

bogen ist; zwei gleichgroße Postocularen. Sieben Supralabialen, das erste am kleinsten, das dritte und vierte ans Auge stoßend, das fünfte sehr niedrig, das sechste hoch und oben sehr breit. Temporalen 1+2. Nur drei Infralabialen und das vierte höchstens mit einem Punkte in Berührung mit den vorderen Submentalen, die so groß oder etwas größer sind als die hinteren. Wie gewöhnlich berührt sich das erste Infralabialenpaar hinter dem Mentale.

Squ. 15; G. 3, V. 141, A. 1, Sc. 20/20 + 1.

Tiefschwarz; Kopf bis auf die breit schwarze Parietalnaht und einige grauliche Staubfleckchen auf den Kopfschildern rein weiß; acht schmale Halbringe auf dem Rumpf, zwei auf dem Schwanze, rein weiß. Diese weißen Halbringe nehmen drei bis vier, die schwarzen Zwischenräume 13—14 Schuppenreihen ein. Unterseite einfarbig schwarzgrau, unter dem Halse und dem Schwanze einige breite weißliche Schildränder.

Totallänge 170, Schwanzlänge 14 mm.

Fundort: Sambesi, Ostafrika (coll. Senckenberg), ein anscheinend noch junges Stück.

### 8. Hermaphroditism of *Prorhynchus*. A preliminary Note.

Von J. Percy Moore, Philadelphia, U. S. A.

eingeg. 22. December 1894.

Individual unisexuality is so nearly universal among the Nemerites that an additional case of hermaphroditism is of interest. Bisexuality in this group was first noted by Keferstein in *Borlasia (TetraSTEMMA) hermaphroditica* in 1868, since which time a similar condition has been recorded by Marion for *Tetrastemma Kefersteinii*, and by von Kennel for *Geonemertes palaensis*; these three cases being all that are known to the writer at present.

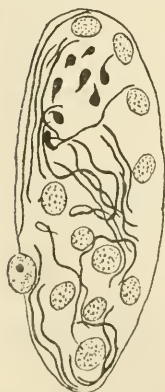
During the autumn and winter of 1893/94 I was fortunate in finding near Philadelphia a few examples of the freshwater Nemertine *Prorhynchus*, which appear to belong to the rare *P. tenuis* of Girard, which has hitherto been recorded only from Monroe County, N. Y., by Silliman.

A recent examination of the specimens has brought to light, among other interesting structural peculiarities, the fact of the occurrence of hermaphroditism in this genus. Of three individuals sectioned, two are clearly hermaphroditic, while the third, a very imperfect series appears to be entirely female. In all the number of genital sacs is very much reduced, being far less than in any similar small Nemertine known to me; nor are the gonads regularly paired, but in most cases single, and

nearly median. In no case is a distinct communication with the exterior present, though contact with the skin is frequently very intimate. This condition, and perhaps to some extent also the small number of gonads, is no doubt due to immaturity of the organs at the season (Jan. 1894) when the specimens were taken.

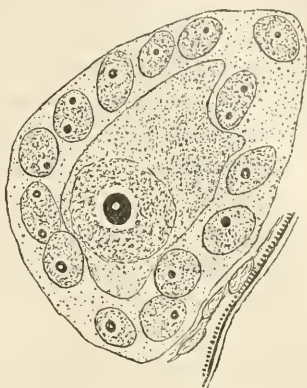
In the two undoubtedly bisexual individuals the anterior part of the body is male, the posterior female. This agrees with what Keferstein found in *T. hermaphroditica*; while in *T. Kefersteinii* and *Geonemertes palaensis* the male and female organs are more or less intermixed. One individual is chiefly male, possessing six distinct testes, and three distinct ovaries; the other mainly female, with a single well marked anterior testis immediately posterior to the end of the short proboscis sheath, and the remaining gonads, except a few very immature ones of questionable identity, female.

The testes are more or less flattened turnip-shaped bodies, with a usually very indistinct enveloping capsule. Cell boundaries are not obvious in the cortical layer of protoplasm, in which are embedded many large distinct nuclei with finely divided chromatin, though there is occasionally present a nucleus with a single spherical nucleolus, which so closely resemble the nuclei of the female gonoblasts that one is led to infer for them a similar destiny. The nuclei of the central portion of the protoplasmic mass exhibit a few very large nuclei in various stages of sub-division and transformation into spermatozoa, the most advanced stages of which are rather coarse deeply staining threads, one end of which often shows knob-like enlargements. These form irregular tangled skeins which wind around the complete nuclei and penetrate the surrounding protoplasm, on the surface of which they often lie. Sac-like spermatic receptacles are present in connection with at least some of the testes. Fig. 1 represents the outline of the testes and the nuclear appearances of a typical section magnified 500 diams.



The ovaries are more nearly spherical in shape, and like the testes have usually the appearance of solid masses of protoplasm, through the cortical layer is more definite, and in a few cases is in part separated by a distinct space from the maturing ova, which occupy a central position. The peripheral nuclei are much larger than the corresponding ones of the male organ, and lie nearer together in an apparently undivided finely granular protoplasm. Each possesses a single (or when apparently dividing, two) perfectly spherical, clear, rather deeply stained nucleolus, in which there is fre-

quently apparent a clear spot (nucleolar vacuole, perhaps). The nucleoli lie in clear areas in the otherwise granular nucleoplasm. Two to four developing ova of greater or less size occupy the central portion of each ovary. Their nuclei are exceedingly large, but otherwise closely resemble those just described. The nuclear membrane is delicate and more or less incomplete, the nucleoplasm is highly granular, and frequently exhibits an exceedingly fine reticulum of very delicate threads, and the nucleolus obviously contains a vacuole. The finely granular deutoplasm which stains very lightly is present in greater or less quantity and is limited by a very delicate egg membrane. These facts are shown in the section represented in fig. 2.  $\times 500$ .



Reference is made above to the following papers.

K e f e r s t e i n, Über eine Zwitternemertine, *Borlasia hermaphroditica*, from St. Malo. Archiv f. Naturgeschichte. 1868. p. 102—105. Taf. III. figs 1+2.

M a r i o n, A. F., Recherches sur les animaux inférieurs du Golfe de Marseille. Ann. des Sci. Nat. XVII. 1873.

v o n K e n n e l, J., Beiträge zur Kenntnis der Nemertinen. Arbeiten d. Zool.-Zoot. Inst. zu Würzburg. IV. p. 361—375. Taf. XIX.

S i l l i m a n. Zeit. f. wiss. Zool. XLI, p. 55. 1885.

G i r a r d. Recherches sur les Planariés et les Némertiens. 1893. p. 244.

## 9. Über den Ursprung des Pigments und der Zeichnung bei den Hirudineen.

Vorläufige Mittheilung.

Von Dr. phil. Arnold Graf, New York.

eingeg. 11. Januar 1895.

In meiner Arbeit über die Excretionsorgane von *Nepheleis*<sup>1</sup> habe ich schon hervorgehoben, daß in dem Körper der Hirudineen eine Gattung Zellen vorkommt, deren Aufgabe es ist die Excretionsproducte des Thieres in sich aufzunehmen und vermittels der Nephridien nach außen zu befördern. Schon damals hatte ich auch die Ansicht ausgesprochen, daß denselben Zellen die Aufgabe zufällt einen Theil dieser Excretionsproducte in der Epidermis abzulagern und so die Färbung des Thieres zu verursachen. Ich habe nun über diesen Gegenstand eine eingehendere Untersuchung angestellt, welche im Juli 1894 in Woods-Holl begonnen wurde und wie ich hoffe in kurzer Zeit zu Ende gebracht

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Zeitschrift/Journal: [Zoologischer Anzeiger](#)

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