Fig. 1. Tangential section of perilemma of *Rhodnius* nerve. (× 30,000)

There has been some doubt as to whether the fibrous component of the perilemma is a collagen. Collagen is widely distributed in invertebrates[3]. By X-ray diffraction methods (wide-angle pattern), its presence has been established in crab nerve[4] and in subcuticular tissues of Crustacea and Mollusca[5]. By the same means Rudall[5] obtained definite evidence of its presence in small quantities in the ventral nerve cord of large mantids.

In the course of a re-investigation of the histology of the insect nervous system (V. B. W.), sections of the perilemma of the ganglia and large nerves of *Rhodnius prolixus* (Hemiptera) were prepared for the electron microscope (D. S. S.). Transverse sections reveal a series of rather dense fibrillar layers, with looser tissue between in which the fibres are differently oriented. Fig. 1 represents a somewhat thick tangential section showing the feltwork of banded fibres in one of the dense laminæ. Approximate measurements made on thinner sections gave a main periodicity of around 500–600 A. and a minimum diameter of about 150 A. In some fibres there are traces of secondary periodicity. These characters fall within the range of those of collagen in other groups of animals[3].

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Chromosome Number of the Potato Root Eelworm, *Heterodera rostochiensis* Wollenweber

Riley and Chapman[1] have recently reported that the diploid chromosome number of the female potato root eelworm is 18. During the course of a comparative study of the cytology of the genus *Heterodera*, I have found from a study of eggs undergoing meiosis that although this number appears to be usual in the potato root eelworm, eggs having 20 and 22 as the diploid number are not uncommon, while occasional eggs with 19, 23 and 24 may also occur. Material was fixed in Carnoy's fluid and stained with 1 per cent orcein in 45 per cent propionic acid using a squash technique. The distribution of chromosome number shown in Fig. 1 is based on 40 eggs from 32 females. In most cases where it has been possible

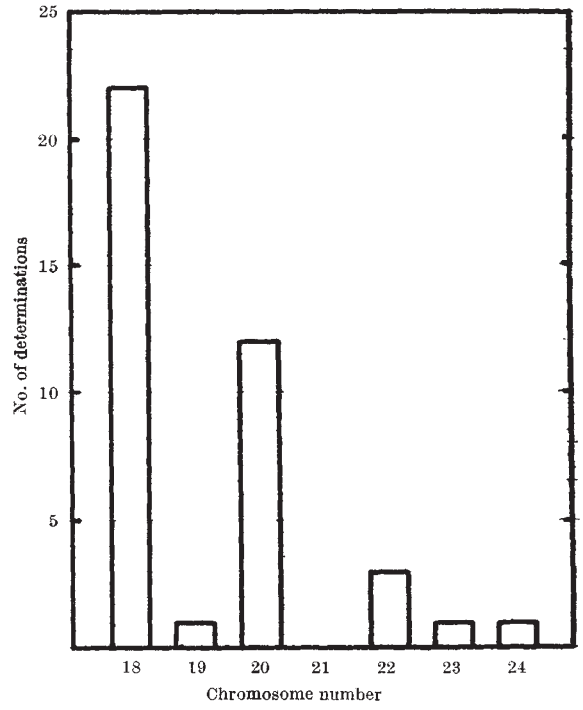

Fig. 1

to determine the chromosome number for more than one egg per female the determinations have agreed, but it is not certain whether this is always the case. The chromosomes are approximately 1μ long, so that counts may not be accurate in all cases; nevertheless it is clear that the number of chromosomes varies.

One fertilized female was also found containing eggs with abnormally high chromosome numbers. 21 eggs were present, six undergoing meiotic division, and of these one had 47 chromosomes clearly arranged in a first anaphase figure, 23 in the upper plate and 24 in the lower. In none of the other five eggs were the chromosomes sufficiently clear to permit an accurate count, but in four of them the unreduced chromosome number was not less than 36, a number which falls outside the range shown in Fig. 1. The egg containing 47 chromosomes was apparently tetraploid; it is not possible, however, to say whether the whole of the parent female was tetraploid or only portions of the reproductive tract. Some years ago, Onions[2] reported from this laboratory the occurrence of four giant larvæ of potato root eelworm in one cyst (female), and suggested that they might be polyploid; their egg shells were also about twice the normal size. In the present case, the sizes of four fixed and stained eggs having abnormally high chromosome numbers fell within the range for comparable eggs of normal chromosome number.

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