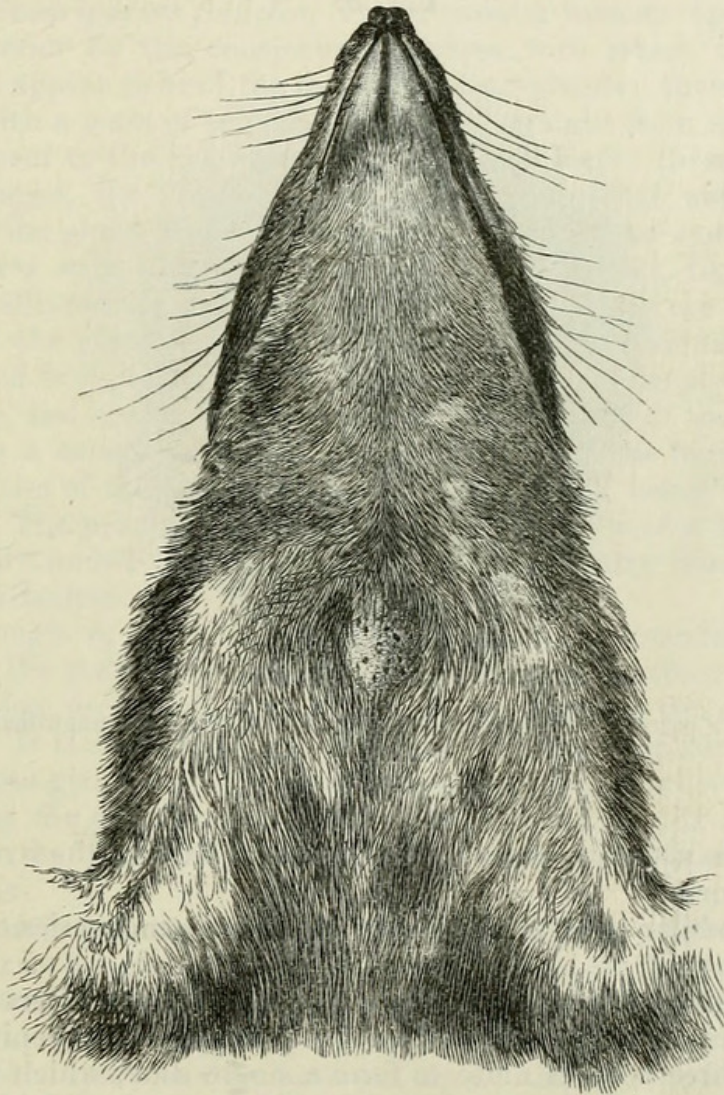


2. Note on a Point in the Structure of *Myrmecobius*. By FRANK E. BEDDARD, M.A., F.Z.S., Prosector to the Society.

[Received June 23, 1887.]

The accompanying drawing (fig. 1) represents the under surface of the head and anterior region of the thorax of *Myrmecobius fasciatus*. The specimen from which the drawing was made is preserved in spirit in the Natural History Museum, and is an adult female; the drawing is intended to illustrate a remarkable glandular

Fig. 1.



Under surface of head of *Myrmecobius fasciatus*.

structure situated just anterior to the sternum. Mr. Thomas directed my attention to this modified region of the integument, and asked me to investigate its minute structure.

The drawing referred to is of the natural size, and shows some of the peculiar features of the glandular patch; these are better shown

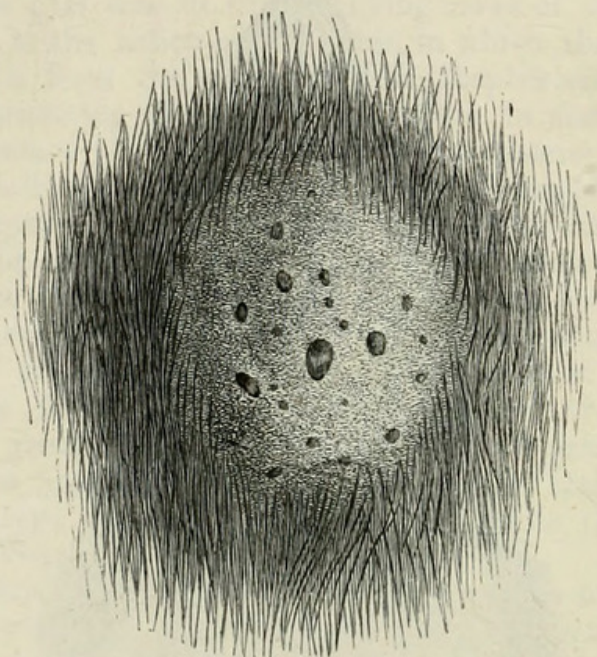


in another drawing (fig. 2), which represents only the glandular patch, magnified about 5 diameters.

It will be seen that in this region the integument is naked or nearly so, and its surface is studded with numerous apertures of various sizes, some being very much larger than others.

An incision through the middle line of the gland shows that the integument is considerably thickened in this region, forming a lens-shaped mass. Large glandular cavities are seen on a naked-eye inspection to be continuous with the external orifices, and to extend as far as the lower surface of the dermis. The material was not in a thoroughly good condition for microscopical research ; but I have

Fig. 2.



Glandular patch of *Myrmecobius fasciatus*, more highly magnified than in Fig. 1.

been able to make out some of the principal facts in the structure of the integument.

The glandular apparatus consists of four distinct series of glandular structures.

(1) *Sweat-glands*, which present the ordinary characters of these glands, being contorted tubules, with a lining of cubical epithelium ; as a rule three tubules unite to form a single duct, which traverses the dermis and epidermis, and opens very often in the neighbourhood of a hair-follicle. These sweat-glands are isolated, usually in groups of three, and form a compact oval body imbedded in the muscular tissue of the dermis. Very often the duct of these glands opened, as already stated, directly upon the outer surface of the body ; and in these cases the duct generally appeared to me to be straight, or at least approximately so ; I never detected the corkscrew-like outline



of the excretory duct, which is so generally met with in sweat-glands. The lumen of the duct is extremely fine.

In many cases the duct, formed by the coalescence of the ductules of the several tubules, instead of passing directly on to the exterior of the body, was seen to open at the base of a sudoriparous follicle; in this case the duct appeared to maintain its independence, and to pass through the follicle on to the exterior, not to become continuous with one or more of the glandules in the follicles.

(2) *Sebaceous glands*. In the description of the naked-eye characters of the glandular patch, it has been stated that it is bare without any hairs; a microscopical study shows, however, that there are a few hairs situated chiefly at the periphery; these are generally furnished with a pair of sebaceous glands presenting the ordinary characters.

(3) *Sudoriparous follicles*. The glandular follicles opening on to the exterior by the conspicuous orifices with which the patch is covered appear to be of the nature of sweat-glands; these follicles are filled with a mass of tubules which pass straight from their point of attachment to the external aperture of the follicle; these tubules are club-shaped, the lower extremity being somewhat swollen. This part of the gland is composed of cells which agree exactly in their characters with the cells of sebaceous glands, and, like them, are hardly affected by borax carmine; very frequently the lower extremity of the gland appeared to be bifid. The individual glands are separated from each other by cells which stain deeply with borax carmine, and are in every way similar to the cells of the epidermis; there is a complete layer of these cells lining the follicle, and the extremities of the glands have the appearance of being imbedded in them. The proximal part of each gland consists of a long straight tube surrounded by layers of unstriped muscular fibres and lined with epithelium.

Although in many particulars these glands resemble sebaceous glands, the presence of muscular fibres is, in the present state of our knowledge, decisive in favour of referring them to the sudoriparous series. It is clear, however, from the above description and figures that these glands differ in many points from the typical sweat-glands.

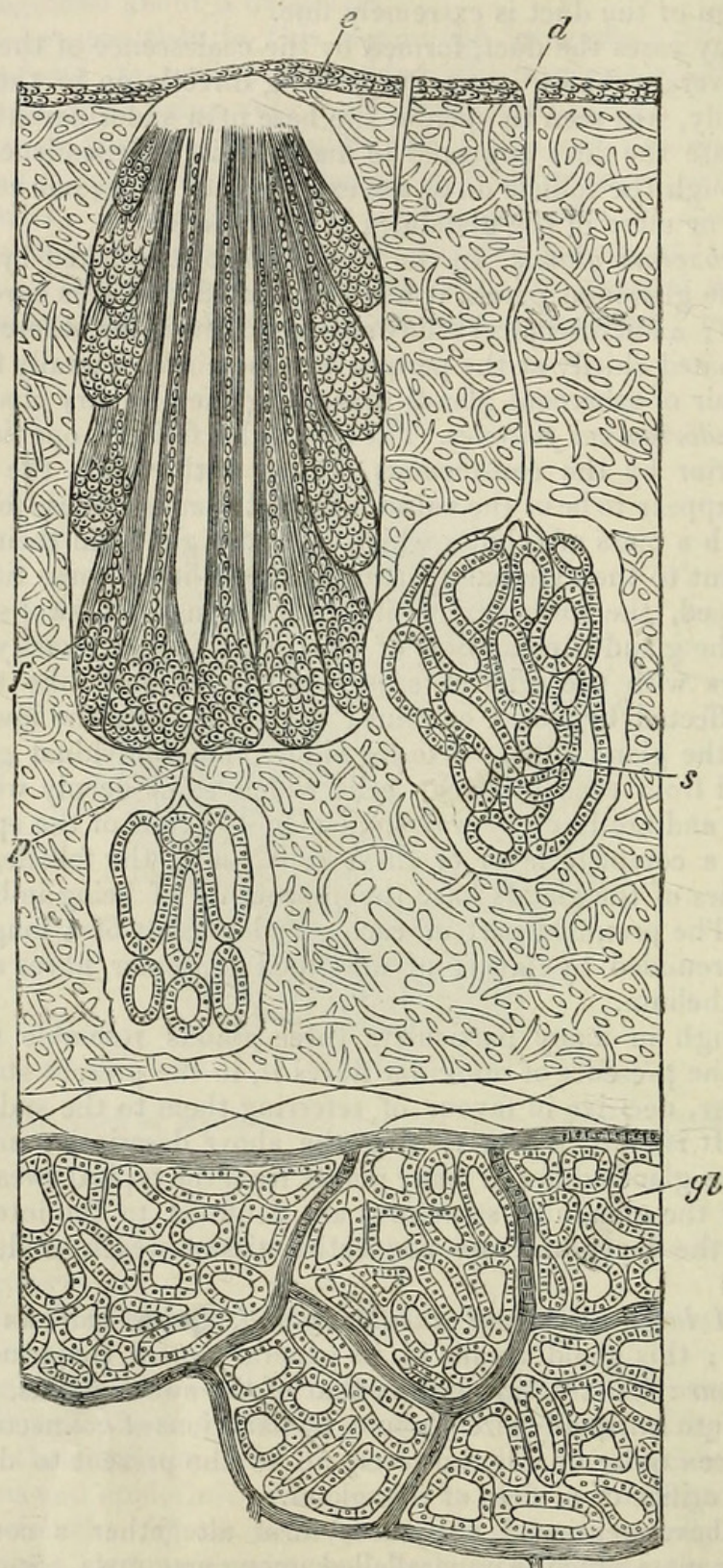
So far the glandular structures are confined to the integument; beneath the layer of loose connective tissue which underlies the dermis is

(4) *A large compound tubular gland*, quite half an inch in diameter; this gland recalls in its general aspect the arm-gland of *Hapalemur*; its structure is like that of the sweat-glands, and it is divided into unequally-sized lobules by partitions of connective tissue. I have been quite unable, however, up to the present to detect the external orifice or orifices of this gland.

The above-mentioned structures form altogether a complicated glandular mass which is unparalleled among mammals. Special tegumentary glands produced by a local hypertrophy of sebaceous or sweat-glands are extremely widely spread among the Mammalia; but I am not acquainted with any integumental glandular structure which has so complex a character as the sternal gland of *Myrmecobius*. What



Fig. 3.



Minute structure of glandular patch.

*e*, epidermis; *s*, sweat-gland; *d*, its duct; *p*, duct of sweat-gland opening into sudoriparous follicle; *f*, sudoriparous follicle; *gl*, compound sweat-gland lying below dermal muscles.







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