

of the rib behind. They are very closely related to the accessory intercostal muscles which arise from the uncinatè processes.

*Relations.*—These muscles occupy the whole of the interval between any two vertebral ribs extending from the vertebral column above to the junction of the vertebral with the corresponding sternal ribs below. They do *not* occupy the intervals between the sternal ribs.

*Nerve supply.*—Branches of the intercostal nerves.

### 5. *Accessory external intercostal muscles.*

*Attachments.*—These muscles are superficially placed with reference to the external intercostals, to which they may be regarded as accessories. Each *arises* from the whole length of the posterior border of an uncinatè process, and passing obliquely backwards and downwards, is *inserted* into the outer surface of the vertebral rib next behind that to which the uncinatè process belongs. These slips correspond in number to the uncinatè processes, and are therefore absent in the case of the first and last ribs.

*Action.*—These muscles elevate the ribs into which they are inserted, and are therefore muscles of inspiration.

*Relations.*—The accessory muscles rest upon the external intercostal muscles, from the anterior fibres of which they can scarcely be separated.

*Nerve supply.*—Twigs from the intercostal nerves.

*Remarks.*—In connection with these muscles, it may be as well to refer to a number of aponeurotic slips which attach the uncinatè processes to the corresponding ribs. Each of these consists of a stout aponeurotic plate, triangular in form, which is attached by its apex to the anterior border and free extremity of the uncinatè process, while its base is attached to the posterior border of the vertebral rib to which the process belongs. These aponeurotic slips overlap each other from behind forwards, and serve to strengthen the articulation between the rib and its uncinatè process. By thus fixing the uncinatè process they afford a *point d'appui* from which the accessory intercostal muscles may act in raising the ribs during inspiration.

### 6. *Internal intercostal muscles.*

*Les muscles intercostaux*, Vicq d'Azyr, 1774, p. 520, No. 1.

*Die innere Zwischenrippen-Muskeln*, Tiedemann, p. 301, No. 7.

*Intercostaux internes*, Meckel, vol. vi. p. 17, No. 3.

*Intercostaux internes*, Cuvier, vol. i. p. 219.

*Intercostales interni*, Selenka, vol. vi. p. 104, No. 28.

*Muscles intercostaux*, Gervais and Alix, p. 13.

*Attachments.*—These muscles occupy the intervals between the sternal ribs, and extend