

von Meves<sup>11</sup> beschriebenen »Richtungskörperbildung« der Spermato-  
cyten bei der Honigbiene zeigen. — Es dürfte sich wohl verlohnen, auch  
bei diesem Objekt das Verhalten der Chromosomen noch eingehender  
zu verfolgen. Schon jetzt darf es als sehr wahrscheinlich bezeichnet  
werden, daß auch hier die Chromosomenverteilung eine inäquale ist,  
und daß nur diejenigen Spermatiden funktionierende Spermien liefern,  
welche den Spermatiden mit Heterochromosoma bei andern Insekten  
entsprechen. —

#### 4. A new species of *Dolichoglossus*.

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(With 2 figs.)

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During last summer I found a species of *Dolichoglossus* in the lit-  
toral zone of the shore of the sound of Mull off the west coast of Scot-  
land, the occurrence of which I should like to record here, and to give a  
short description of the form and habits of the animal. It is small in  
diameter, but much elongated. — Its most characteristic feature is the  
great length of the proboscis, which is cylindrical rather than conical  
in shape, and in fully contracted specimens it may measure six to eight  
times the length of the collar, while in its extended state it becomes  
greatly attenuated and may measure twenty times or more the length  
of the collar.

The measurements of the animal may be given as follows, though  
they must be regarded as approximate only.

Total length 200 mm and upwards; breadth 3 mm in the region of  
the gill clefts tapering gradually towards the anus. The collar measures  
4 mm in length by 3 or 3,5 mm in breadth. The proboscis when con-  
tracted measures from 25 to 35 mm in length. The proboscis is of a  
bright rosy red, the collar a deeper and more orange red, with a dis-  
tinctly lighter posterior rim. The trunk shades gradually from a rich  
orange behind the collar through deep yellow to a light yellow in the  
extreme posterior region.

Starting in the hinder part of the branchial region and extending  
to the posterior end there are bright vermilion spots which are raised  
into minute spinous processes arranged in irregular series on each side.

The gut walls of the post branchial region are brown, and for a  
short distance this condition extends into the trunk.

<sup>11</sup> Meves, F., Die Spermatozytenteilungen bei der Honigbiene. In: Arch. für  
mikrosk. Anatomie Vol. 70. 1907.

There is a well marked groove along the dorsal surface of the proboscis extending from end to end. This is in correlation with a thickening of the nervous sheath of the proboscis lying just beneath it Fig. 2. B. A short deep groove extends forwards from the light posterior rim of the collar in the mid dorsal line for about 5 mm which may possibly be sensory (Fig. 1 s).

There is certainly one dorsal root.

The animal has a strong »iodiform« scent, the seat of which is principally the proboscis.

It is found in fine sand at low water mark and is only very rarely uncovered by the tide. The animal secretes a copious supply of mucous

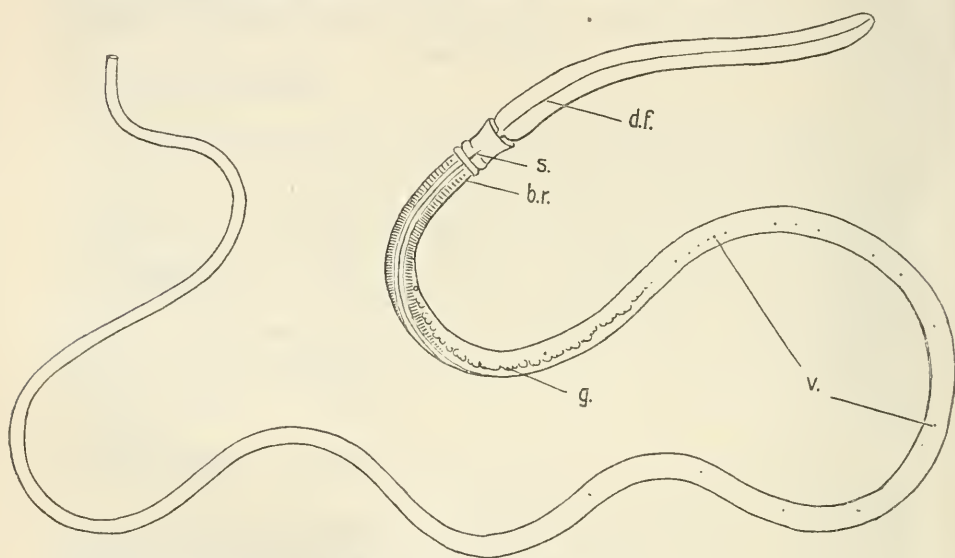


Fig. 1. Outline figure of *Dolichoglossus serpentinus* from Aros in the sound of Mull. *b.r.*, third gill cleft; *d.f.*, dorsal furrow of proboscis; *g.*, gonads; *s.*, elongated pit in the mid dorsal line of collar, possibly sensory; *v.*, bright vermilion spots.

from all parts of its body forming together with the sand the delicate sinuous tubes in which it lives and through which it slowly creeps.

I kept some specimens alive in my laboratory for six months and watched their habits. I never saw them come entirely out of the sand, and only once did I notice the collar protruding. The proboscis, however, was frequently protruded, especially during the night often attenuated to a mere thread. Sometimes it waved and curled in the water, but more usually it lay along the surface of the sand first in one direction then another.

The animal frequently changed its place in the sand in the jars in which it lived so that after a while the whole jar became filled — so

to speak — with its tubes. It is very tenacious of life provided that its supply of oxygen is adequate. Small pieces on the surface of the sand began to regenerate lost parts and burrowed into the sand. It is extremely fragile and most difficult to procure whole.

The only other *Dolichoglossus* recorded from Great Britain is *D. ruber* found by Tattersall off the west coast of Ireland.

Mr. Tattersall has most kindly sent me specimens of *D. ruber* to compare with mine. My new species, for which I propose the name *Dolichoglossus serpentinus*, differs outwardly from *D. ruber* in being longer, more attenuated, in having a proportionately much longer proboscis, in the cylindrical shape of the proboscis, and in the colour of the trunk which is yellow with vermilion spots instead of brown with lilac spots. *D. ruber* has no special scent.

Internally the differences are much greater. The coelomic cavity of the proboscis is very small in *D. serpentinus* but extremely large in

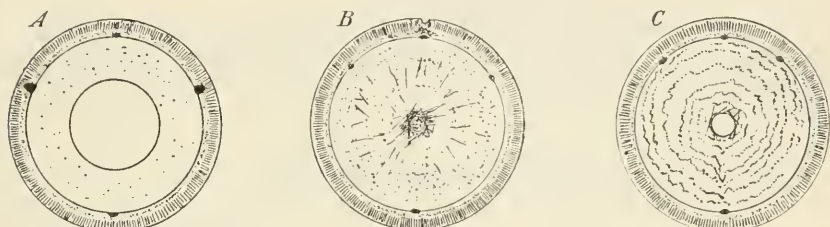


Fig. 2. Semidiagrammatic figures of transverse sections of the proboscis of *D. ruber* (A), *D. serpentinus* (B), and *D. kowalevskii* (C).

*D. ruber*, and corresponding with this the longitudinal muscles of the the proboscis of *D. ruber* are much less developed than in *D. serpentinus*. Fig. 2 illustrates these differences quite clearly. *D. ruber* is said to have two proboscis pores (though there is only one in the specimen sent me by Mr. Tattersall) while I have never found more than one in *D. serpentinus*. There are many others which I need not go into at present. *D. serpentinus* resembles *D. kowalevskii* more closely, but it is distinguished from it by the greater length of proboscis, by its colourings, and by the almost complete absence of the concentric arrangement of the longitudinal muscle fibres of the proboscis.

There is in *D. serpentinus* no backward prolongation of the collar over the gill clefts, and the first gill opening is a mere pore while the 2<sup>nd</sup> to 5<sup>th</sup> are progressively larger, the sixth being the first cleft of what one may term normal size. At the posterior end a similar diminution occurs. There are about 60 pairs of clefts in a large specimen.

There are two other species which should be considered, namely *D. sulcatus* and *D. mereschkowskii*.

Spengel's account of *D. sulcatus* and the figure he gives show a general resemblance to *D. serpentinus* in the length of proboscis and the presence of a dorsal groove thereon, but this, even if it is not a result of preservation, is of a very different character to the groove on *D. serpentinus*. *D. sulcatus*, moreover, is a much smaller species, and the fact that it comes from Japan makes it improbable that my species is identical with that. Unfortunately nothing is known of the internal anatomy of *D. sulcatus*.

There is a greater geographical possibility that it might be *D. mereschkowskii*, but the habit of that species of "lying curled up in a ring"; the concentric arrangement of longitudinal muscles, the absence of ventral trunk muscle bands, the very small eggs red in colour are all characters which are not those of *D. serpentinus*.

I have not yet seen the ripe eggs of *D. serpentinus* but they certainly are of the large type of egg and there is no suggestion of red colour in the eggs when nearing maturity.

*D. ruber* appears to me to be a more interesting form than *D. serpentinus*, and it is to be hoped that a more detailed description may be written of it.

## 5. Neue Isopoden-Gattungen.

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Aus der *Philoscia*- und *Oniscus*-Gruppe der Onisciden ist bereits eine beträchtliche Formenzahl bekannt geworden, welche zum weitaus größten Teil in der Gatt. *Philoscia* Aufnahme gefunden hat. Schon mehrfach wurde die Ansicht ausgesprochen, daß *Philoscia* im bisherigen Sinn keine natürliche Gattung darstelle, aber es ist bisher bei dieser reinen Meinung geblieben. Nachdem ich bereits in früheren Jahren vorläufige kurze Diagnosen einer Anzahl hierhin gehöriger neuer Arten veröffentlicht habe, unternahm ich heuer eine zusammenfassende Bearbeitung der zahlreichen Objekte, welche ich von vielen Forschungsreisen mitgebracht habe und hatte dabei Gelegenheit, teils durch Auflösung der alten *Philoscia*-Mischgruppe, teils durch Entdeckung neuer Gruppen eine Reform dieses Teiles der Oniscoidea in die Wege zu leiten.

Besonders erfreulich war mir die Wahrnehmung, daß die neuen Gruppen auch in geographisch-biologischer Weise mehr oder weniger deutlich zum Ausdruck kommen. So ist z. B. die eine Hauptgruppe ausschließlich durch Meerstrandformen vertreten, während die Formen der andern abseits vom Meere leben. Eine genaue Behandlung (nebst Ab-

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