prennent un revêtement interne composé d'une intima chitineuse, au-dessus de laquelle viennent deux assises de muscles longitudinaux et annulaires, dont les contractions facilitent l'expulsion brusque du liquide contenu dans le réservoir supérieur.

En résumé, cet appareil glandulaire, par sa disposition et sa structure, permet de s'expliquer la façon dont est expulsé le liquide que les Brachines lancent brusquement pour se défendre contre leurs nombreux ennemis et se dérober à leurs poursuites. De plus, la présence d'une intima chitineuse, recouvrant les cavités internes du réceptacle et du conduit excréteur terminal, indique nettement l'origine ectodermique de ces deux organes et prouve qu'ils dérivent d'une imagination tégumentaire.

2. Chromatin Reduction in the Hemiptera: a Correction.

By Thos. H. Montgomery jr., Dr. phil. (University of Pennsylvania, Philadelphia).

eingeg. 27. December 1898.

In two papers on this subject (Zoolog. Anzeiger No. 546; Spengel's Zoolog. Jahrbb. 12. 1898) the first reduction division in the genus *Euchistus* (Pentatoma) was described by me as a transverse division of the chromosomes, the second as a transverse division also. Since the time of writing of these papers I have had opportunity to study further material of *Euchistus*, as well as of other genera of the Hemiptera Heteroptera, and this study has convinced me that the second reduction division is normally a longitudinal (equational) division, exactly as has been described by F. C. Paulmier (Anat. Anzeiger 14. 1898).

In *Euchistus* the second spermatocytic division occasionally results in a transverse division of the chromosomes, exactly as I figured it in my second paper, but this mode of division occurs only as a variation, the division being usually longitudinal. In my first studies on the subject the cells of the larger generation of spermatocytes formed the basis for the determination of the reduction divisions, since these cells on account of their much greater size are more favorable for investigation. And in the testes of the individual first studied these larger spermatocytes showed as many cases of transverse as of longitudinal splitting of the chromosomes in the metakinesis of the second reduction division. A subsequent examination of more than a dozen testes from other individuals, however, shows conclusively that in the majority of cases, the second division is longitudinal and not transverse, so that those cases figured by me where the daughter chromosomes of the metaphase of the first reduction division are elongated parallel to

the axis of the spindle but with a well marked transverse constriction, must be considered a variation from the normal.

Hence Paulmier is quite correct in his conclusion that the second reduction division is an equation division. But it is nevertheless interesting to note that in the genus *Euchistus* it may be occasionally transverse, as the figures in my preceding paper show, and as I hope to be able to prove by further examples in a following contribution. Accordingly, my interpretation of the mitotic stages is at fault, and not my description of them, since after finding indubitable cases of the second division being a transverse division, I concluded that in all cases it is transverse.

In the genus *Anasa*, on which Paulmier worked especially, the relations are much clearer than in *Euchistus*, since I have found in some cases that the chromosomes are undoubtedly quadripartite in the equatorial plate of the first spermatocyte, — cases where each chromosome is not only transversely but also longitudinally cleft, while in *Euchistus* the longitudinal split cannot be seen at this stage. By the study of a greater amount of material, and by the use of the iron haematoxylin stain, I find in *Euchistus* that the chromosomes in the telophase of the spermatogonic division are longitudinally split: this split could not be seen in the preparations which formed the basis of my first papers, owing to the fact that in them the stain was to deep. And these later studies have shown also, that in the spermatogonic divisions the chromosomes are undoubtedly longitudinally split (a point which I had not decided positively), and that occasionally in the dyaster stages of the spermatogonic and first spermatocytic divisions, as well as of the second spermatocytic division, a "Zwischenkörper" (a plate of granules) may sometimes (thoug apparently not always) be formed.

The fact that in *Euchistus* the second reduction division may be, as a variation, transverse instead of longitudinal, is especially interesting as being a point in corroboration of the conclusion of O. Hertwig, in opposition to Weismann, that in reduction it is the halving of the chromatin mass and not the plane of division which is the important result. And in the same cell some of the chromosomes may be split longitudinally, some transversely.

3. Unbefruchtete Eier von Ascaris megalocephala.

Von M. Nussbaum, Bonn.

eingeg. 2. Januar 1899.

In der Sitzung der Berliner Akademie vom 3. Nov. 1898 hat auch O. Hertwig diesen Gegenstand behandelt. Beim Lesen des Berichtes