

towards the distal extremity, where it is prolonged into a flat and narrow pollex that articulates with a similarly formed dactylos. The entire appendage is spinous, the spines being of a similar character to those on the body of the animal. They are larger on the upper and lower margins of the meros, the largest existing at the upper distal or carpal angle. A large tooth or spine exists on each side at the base of the dactylos. The dactylos is spinous on the inner and outer margins, having very regularly three short to one long tooth on the outer margin, and four or five short to one long one on the inner side; this is the case with the inner side of the pollex also, the outer side of which is smooth.

The second pair of pereopoda is very slender, smooth, chelate, and cylindrical; the meros and carpos are subequally long, and the propodos is short.

The third pair is slightly spinous, much more so than either of the others, and more robust than the second; the carpos is shorter than the meros, but larger than the propodos.

The fourth pair is about the same length as the third; the five first joints are spinous; the propodos is slender, longer than the carpos, and smooth; the dactylos is slender and styliform; the meros is armed with a strong tooth at the upper distal angle.

The fifth pair resembles the fourth in most points, except that the propodos is still longer than the carpos, and has the inferior distal angle (*o*) produced to a point that resembles a short, obtuse pollex; the dactylos is fringed with hairs on the outer side.

Each of these pairs of appendages, except the posterior, carries a mastigobranchia and its corresponding podobranchial plume, and two arthrobranchiæ. The four posterior pairs carry, moreover, a corresponding pleurobranchial plume.

The branchiæ may be arranged according to the following table:—

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|------------------|---|---|---|-----|-----|-----|---|---|---|-----|
| Pleurobranchiæ, | . | . | . | ... | ... | ... | 1 | 1 | 1 | 1 |
| Arthrobranchiæ, | . | . | . | ... | 2 | 2 | 2 | 2 | 2 | ... |
| Podobranchiæ, | . | . | . | 1 | 1 | 1 | 1 | 1 | 1 | ... |
| Mastigobranchiæ, | . | . | . | 1 | 1 | 1 | 1 | 1 | 1 | ... |
| | | | | h | i | k | l | m | n | o |

The podobranchiæ and pleurobranchiæ are the largest, and the arthrobranchiæ are the least important; the four plumes correspond to each other according to the position shown in the diagram on Pl. XXII. The podobranchiæ (*pd. b.*) overlie the others, and the pleurobranchiæ (*pl. br.*) are below them; lying between them on each side, anteriorly (*ar. b.*) and posteriorly (*arth*), are the arthrobranchiæ, having but a single row of digital processes on the inner side, and these lie between the base of the podobranchia and the upper surface of the pleurobranchia; the outer surface of each is furnished with a number of closely-packed digital processes, the various parts being kept separate by numerous long and slender hairs attached to the base or stalk of the podobranchial plume, and also to the surface of the anterior and posterior mastigobranchiæ (*m. b.*) which divide and separate