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On a new muscle-element in the thoracic muscles of insects

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this insect, believing it to form the type of a genus previously unknown; he afterwards, however, recognised it as belonging to the genus *Anomma*, Shuck., described in 1840. He seems to think, however, that the latter name comes so near that of *Anommatus*, which was appropriated in 1836 by Wesmael for a genus of Coleoptera, that it ought to be suppressed, in which case his name would be substituted for that given by Shuckard to this genus.—*Bericht über die Verh. der Naturf. Gesellsch. zu Basel*, x. 1852, p. 175.

On a new Muscle-element in the Thoracic Muscles of Insects.

By Dr. Burnett.

Aubert* states that he has found an entirely new form of muscle-element in the *Libellulidæ*; this consists of flat, primitive, muscular bands occurring only in the thorax, and which by means of a pitcher-shaped (*becherförmigen*) apparatus move the wings.

The following are his conclusions on this subject:—

"1. The comparatively very large muscles of those insects which fly with a buzzing sound, separate, when fresh, into fine, transversely striated fibres.

"2. The fibres are the primitive muscular fibrillæ.

"3. Between the fibrillæ there is a granular mass, the use of which is unknown.

"4. All other muscles when fresh present no appearances of this kind.

"5. The *Libellulidæ* have in the thorax primitive muscular bands.

"6. The elements of the muscles are little cakes or cylinders which are applied together, forming the fibrillæ.

"7. During contraction the fibrillæ thicken, and the striæ are approximated."

These results have been confirmed by my own experience, for the thoracic muscles of insects have long been to me beautiful objects for the study of the histological elements of muscular tissues. It is a form of this tissue particularly to be recommended for the study of the intimate sarcous elements. The fibrillæ readily separate into the discs of which they are composed, and the whole field is then filled with these last floating freely about. But it is a question if these primitive fibrillæ, which are here so distinct, are not the products of definite cleavages of primitive muscular fibres. In studying them carefully with a power of 800 to 1000, we have been able to detect no remains of their early formative conditions. Furthermore, we know that the muscular fibre is the primitive embryological element of this tissue. It therefore appears to us probable that this peculiarity of the thoracic muscles of insects is due simply to readiness for cleavage, and which may be subservient to their rapid and delicate action.

Another point which we have noticed, and which Aubert also has alluded to, is the singular spiral aspect which these fibrillæ sometimes assume from an apparently irregular movement in their con-

* "Ueber die eigenthümliche Structur der Thoraxmuskeln der Insekten," in Siebold and Kölliker's Zeitsch. für Zool. iv. 1853, p. 388, taf. 15.

traction. This is particularly worthy of note now, since, recently, Martin Barry (Müller's Arch. 1850, p. 529) has advanced the doctrine of the spiral structure of muscular fibrillæ. We have not critically examined the ground on which Barry has based his views, but from our knowledge of this tissue, the phases of its formation from the earliest to the perfect state, and the various appearances it presents in different parts of the animal kingdom, we are led to venture the conjecture that its alleged spiral structure may be due to irregularities and anomalies of contraction.—*Silliman's Journal*, Sept. 1853.

DESMARESTIA PINNATINERVIA, MONT.

Some specimens of Alga, apparently new to our Flora, found floating in Lough Foyle in August 1853, were transmitted by Mr. W. Sawers of Londonderry to the late Meeting of the British Association, which were pronounced by the authorities there present to be a state of some common *Laminaria*. There were, however, peculiarities in the nervation and structure of the specimens which made this very improbable, and in the absence of Dr. Harvey, some of the specimens fell into my hands. After a minute examination and consideration of the probable affinities of the production, I applied to Dr. Montagne for his opinion, and he at once referred it to his *Desmarestia pinnatinervia*, figured from a specimen gathered on the coast of Spain, in the October number of the 'Annales des Sciences Naturelles' for 1842. The Irish specimens are indeed rather narrower, but differ in no essential character.

The species of Dr. Montagne is considered by J. Agardh as most probably a state of the broad form of *Desmarestia ligulata*, and this view is confirmed by Messrs. Crouan, who refer it as a variety to *D. Dresnaji*, Lamouroux, which is regarded as a form of *D. ligulata* by J. Agardh.

There is however a peculiarity of structure, as noticed both by myself and Mr. Sawers, which no one seems to have recorded, namely that the dark specks with which the specimens are sprinkled, and which exist equally in Dr. Montagne's plant, consist of red creeping anastomosing beaded cells, just like those of a young *Callithamnion*. It is possible, however, that these may be extraneous. It would be very desirable to compare very young specimens of the narrow form of *D. ligulata* with Mr. Sawers's plant, and till this is done, some doubt must still exist as to the real nature of the production. The youngest individuals that I have seen, sent to me by Mrs. Griffith, though retaining their disc, are already repeatedly divided.—M. J. B.

On Oligoneuria rhenana. By Dr. L. IMHOFF.

Every year, usually in August, many thousands of an Ephemera make their appearance for several days together in this town (Basle). During a considerable series of years they appeared at the end of this month; in the year 1834 they were observed at its commencement; in 1851 they delayed their appearance until early in September. They are produced in the Rhine. A few hours before sunset, but not earlier, a few of these insects may be seen fluttering along