

other insects which are for the moment unidentifiable. The tissues of the "gall" are pith-like in consistency and are full of a watery secretion which seems to dry up very slowly; and it was found that the ants were alive and active for several days after the "galls" were removed from the tree.

It is difficult to say whether the structure described here is a true gall or not, and what the casual relationship of the ant to this structure may be. The presence of root-like structures on the undersurface of the "gall" inclines me to think that it may be an epiphyte like the orchids and other plants found in close association with it on the same tree, but the curious internal structure of the so-called gall appears to be unique. I hope to be able to collect more material with a view to further study.

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Rhogas aligharensi sp. n. (A Pink Boll-Worm Parasite).

GOING round the cotton-fields at Aligarh in order to study the Pink boll-worm parasites, a few parasitised larvæ of Pink boll-worm (*Platyedra gossypiella*) were collected. From these larvæ some Hymenopterous parasites of the Family Rhogadinae emerged out. These were studied and sent out for identification. Prof. Dr. Bischoff of the Universitaet Giessen a.d. Lahn (Germany) very kindly took the trouble of identifying them. He gave them a rank of new species belonging to the genus *Rhogas*. After a careful study they revealed close resemblance to a boll-worm parasite described from Lyallpore as *Rhogas testaceus* (Gray). The life-history which is very imperfectly worked out at Lyallpore resembles broadly with that of this new parasite found at Aligarh. Differences, however, exist in the structure. The chief points of difference are:—

(1) The number of joints in the flagellum of *R. testaceus* are 31-32, whereas in this *Rhogas* sp. there are 33-34 joints in the flagellum.

(2) Scape in *R. testaceus* is of a deep yellow colour while it is yellowish brown in these parasites.

(3) Abdomen in *R. testaceus* is yellowish brown ventrally but in these specimens the

posterior segments are deep dark brown, especially in females.

(4) The size of females in some specimens was bigger than in *R. testaceus*. The ovipositor is black in colour.

From the field-study it appears that there is an external check on these parasites. In a few cases it was found that out of parasitised host larvæ, adult parasites failed to develop.

The biology and complete life-history of this parasite is under preparation and it will be published elsewhere.

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November 9, 1933.

On the Raman Frequencies of the NH_4 -Group.

To explain the anomalous result observed in the Raman spectra of solutions of ammonium salts, in which the usual water band is found to be accompanied by another on the side of smaller frequency shift, we investigated the Raman spectra of a number of ammonium salts in the crystalline state and in the state of solution. It is found that the second band, wrongly attributed by some workers to water, is due to the NH_4 radical.

Microphotometric records of the spectra are taken to locate the position of the maxima in the NH_4 band. The following frequency shifts are obtained: $\delta\nu=3117, 3169$ (?), and 3220 Cm^{-1} . in the crystalline state; and $\delta\nu=3157$ and 3221 Cm^{-1} . in solution. These correspond to the infra-red absorption band found by Reinkober in ammonium salts at 3.20μ . This band is attributed to the vibration of the N and H atoms parallel to the axis of symmetry in the pyramidal model of the molecule in which the N atom is situated at the vertex and the H atoms at the four corners of the base of the pyramid.

A detailed report of the investigation is communicated to the *Zeitschrift für Physik* for publication.

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