

### 3. Teuthological Miscellany No. 1.

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#### A second Note on the Genus *Lolliguncula*.

In 1911 (Berry 1911, p. 103) I called attention to the fact that the hectocotylyzed arm in the group *Lolliguncula* is so similar in structure to that of typical *Loligo* that the only important character left us in distinguishing the two genera is the circumstance that while in the female of *Loligo* the sperm reservoirs of the male are received upon a pad below the mouth, in *Lolliguncula* they are received upon a calloused patch on the inner surface of the mantle near the left gill. Only a few months later Drew (1911, pp. 327—328, 350) in reporting his observations on the sexual activities of the common squid, *L. pealeii*, published the curious discovery that in this species (which no one so far as I am aware has ever considered to be other than a typical *Loligo*) there are two distinct methods of copulation, one somewhat more common method in which the "sperm reservoirs are attached to the outer buccal membrane", and another by no means rare in which the "sperm reservoirs are attached in the mantle chamber on or near the oviduct". Drew was fortunate in observing both processes in life and each is carefully described. In the same connection quite recently I have been much interested to discover in an old paper by Lebert and Robin (1845, pl. 9) some figures of *L. vulgaris* clearly showing the sperm reservoirs attached within the pallial chamber near the base of the right gill. The experience of these writers would thus indicate that there is great variation in the manner of attaching the sperm reservoirs even in the same species, and although it does not appear from anything they tell us that there is any structure within the mantle cavity of *Loligo* corresponding to the calloused patch in *Lolliguncula*, their observations very decidedly weaken the claims of the latter genus to the recognition it has received.

#### The Genus *Teuthis* Schneider 1784.

Naef (1912, pp. 743, 745—748) has recently revived the old genus *Teuthis* Schneider 1784, following in this particular the now obsolete usage of Gray (1849, p. 76). It seems almost superfluous to call attention once more to the reason that Schneider's genus has so long been in discard, namely, that it is conspicuously preoccupied in fishes by *Teuthis* Linné 1766. As it is certainly convenient to have a name for this group and as none other appears to be available, I would propose *Aeroteuthis* with the *Sepia media* Linné 1767 as type. To those who prefer to continue the use of *Loligo* in its broader sense this name will

stand as of subgeneric rather than generic significance, and to the present writer the same seems equally true of *Lolliguncula*.

#### A Note on the Genus *Abraliopsis*.

Through the kindness of Dr. I. Ijima there has been recently brought to my attention a hitherto unnoticed paper by Dr. S. Watasé, entitled "Luminous Organs of *Abraliopsis*, a New Phosphorescent Cephalopod from the Japan Sea", which appeared in the Zoological Magazine (Tokyo), vol. 17, pp. 119—122, for June 1905. Excepting the title the entire paper is in Japanese, which is doubtless the reason it has escaped attention so long, although upon securing a translation of it from a Japanese friend, I find that it contains several original observations of more than passing interest. It will be remembered that Chun (1910) rejected the theory that the three curious pigmented swellings at the tips of the ventral arms in *Abraliopsis* are true photogenic organs on the ground that their dense coat of black pigment completely envelops them, even though the mere existence of such a pigment layer has always appeared to me strong evidence that their function must have something to do with light. Especially noteworthy therefore in view of the many guesses and doubts as to the proper interpretation of their function, is the direct observation that in life these organs are brilliantly photogenic, illuminating the surrounding medium for a space of about a foot. At night these, the five subocular organs, and those scattered over the ventral aspect of the body are said to shine with a brilliant light "like that of stars in the heaven". If I understand my translator correctly, Watasé also observes that the giving out of this light is largely controlled by the expansion or contraction of the chromatophores which surround and overlie the organs themselves.

The species in question is undoubtedly that which I recently described as *A. scintillans* (Berry 1912, p. 425, text figures 3, 4, pls. 7, 8, 9, figs. 1—6), which appears to be an abundant form on the west coast of Japan. I had supposed my specimens to have been taken at Misaki, Sagami, but Drs. Ijima and Ishikawa have written me that this locality is probably erroneous. Ishikawa states that my specimens No. 279 really came from Uwotu on the Japan Sea, Watasé quotes Toyama as a locality, and I have recently received specimens from Namerigawa, Ecchiu. According to Watasé as many as two million individuals of this species are sometimes taken by the fishermen in a single haul.

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#### 4. Die Begattung und der Spermatophorenbau bei der Maulwurfsgrille (*Gryllotalpa gryllotalpa* L.).

Von B. Th. Boldyrev, Moskau.

(Mit 3 Figuren.)

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Vor einigen Jahren lenkte ich meine Aufmerksamkeit auf die Begattung und Spermatophorenbildung bei der Ordnung Orthoptera. Indem ich den Begattungsakt, das Verhalten der Weibchen zu den vom Männchen empfangenen Spermatophoren beobachtete und die letzteren bei einer Anzahl von Locustodea und Gryllodea (Gatt. *Decticus*, *Platypleis*, *Olynthoscelis*, *Tylopsis*, *Tachycines*, *Gryllus* und *Locusta*)<sup>1</sup> einer Untersuchung unterwarf, bin ich zur Ansicht gekommen, daß die *Gryllodea* im Bau ihrer Spermatophoren, sowie in dem Verhalten der Weibchen zu denselben sich sehr wesentlich von Locustodea unterscheiden. Die Spermatophoren der Grillen haben die Gestalt eines einfachen »Flakons« (kolbenförmig) mit ziemlich langem Hals (*Gryllus desertus*, Pall. und *G. domesticus* L.). Eine oder zwei Stunden nach vollzogener Begattung werden die Spermatophoren durch Kontraktionen des Hinterleibes des Weibchens aus seiner Genitalöffnung im fast leeren Zustand ausgepreßt und abgeworfen; die Samenelemente wandern inzwischen in die Samentasche des Weibchens ein. Nicht selten geschieht es, daß,

<sup>1</sup> Boldyrev, B., »Begattung und Spermatophoren bei *Tachycines asynamorus* Adel«. Rev. Russe d'Entomol. XII. 1912. Nr. 3. S. 552—570. — »Über die Spermatophoren einiger Locustodea und Gryllodea« (vorläuf. Mitteil.). Ibidem S. 571—573. Die Arbeit selbst erscheint im Bd. XL. Horae Soc. Ent. Ross. — Siehe auch Rev. Russe d'Entom. Bd. 12. No. 4. 1912. p. XLIV—XLVI und meinen Vortrag (Compt. Rend. de Séanc. de la Soc. Entom. de Russie a 1912).

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