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XLVIII.—Description of a new species of *Epeira*

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tons of fishes in the Museum of the Royal College of Surgeons; but the search for any display or representation of the new bones in that great collection proved equally fruitless.

On the 4th of November succeeding, Mr. James Flower, the eminent articulator, kindly showed me dissections which, in consequence of my having submitted the new bones to his examination on the 4th of August preceding, he had recently made of the skull of the codfish. And I was gratified to learn that he had thus not only confirmed my discovery but added to it the discovery of other and similar bones. They are all of the squamous kind, and shaped something like small and deep limpet-shells, and occur, as before said, connected with the postfrontals and also with the squamosals or mastoids and the epiotics or paroccipitals; so that, on each side of the head, there is a short chain of the new bones sloping backwards from the postfrontal to the epiotic.

Provisionally, the postfrontal ossicles, one of which is now figured, may be called, from their situation and for convenience, *expostfrontals*.

A correct understanding of "the bones which enter into the composition of the skull of the fish" is said to be "the key to the composition of the skull of all Vertebrata." But now it seems that all these bones or pieces in fishes have not hitherto been recognized, much less understood; while it is obvious that, until every part of their skull has been estimated at its true value separately, as well as with its connexions in the species and homologies as regards other Vertebrata, no complete view can be given of this important part of osteology.

And, no doubt, now the profound practical knowledge of Mr. James Flower, to whom this science is so much indebted, has been directed to the facts, they will be so displayed in our national museum of anatomy as to afford, under the care of the excellent professor and conservator, every facility for further investigations.

Canterbury, Nov. 9, 1869.

XLVIII.—*Description of a new Species of Epeïra.*

By JOHN BLACKWALL, F.L.S.

Epeïra Mengii.

Length of the female $\frac{5}{8}$ of an inch; length of the cephalothorax $\frac{1}{10}$, breadth $\frac{1}{8}$; breadth of the abdomen $\frac{1}{8}$; length of an anterior leg $\frac{5}{8}$; length of a leg of the third pair $\frac{1}{2}$.

The cephalothorax is convex, glossy, compressed before,

truncated in front, rounded on the sides, and has a large indentation in the medial line of the posterior region; it is of a pale yellowish-brown colour, with a somewhat obscure soot-coloured band, which is bifid before, extending from the medial indentation nearly to the eyes, and a short streak of the same hue directed backwards from each lateral pair of eyes. The falces are powerful, conical, convex near the base in front, somewhat inclined towards the sternum, armed with teeth on the inner surface, and of a brownish-yellow hue, the anterior convexity being rather the darkest. The maxillæ are straight and increase in breadth from the base to the extremity, which is rounded; they are of a dull reddish-brown colour, being darkest in the medial line. The lip is semicircular; and the sternum is heart-shaped, with prominences on the sides, opposite to the legs. These parts are of a dark reddish-brown hue, the base of the former and the lateral margins of the latter being much the darkest. The legs are long, slender, provided with hairs and erect black spines, and of a yellowish-brown colour, the tibiæ and metatarsi of the third and fourth pairs having a few obscure brownish annuli; the first pair is the longest, then the second, and the third pair is the shortest; each tarsus is terminated by three claws of the usual structure, and below them there are several smaller ones. The palpi resemble the legs in colour, but they are without annuli, and have a slightly curved, minutely pectinated claw at their extremity. The eyes are seated on black spots on the anterior part of the cephalothorax; the four intermediate ones nearly form a square, the two posterior ones being rather wider apart than the anterior ones, which are seated on a slight prominence; and those of each lateral pair are placed obliquely on a tubercle, and are near to each other, but not in contact. The abdomen is oviform, sparingly clothed with short hairs, convex above, and projects over the base of the cephalothorax; at its junction with the latter part a semicircular brown mark occurs whose convexity is directed upwards; on the upper part there is a large, olive-brown, leaf-like mark, minutely freckled with pale-yellow, and more or less tinged with red, on the posterior half of whose sinuous margins there are several black spots; the anterior part of this leaf-like mark is the broadest, and comprises a large irregular white mark, to which succeed several somewhat triangular ones that diminish in size as they approach the spinners; the entire series is bisected longitudinally by a fine ramified black or brown line; on each side of the leaf-like mark there is a broad, irregular, white band, sometimes having a tinge of pale red; the sides have a dark-brown hue mottled with pale yellow, and the under part, which

is of a yellowish colour reticulated with brown, has a broad, dark-brown longitudinal band in the middle, bounded on each side by a yellowish-white line; two yellowish-white spots occur on each side of the spinners; and the branchial opercula have a brownish-yellow hue, that of the sexual organs, which are moderately developed and glossy, being reddish-brown.

The male is smaller and darker-coloured than the female; but its legs are longer, an anterior one measuring $\frac{1}{4}\frac{3}{4}$ of an inch, and those of the third and fourth pairs are commonly without dark annuli. There is a general resemblance in the design formed by the distribution of the colours on the upper part of the abdomen of both sexes, but it is not so well defined in the male as in the female. The cubital and radial joints of the palpi are short, the latter, which is the longer, having a very minute apophysis at its extremity in front; the digital joint consists of three parts: one, which is straight and glossy, with a minute process on its outer side, projects in front; another, united to the base of the former on its outer side, is slender and hairy; and the third, which is much the largest, is somewhat oval, greatly contracted at the base, convex and hairy externally, and concave within; all are connected with the palpal organs, which are moderately developed, not very complex in structure, with a strong piece curved obliquely from the upperside to their extremity, and are of a dark red-brown colour. The convex sides of the oval parts of the digital joints are directed towards each other.

This spider, which varies greatly in colour, is of frequent occurrence in Denbighshire, constructing its symmetrical snare in the intervals between the slender branches of low bushes, especially of such as grow in woods. In its structure, habits, and economy it bears a very close resemblance to *Epeïra inclinata*, but it is smaller and lighter-coloured than that species, and constantly begins to pair early in June, about three months sooner than its nearly allied congener.

M. Menge, in his 'Preussische Spinnen,' p. 88, pl. 14. tab. 24, has noticed several minute particulars in which the spider above described appears to differ from *Epeïra inclinata* (*Meta segmentata*, Menge), but does not consider them of sufficient importance to constitute a species. The interesting fact already alluded to, of which M. Menge probably may not be cognizant, namely, that the times at which these spiders respectively arrive at a state of maturity are separated by a period of rather more than three months, I regard as such conclusive evidence of their specific distinctness that I do not hesitate to confer on this *Epeïra* the name of the distinguished Prussian arachnologist.