

the *Cercopithecus*, the *Macacus*, the *Pithecia*, and the *Hapale*, all possess a two-headed flexor brevis hallucis. In many cases, as for example in the Gorilla and *Hylobates*, the outer head is very weakly developed, and as this author expressively terms it "pressed into the deep" by the adductor obliquus. In the Orang it is fused with the oblique adductor, and the double constitution of the muscle thus formed is manifested by its receiving its nerve-supply partly from the internal plantar nerve, and partly from the deep division of the external plantar nerve (Ruge<sup>1</sup>).

But Ruge is of opinion that the outer head of the flexor brevis hallucis must be regarded as a derivative of the inner head of the same muscle. He says:<sup>2</sup>—"In *Ateles* the flexor brevis is a single muscle which is sharply separated from the adductor obliquus by the tendon of the long flexor. It is inserted into the inner sesamoid bone. In *Cercopithecus* the outer flexor is only represented by distal muscular fibres that run from the inner sesamoid bone, under the tendon of the long flexor to the outer sesamoid bone. In *Cebus* these muscular bundles under the long flexor tendon are separate, and now indeed represent a perfectly distinct muscle. It lies between the inner flexor and the oblique head (of the adductor), covered by the tendon of the long flexor."

From these facts, however, we might argue in the opposite direction, and suppose a process by which the outer head, already developed, is gradually reduced in size, and finally absorbed by the inner head. We consider this the more likely interpretation, seeing that a two-headed flexor brevis hallucis is by no means an uncommon occurrence in the lower Mammals.

In the *Cynocephalus sphinx* a very beautiful example is afforded of the manner in which the outer head of the flexor brevis hallucis is reduced in size, and pressed deeply into the interval between the adductor obliquus and inner head of the flexor brevis so as to assume, in fact, a position corresponding to that of a plantar interosseous muscle. In the Lemur there is no trace of the outer head. The oblique adductor<sup>3</sup> is largely developed, but as it draws its nerve supply from the deep division of the external plantar alone, it is not likely that it contains in its midst the lost head of the flexor brevis hallucis.

*Flexor brevis minimi digiti*.—It is commonly asserted that this muscle in the Ape consists of a single external head. I believe, on the other hand, that it is almost invariably two-headed.<sup>4</sup> The inner head, however, (as is so frequently the case with the outer head of the flexor brevis hallucis) is very often pressed deeply into the sole so that its identity becomes obscured. It is then described under the cognomen of the "third plantar interosseous," muscle.

<sup>1</sup> *Loc. cit.*, p. 651.

<sup>2</sup> *Loc. cit.*, p. 654.

<sup>3</sup> Murie and Mivart describe and figure this muscle under the name of flexor brevis hallucis (*loc. cit.*, p. 86, fig. 30, pl. vi., *f.b.h.*).

<sup>4</sup> In the Chimpanzee which I dissected, the inner head of the flexor brevis minimi digiti (third plantar interosseus) was alone present. The outer head was absent, or rather completely converted into an opponens. In the Chimpanzee which Rolleston examined, this also was the case, but Champneys found an outer head in his specimen.