indulging in the provisional hypothesis that the bush-workers' belief may be due to the fact that they can only work by night at or near full moon; and that at night trees should contain more sap than by day, when watery exhalation is active.

It seems possible that in the habitually cloudless nights of certain countries the moon may exert influences not noticeable elsewhere. It is well known in Cape Colony that fish, pork, and other provisions go bad if left exposed to moonlight; though possibly this may be due to the light acting as a guide to insects.

D. E. HUTCHINS,

Cape Colony, December 8, 1887. Conservator of Forests.

Centre of Water Pressure.

DR. ROUTH has done me the favour of pointing out that in the first volume of his "Rigid Dynamics" he has given the following very simple result with regard to the centre of pressure of a triangle occupying any position in a liquid:—"This point is the centre of gravity of three particles at the middle points of the sides, with masses proportional to their depths."

This result of Dr. Routh's is one of many very remarkable theorems of integration published by him in the *Quarterly Journal*, No. 83, 1885.

GEORGE M. MINCHIN.

A New Magnetic Survey of France.

IT should not be difficult to do foreigners justice without belittling our own countrymen, and *a fortiori* without robbing any of the latter of their birthright.

In Prof. Thorpe's paper in last week's NATURE there occurs the sentence, "Even the surveys of their own country (France) have been made for them by Germans and Englishmen." This sentence taken in connection with the opening paragraph of the paper conveys the unfortunate impression that Von Lamont, the author of the "Untersuchungen über die Richtung und Stärke des Erdmagnetismus . . ." and of numerous other similar works, was a German, the truth being that he was merely a "Scot abroad" (see NATURE, vol. xx. p. 425).

T. M.

Bothwell, Glasgow, January 14.

TIMBER, AND SOME OF ITS DISEASES.¹

V.

IT has long been known that timber which has been felled, sawn up, and stored in wood-yards, is by no means necessarily beyond danger, but that either in the stacks, or even after it has been employed in building construction, it may suffer degeneration of a rapid character from the disease known generally as "dry-rot." The object of the present paper is to throw some light on the question of dry-rot, by summarizing the chief results of recent botanical inquiries into the nature and causes of the disease—or, rather, diseases, for it will be shown that there are several kinds of "dry-rot."

¹ Continue from p. 254.