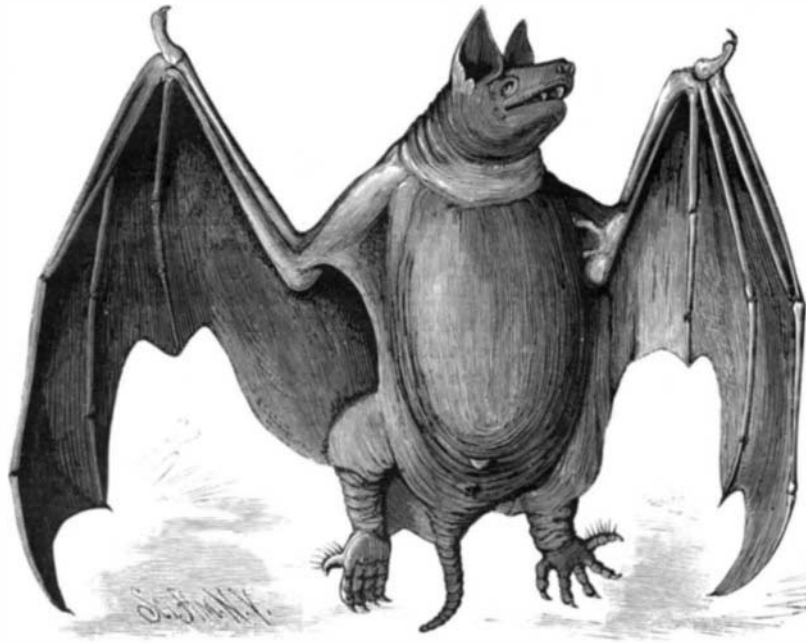


**THE CHEIROMELES.**

BY FREDERIC A. LUCAS.

If the curious bat (*Cheirodeles torquatus*) shown in the accompanying engraving is not the most singular member of the order cheiroptera, it certainly has very few rivals. The skin is thick, almost naked, and marked with deep wrinkles, so that the animal has something the appearance of a diminutive pachyderm. Like the other members of the small sub-family to which it belongs, the cheiromeles has long, narrow wings which fold compactly up, very little membrane in front of the fore arm, and feet entirely free from the wing membrane. It thus has greater freedom of movement than bats usually possess, and the creature can crawl so rapidly over the ground that it is not an easy matter to pick it up. The first toe is quite separate from the others, and is furnished with stiff hairs along the outer edge. The thick round tail is free for more than half its length, and the interfemoral membrane is movable upon it, thus allowing the extent of surface exposed to the air to be increased or diminished at will, and probably aiding the animal in its rapid turns while in pursuit of the insects on which it lives. The lips are thick and extensible, and the teeth sufficiently large and sharp to crush with ease the hardest beetles. Beneath the neck, running from shoulder to shoulder, is a deep fold or sac, which receives an oily secretion from glands situated in the upper pectoral muscles. But the most peculiar feature of the cheiromeles, and one not found in any other species of bat, is a sort of inverted pocket situated beneath either arm pit, formed by a fold of skin running obliquely downward and inward from the elbow. Dr. Dobson suggests that these pouches are to support the young, which otherwise would be unable to maintain a hold on the naked body of its mother during flight. The mammae are situated at the upper end of these "nurse pouches." As both male and female have these pockets it is probable that when two young are born the male takes charge of one. This bat is nearly eight inches in length from nose to tip of tail, and twenty-two inches across the wings. It is of a dingy lead color, and dwells in holes in trees. Although not at all common, the cheiromeles has quite an extensive range, being found in Java, Borneo, Sumatra, and the Malay Peninsula.

It lives only in wilds far from the habitations of men, where its peculiar voice may be frequently heard; it has some similarity to the notes of the wild wood-pigeon, but is far louder and accompanied with guttural tones, and is uttered so suddenly and with such vehemence that it has a very startling effect. Sometimes one can catch a glimpse of these birds as they walk proudly upon the sand banks near the rivers. If they are approached they fly up and resemble in the broad surface of their wings, their coloring, and flapping, the urubu, or black vulture. They perch upon the top



**CHEIROMELES TORQUATUS.**

of thickly foliated forest trees, and though they can seldom be seen, their loud, shrill voices indicate their whereabouts. In the brooding tiny they are found in pairs, sometimes four or six individuals joining together. The food of the horned screamers consists chiefly of vegetable substances, such as the leaves and seeds of aquatic plants, in search of which they wade through the morasses. Their flight is strong and easy, their walk erect and bold, and their mien lofty like that of the eagle. Their nests are found upon the ground in the forest marshes not far from rivers; they contain two large white eggs, and consist only of a few twigs. The

minutes will suffice. The skins are then passed to a pressing roller of sufficient power to separate the burrs, yolk and other impurities. 3d. The skins are then as quickly as possible and while still warm submitted to a beating machine. The object of this beating operation is to purify them of all foreign matters, and at the same time to wash them thoroughly with cold, tepid, or hot water, which is made to fall in abundance between the drum of the machine and the apron supporting the skin. 4th. The skin on the flesh side is then passed to this same beating machine, which cleanses it, renders it more supple, and disposes it to receive the tanning matter. 5th. The skins thus prepared are steeped about one hour in tepid water, or four to five hours in cold water, which operation completes the softening. 6th. They are then passed to a pressing roller to extract all the water and leave fifteen to twenty per cent of moisture. 7th. On the flesh side is applied, either by hand or mechanically, one of the known drugs composed *ad hoc*, constituting the tanning matter. In order that the action on the leather may be complete the skins are placed in piles for five to ten hours, after which they are hung up to dry. 8th. The leather is now moistened with a rag or sponge, and the skins are replaced in piles for five to ten hours to soften the leather and permit of cleaning the flesh side. 9th. The hides are stretched and are then passed to the softening iron, always on the flesh side, and the skins are scoured and tanned. There now remains only the 10th, or velveting operation, which is effected thus: By the scouring and beating system the staple of the wool is perfectly preserved and each fiber is in place. It then suffices to pass the skin on the wool side to the gig machine, which replaces all the staples where they had been displaced in the tanning operation, and causes the skin to part with what little tanning drug it may contain in the wool. After this the skins are passed to the

**Wool Velvet.**

According to *L'Ingénieur Universel* an extremely novel and interesting process has recently been discovered by M. Puech, of Mazamet, France, by which the wool on sheepskins may be transformed into velvet. Up to the present time sheepskins tanned with the wool on have only been used for mats, linings of coats, etc., and the wool not having been subjected to any preparation, is always matted or curled. Seeing that the innumerable fibers are naturally disposed in a most regular and perfect order, eminently fit for velveting,

M. Puech conceived the idea of cleansing the skin and wool of all impurities, and of so preparing and dressing them that the hairs would be well preserved and not entangled one with the other, the occurrence of the latter contingency being, of course, fatal to the success of the operation. After long and continuous experiments success has been achieved in the following manner: The *modus operandi* is divided into ten principal operations, the 1st, 2d, 3d, and 4th relating to the complete scouring of the skins on the wool side and cleaning them on the flesh side, and the 5th, 6th, 7th, 8th, and 9th to tanning and preparing the skins so that the perfect adherence of the wool to the skin is insured; finally, by the 10th operation, the skin is submitted to special machines for preparing the wool like velvet.

The following are the ten numerically arranged and successive operations referred to as constituting the process: 1st. An ordinary water bath is prepared at a temperature of from 45° to 50° Cen., to which a scouring substance of some sort is added, such as crystal or soda salt, soap, and so forth, in which the skins are steeped. 2d. If dry skins are operated on, such as come from America or other foreign country, they are steeped eight to ten minutes, but for fresh or recently slaughtered skins three or five

**THE HORNED SCREAMER.**

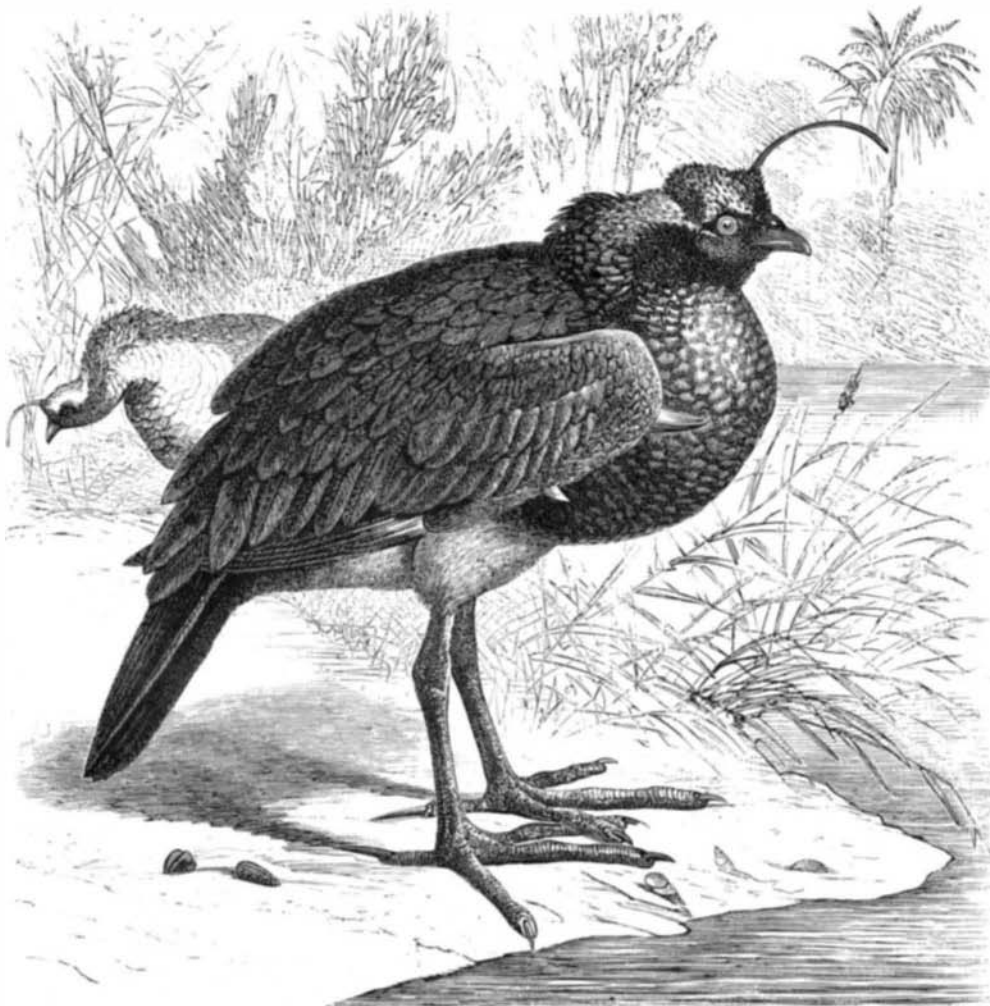
The horned screamer (*Palamedea cornuta*) is found in Central Brazil and northward in Guinea and Columbia. On account of the horn on the crown of its head, the thickly feathered wings, short head, and neck feathers, it will be recognized as a representative of the family of horned birds.

The horn, fastened only in the skin, rises from the brow about five-eighths of an inch from the root of the bill. It is slender and from four to six inches long, standing nearly erect, but slightly curved toward the front. Its diameter at the root is one-eighth of an inch, and it may properly be compared to a catgut string.

The horned screamer is armed with two spurs on each wing; the upper one on the bend of the wing is triangular and very pointed. It is about nine-sixteenths of an inch long and almost imperceptibly curved outward. The lower one is only five-sixteenths of an inch long, almost straight, and very strong.

The soft velvety feathers of the upper part of the head are of a light gray, black toward the tip. The throat, neck, back, breast, and tail are blackish brown, the shoulders and large wing coverts are of a glistening metallic green, the lesser wing coverts a muddy yellow at the roots, the upper half and the upper part of the breast are a clear silver gray with a broad edge of black, the rump and belly are pure white. The eye is orange colored, the bill blackish brown, white at the tip. The horn is light gray, the feet a darker gray.

The horned screamer is a large and beautiful bird, about the size of a common turkey, and is an ornament to the primeval forests of Brazil. In traveling from the south to the north it is not generally found until the sixteenth degree of south latitude is reached, where it may be seen in large numbers,



**THE HORNED SCREAMER—(Palamedea Cornuta.)**

young follow their parents almost as soon as hatched. Their flesh is not edible. Their quills are often used for pens.

The horned screamers when domesticated are confiding and obedient, associate with fowls, and are peaceable when unmolested. They always place themselves on the defensive toward dogs, and know how to use the spurs on their wings to such purpose that they put them to flight with a single blow.

dressing machine, which commences to dress the wool, cards it also a little, and prepares it for velveting. The skin on the wool side is then gently sprinkled and beaten with a rod by hand or mechanically. This is one of the most essential operations, as the wool being then damp the rod raises it and hastens the preparation of the velvet. The skin has now to be dried and sheared with cloth shears or other apparatus having the same effect, and this completes the process.