

slender, but they gradually become stouter and club-shaped (Pl. X. fig. 1). Proceeding still further back they diminish greatly in numbers, become stunted and conical, and finally arrange themselves in parallel longitudinal rows (Pl. X. figs. 2, 3, and 4). About 16 inches above the anal orifice they disappear.<sup>1</sup>

Plate X. fig. 5 represents a small portion of the intestine of the Lion, inverted to show the villous surface. Comparing this with fig. 1 it will be seen that the character of the villi in the *Thylacine* is altogether different. In the former the mucous surface is fleecy, and in the latter it is shaggy.<sup>2</sup>

*Peyer's patches.*—One Peyer's patch of enormous extent begins about 16 inches above the anus, and extends forwards for  $22\frac{1}{2}$  inches in the male, and 14 inches in the female. It is not placed opposite the mesenteric attachment but coincides with it, and it presents a minutely honey-combed appearance. In connection with this patch the mucous membrane is elevated into a feebly-marked ridge which runs along its whole length, and frequently divides and reunites. Alveolar pits are grouped upon and on either side of this ridge. Figure 3 (Pl. X.) represents the lower end of this patch.

In addition to this large patch there are several others placed further forwards in the gut (viz., three in the male and five in the female). In the male these were from one to two inches long; in the female they were with one exception (viz., that figured in Pl. X. fig. 4) not more than half an inch long. The small Peyer's patches are much obscured by villi, and can only be detected by a careful search.

In the rectum the mucous membrane is perfectly smooth, and is everywhere perforated with the minute orifices of Lieberkühnean glands. These are quite visible to the naked eye.

The intestinal canal is suspended from the upper abdominal wall by a simple mesentery.

### *Cuscus.*

*Stomach.*—This stomach is smaller than that of the *Vulpine phalanger*. It is pyriform in shape with the pyloric end bent upwards upon itself, and held in position by a strong band which bridges across, and continues the lesser curvature over the constriction. When this band remains uncut the œsophagus joins the stomach at the middle of the lesser curvature; when it is divided and the pyloric end of the stomach freed, the gullet enters much nearer the left than the right extremity of the curvature.

The cardiac cul-de-sac rises high above the cardiac orifice, and the œsophagus traverses the abdomen for fully an inch before it enters the stomach.

<sup>1</sup> The mucous lining of the intestine of the *Dasyurus viverrinus* is provided with extremely small villi, barely visible to the naked eye. They are filamentous in form and are sparsely set. The zone of glands mentioned by Professor Owen (Proc. Zool. Soc., 1835), as being present at the commencement of the duodenum of the *Dasyurus macrurus* is apparently absent in the *Viverrine Dasyuro*. It is also absent in *Thylacine*.

<sup>2</sup> The villi of the anterior part of the intestine in *Thylacinus* are very similar to those in the small intestine of the Rhinoceros. They are quite as long, but are not nearly so thickly set upon the mucous surface.