Cover, E.- Outer ear of *Blarina brevicauda*.

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THE OUTER EAR OF BLARINA

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CAMBRIDGE, MASS.

By DR. ELLIOTT COUES, U.S.A.

(Reprinted from the American Journal of Otology, July, 1879.)

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THE OUTER EAR
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BY
DR. ELLIOTT COUES, U.S.A.

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THE OUTER EAR OF BLARINA BREVICAUDA.

By DR. ELLIOTT COUES, U.S.A.

THIS animal has sometimes been described as having no external ear, and even named technically ("Anotus") from this alleged circumstance; but the orifice of the external meatus is extremely large, and the folds of skin which constitute an auricle are prominent and of remarkably complicated structure. Though the presence of a large auricle is now known, I have seen no sufficient description of its structure. On viewing the parts when the fur is undisturbed, no ear whatever appears, because the flap of integument is folded so closely forward as to lie quite smoothly, completely closing the meatus like a valve, and showing only its back surface, which is as densely hairy as the rest of the integument about the ear. But, on pushing or blowing the fur aside, and opening up the parts, the orifice gapes widely; its longest diameter is a fourth, if not three-tenths, of an inch in extent; it is oblique in general direction, upward and backward; the general cavity seems naked, but is really beset with numberless colorless hairs, so minute as to be invisible except under the lens. In advance of this closely pilous surface is a somewhat crescentic margin of absolutely naked skin, with the outer border of which latter the common furry integument of the head is continuous, without a trace of a raised rim. This naked crescentic strip is that against which the border of the flap of the ear is applied, fitting closely. At the back of the pilous surface certain folds of naked integument rise to meet the attached base of the auricle, and another such fold curves around the true orifice of the meatus externus, circumscribing this aperture posteriorly. Anteriorly it is circumscribed still more conspicuously by a fold of the common integument. The meatus itself is a nearly circular opening, at least a tenth of an inch in diameter, situate at the bottom of the general cavity I am

describing. All the parts thus far noted are independent of the valvular annicle. This flap consists of three portions. Externally and posteriorly it is a long, loose fold of the common integument, with convex free border, densely furry externally, and completely circumscribing the general orifice; above, it sinks into the general integument; below, it is continuous with the fold of integument which circumscribes the orifice of the true meatus, a slight notch separating them, like the notch above the lobule of the human ear. This general exterior fold is the true helix. Attached to the inner naked surface of the helix are two prominent folds. One comes vertically down, from the point above where the helix sinks into common integument, to below the middle of the helix, where it is attached; it looks like a secondary helix inside the main one; it is obviously the anti-helix. Its free border is fringed with long hairs. The other one of the two prominent folds is an anti-tragus, which rises vertically from the lower margin of the helix, just behind the notch above mentioned, and then curves inward to subside in the anti-helix; its free border is fringed, like the anti-helix, with long hairs; the structure is as prominent as in some bats. The parts are very difficult of concise verbal description in terms producing a mental picture of their structure and arrangement. But it will be seen that the animal, so far from being "anotous," or even "cryptotous," has a very large, open meatus externus and a highly developed, complicated auricle or pinna, in which helix, anti-helix, and anti-tragus are prominent—in which, in short, the principal parts of the human ear may be fully recognized, excepting the lobule. The point is simply that these parts are hidden in life by the adpressed pinna, which is directed forward to cover in the whole arrangement, and which, being furry on the posterior (now become external) surface, looks like the rest of the integument. If one will simply fold his own ear closely forward, and imagine the lobule absent, he will have a fair idea of the relations of the parts, though they are much larger and better defined in this shrew than in the human species.

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