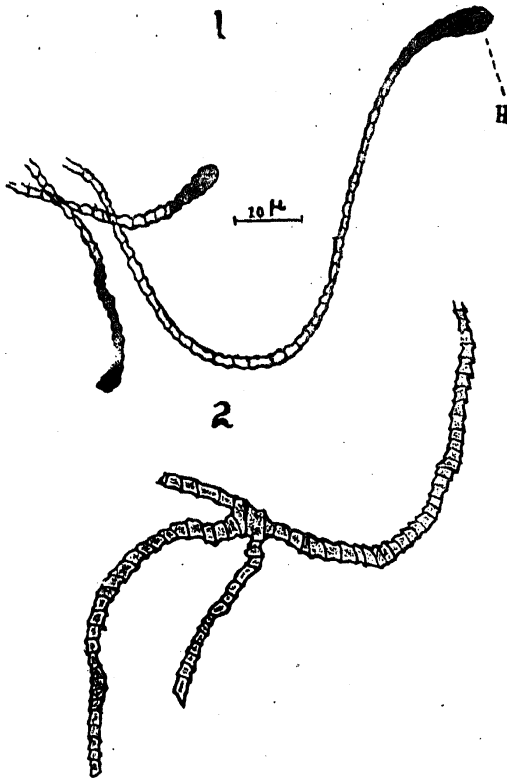


occupy less than 1.5μ in width. No segmentation or a differentiated scolex could be observed in these tangled masses. However, they appear to branch, the branches and the main stems getting lost in the meshes of the skein.

The second stage shows distinct segmentation and we have a preparation of a clump of these plerocercoids in a mass of tissue showing not only branching but also a few scolices. The club-shaped scolex measures 10 to 20μ



in length and this with the neck region following immediately appear deep blue, while the other regions are stained in varying shades of blue. The maximum width of the scolex (Fig. 1 H) varies from 4 to 7μ while that of the neck varies from 1 to 2μ . No bothridial grooves were observed in any of the specimens examined. In Fig. 2 is shown the mode of branching. The main stem as well as the buds show segmentation, but the segments themselves are of variable size, ranging from 3 to 5μ in length and 3 to 6μ in width. In Giemsa stained slides the central core of parenchyma is stained more deeply than that of the cortical region.

The presence of distinct segmentation raises the question whether the specimens described above could be considered larval stages at all? The absence of any indication of developing reproductive organs and the occurrence of the specimen itself in the fatty tissue of a sand-fly leads us to believe that it is only a peculiar larval stage of some Diphylobothrid. Presence of segmentation in larvæ does not appear to be very peculiar for, Meggit¹ mentions that larvæ of *Schistocephalus* and *Urocystidium* show segmentation.

This is perhaps, the first record of a *Sparaganum* from insects. The previous records are

all from fishes and other higher vertebrates and the only form showing branching is *Sparaganum proliferum* (Ijima, 1905) reported from the subcutaneous cysts of man (Ijima,² Yoshida³). The form described by us though apparently resembling *S. proliferum* differs from it (1) in its occurrence in the fatty tissue of a sand-fly and (2) by its possession of distinct segmentation. Precedent would probably justify the creation of a new genus to receive the above form, but we refrain from doing so because helminthological literature is already cluttered up with ill-defined species, which make identification a matter of considerable difficulty.

Hyderabad (Dn.),
October 5, 1944.

M. K. SUBRAMANIAM.
MOHAN BABU NAIDU.

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† This sand-fly commonly occurs in marshy places in Hyderabad and belongs to the family Psychodidae. A permanent mount of a bunch of these plerocercoids together with a few specimens of the sand-fly will shortly be deposited in the Indian Museum.

SOME OBSERVATIONS ON *MYCOBACTERIUM LEPRAE*

Is the degree of granularity of *Mycobacterium leprae* constant in the various nodules? Does it rise and wane? Does it attain a peak in the oldest nodules? These are questions for which we have as yet no definite answer. In the light of Hoffmann¹ and Manalang's² suggestion that under treatment the rod-like bacilli become granular the above questions assume an added significance. Hansen's³ original description itself contains records of rods and granules and many who claim to have cultured these bacilli (Lowenstein,⁴ Salle,⁵ Ota and Sato⁶) describe rods, "seed rows" or "string of pearls" and granules. Hoffmann considers that Hansen's bacillus produces "in its evolutionary cycle great numbers of granular forms which are found both within the bacilli and as free lying bodies". In the case of the tubercle bacillus Kahn and Nonidez⁷ conclude that granule formation "is a type of segmentation rather than direct fission in which the rate of segmentation surpasses the ability of the elements to elongate". Marchoux⁸ states that like Hansen's bacillus "the Stefansky bacillus may break up into granules". If the suggestion that the formation of granules is an essential phase in the life-cycle is accepted, then, how are we to distinguish these from