

THE ARMADILLO.

WHEN a quadruped is mentioned, the very name seems to convey the idea of an animal covered with hair. In the same manner, when we speak of a bird or a fish, feathers and scales present themselves to the imagination, and appear to be inseparable attributes of these beings. Nature, however, as if she intended to withdraw herself from all method, and to elude our most general views, contradicts our ideas and denominations, knows nothing of our arbitrary characters, and astonishes us still more by her exceptions than by her laws. Quadrupeds, which should be regarded as constituting the first class of animated nature, and are, next to man, the most conspicuous creatures in this world, are, nevertheless, neither superior in every respect, nor separated, by permanent characters or attributes, from all other beings. The first character, that of having four feet, and from which their name is derived, is found among the lizards, frogs, &c. which differ so much from quadrupeds in every other article, that they have, with propriety, been thrown into a distinct class. The second general property, that of being viviparous, belongs not exclusively to quadrupeds, but is common to them and the cetaceous animals.

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In fine, the third attribute, that of being covered with hair, which appears to be the least equivocal, because it is the most conspicuous, exists not in several species which cannot be retrenched from the order of quadrupeds, since, with the exception of this character alone, their resemblance to each other is complete: And, as these seeming exceptions of Nature are, in reality, but the shades she employs to connect beings of the most remote kinds, we ought to seize these singular relations as often as they present themselves. The armadillos, instead of hair, are covered, like the turtles, the lobsters, &c. with a solid crust. The manis is armed with scales similar to those of fishes. The porcupine carries a kind of prickly feathers, without vanes, but having quills like those of birds. Thus, in the class of quadrupeds alone, and in the most constant and apparent character of these animals, that of being covered with hair, Nature varies by making them approach the three very different classes of birds, fishes, and the crustaceous tribes. Hence we ought never to judge of the nature of beings by a single character; for it will always be imperfect and fallacious. Even two or three characters, though extremely general, are often insufficient; and, as I have frequently remarked, it is only by the union of all the attributes, and an enumeration of all the characters, that a judgment can be formed concerning the permanent and essential qualities of the productions

of Nature. Accurate descriptions, without any attempt toward definitions, a more scrupulous examination of the differences than of the similarities, a particular attention to the exceptions, and even to the slightest shades, are the true guides, and, I will venture to affirm, the only means we possess of investigating Nature. If the time lost in framing definitions and methodical arrangements, had been employed in making good descriptions, we should not, at this day, have found Natural History in her infancy, but should have had less difficulty in removing her swaddling cloths and her toys, and, perhaps, might have advanced her age; for we should have written more for science, and less against error.

But to return to our subject. Among viviparous quadrupeds, as we have seen, there are several species of animals which are not covered with hair. The armadillos alone constitute an entire genus, which includes a number of distinct species, and all of them are covered with a crust resembling bone. This crust covers the head, neck, back, flanks, rump, and extends to the extremity of the tail. The crust itself is also covered with a thin, smooth, transparent skin. The only parts to which this crust extends not, are the throat, the breast, and the belly, which are covered with a granulated skin, like that of a plumed hen; and, upon an accurate inspection of these parts, we discover, in different places,

places, the rudiments of scales, of the same substance with the crust. Hence the skin of these animals, even where it is most flexible, has a tendency to become ossaceous; but the ossification is completed in those places only where the skin is thickest, as on the superior and external parts of the body, and on the limbs. The crust consists not of one piece, like that of the turtle, but is divided into several bands, connected to each other by membranes, which allow a certain degree of movement to this coat of mail. The number of these bands depends not, as has been imagined, on the age of the animal. The new born and the adult armadillo have the same number of bands, as appears by comparing the young with the old; and, though we cannot be certain that those which have more or fewer bands never intermix or produce, it is at least very probable, since the difference in the number of moveable bands is constant, that they are either distinct species, or permanent varieties, occasioned by the influence of different climates. In this uncertainty, which time alone can remove, we have chosen to treat of all the armadillos under one article, enumerating, at the same time, each kind as if it were a particular species.

Le Pere d'Abbeville* appears to have first distinguished the armadillos by different names, which have been adopted by most subsequent

* Mission au Maragou, par le Pere d'Abbeville, p. 247.

authors. He has pointed out pretty clearly six species: 1. The twelve-banded armadillo, or *kabassou*. 2. The eight-banded, or *tatouille*. 3. The six-banded, or *encuberto* of Marcgrave. 4. The three-banded, or *tatu-apara*. 5. The eighteen-banded, or *cirquingon*. 6. The nine-banded, or *cachibame*. The different species have been confounded by other travellers. But we have occasion to borrow the descriptions of two kinds only, having seen the other four.

All the armadillos, except the eighteen-banded, have two bony shields, one on the shoulders, another on the rump. Each of these consists of one solid piece. But the cuirass, which is likewise ossaceous, and covers the body, is divided transversely into more or fewer moveable bands, connected by a flexible skin. But the armadillo with eighteen bands has one shield only, which is upon his shoulders. The rump, instead of a shield, is covered with moveable bands, similar to those above mentioned. We shall now describe each species particularly, according to the number of bands.

THE THREE BANDED ARMADILLO*.

CLUSIUS is the first author who describes this animal; and, though his description was taken from a drawing only, it is easy to perceive, from the remarkable characters of having three moveable bands on the back, and a short tail, that it is the same species of which Marcgrave has given a good description, under the name of *Tatu apara*. The head is oblong, and almost pyramidal; the eyes are small, the ears short and rounded, and the top of the head is covered with a helmet consisting of one piece. On all the feet there are five toes. The two middle claws of the fore feet are very large, the two lateral

* It has short, but broad rounded ears. The crest on the head, back, and rump, is divided into elegant pentangular, suberculated segments. There are three bands in the middle, five toes on each foot, and the tail is short; Pennant's *Synops. of Zood.* p. 321.

Armadillo, seu tatu genus alterum; *Clyst. Exot.* p. 109.

Tatu apara; *Mareg.* p. 232. *Rail Synops. Zood.* p. 234.

Tatu seu armadillo; *Pison. Hist. Nat. Brasil.* p. 100.

Tatu seu armadillo orientalis, lorica ossa toto corpore tectus; *Seba, tom. I. p. 62. tab. 38. fig. 2 et 3.* Note. This animal is found in America, and not in the East Indies.

Tatus Gesneri. Tam apara Marcgravii; *Barrere, Hist. Franc. Equinox.* p. 163.

Dalypus trilineatus, cingulis tribus, pedibus pentadactylis; *Lin. Syst. Nat.* p. 53.

Cataphractus fuscus duobus, cingulis tribus; *Brisson. Zood.* p. 24.

ones smaller, and the fifth, or exterior one, is the least. The claws of the hind feet are shorter and more equal. The tail exceeds not two inches in length, and is wholly covered with a shell or crust. The body is a foot long, and about eight inches over at the broadest part. The back, or cuirass, is divided into four joints, and composed of three transverse moveable bands, by which the animal is enabled to bend its body and to roll itself up like a ball. The skin which forms the joints is very flexible. The shields which cover the shoulders and rump consist of pentangular pieces, very equally ranged. The three moveable bands between the two shields are composed of square or oblong pieces, and on each piece there is a number of lenticular scales of a yellowish white colour. Marcgrave adds, that, when the creature lies down to sleep, or when touched by any person, he gathers his feet together, puts his head below his belly, and makes the whole body so perfectly round, that he has more the appearance of a sea-shell than of a land animal. This contraction is effected by means of two large muscles on the sides of the body; and it is with difficulty that the strongest man can force an extension with his hands. Piso and Ray have added nothing to Marcgrave's description. But it is singular, that Seba, who has given us a figure and description nearly the same with those of Marcgrave, should not only not mention this author, but assert, with confidence,

dence, 'that this animal is unknown to the naturalists; that it is extremely rare; that it is 'found in the most remote countries of the East Indies'; &c. whilst, in fact, this Brazilian armadillo is excellently described by Maregrave, and the species as common as any other, not indeed in the East Indies, but in America, where it is very frequent. The only real difference between the description of Seba and that of Maregrave is, that the latter gives the animal five toes to each foot, and the former only four. One of them must be wrong; for they both evidently describe the same animal.

Fabius Columna† has described and given figures of the dried crust of an armadillo, contracted in the form of a ball, which appears to have had four moveable bands. But, as this author was totally ignorant of the animal whose skin or shell he describes; as he knew not the very name of the *armadillo*, though mentioned by Belon more than fifty years before, but gave it the compound appellation of *cheloniscus*; besides, as he acknowledges that the crust he describes had been pasted together, and that some pieces were wanting, we have no proper authority to

* Hunc remotissimi et maxime versus orientem filii Indiarum loci proferunt. — Animal hocce rarum admodum et laud vulgare est, nec ejus mentionem ab ulla auctorum factam reperimus, &c.; *Seba*, vol. i. p. 62.

† Aquil. et terrestr. animal. Obs. Fab. Columna auctore, p. 15. tab. 16. fig. 1, 2, 3.

pronounce,

pronounce, as our modern nomenclators have done*, that an armadillo with four moveable bands has an existence in nature, especially as no notices have been communicated by any other naturalist, concerning this animal, since the imperfect and suspicious account given by Fabius Columna in the year 1606. If it did exist, it would certainly have found its way into some of our cabinets, or been observed by travellers.

THE SIX-BANDED ARMADILLO†.

THIS armadillo is larger than the former. The top of the head, the neck, body, limbs, and tail, are covered with a very hard ossaceous crust, composed

* *Dasyus quadricinctus*, cingulis quatuor; *Lin.* Syst. Nat.

† 34. *Campylæus scutis duobus, cingulis quatuor*; *Brisson. Règ. Anim.* p. 39.

† The crust of the head, shoulders, and rump, is formed of angular pieces. It has six bands on the back, between which, and also on the neck and belly, are a few scattered hairs. The tail is not the length of the body, very thick at the base, and tapers to a point. There are five toes on each foot; *Pennant's Synops.*

Tatou; *Obj. de Belon*, p. 211. Though Belon makes no mention of the number of bands, this tatou, from inspection of the figure, is the six-banded species.

Tatus, seu Echinus Brasiliensis; *Aldrov. de Quad. Digit. Prosp.* p. 478. fig. p. 480.

Tata et tatupeba Brasiliensis. Encuberto Lusitanis. In dorso septem sunt divisione, cutis fusca intermedia; *Maregr. Hist.* vol. v. A A

composed of pretty large pieces, most elegantly placed. Each of the two shields on the shoulders and rump consists of one piece. There is, indeed, beyond the shield on the shoulder, and near the head, a moveable band which enables the animal to bend his neck. The shield on the shoulders consists of five parallel rows, which are composed of pieces that have five or six angles, with a kind of oval figure in each. The cuirass on the back, or the part between the two shields, is divided into six bands, connected to each other, and to the shields, by seven junctures of a thick flexible skin. These bands consist of large square or oblong pieces. On the skin of the joints there are several whitish hairs, similar to those on the throat, breast, and belly. All the inferior parts of the body, instead of a hard crust, are covered with a granulated skin. The shield on the rump has a fringed border, the mosaic work of which resembles that of the moveable bands; the rest is composed of pieces very similar to those of the shield on the shoulders. The crust of the head is long, broad, and consists of one piece, as

Hist. Brasili. p. 231. Note. The words *divisura*, as well as *junctura* and *connisura*, signify the intervals between the bands, and not the bands themselves. Seven intervals are necessary to make six bands.

Tatu, five armadillo prima Macgregari; *Rail Synops. Quad. p. 233.*

Dalypus fexinctus, *cingulis senis*, *pedibus pentadactylis*; *Linn. Syst. Nat. p. 54.*

Casaphractus scutis duobus, *cingulis sex*; *Brissot, Quad. p. 25.*

fat

far as the moveable band on the neck. The muzzle is sharp, the eyes small and sunk, and the tongue narrow and pointed. The ears, which are naked, having neither hair nor crust, are short and brown, like the skin of the dorsal junctures. There are eighteen teeth in each jaw, and five toes on each foot, with pretty long, rounded, and rather narrow than broad claws. The head and muzzle nearly resemble those of a pig. The tail is thick at its origin, and gradually tapers toward the point, where it is very thin, and rounded. The colour of the body is a reddish yellow. The animal is commonly plump and fat; and the penis of the male is very conspicuous. He digs the earth with great ease by the assistance of his snout and claws. He lives in his burrow during the day, and comes out in the night only to search for food. He drinks often, and feeds upon fruits, roots, insects, and birds, when he can seize them.

THE EIGHT-BANDED ARMADILLO*.

THIS armadillo is not so large as the six-banded species. The head is small, the muzzle sharp, the ears erect, and pretty long, and the tail

* This armadillo has upright ears, two inches long, small black eyes, eight bands on the sides, four toes on the forefeet, and five on the hind. The length, from nose to tail, is about

tail is proportionably longer, and the limbs shorter than those of the six-banded armadillo. The eyes are small and black; there are four toes on the fore, and five on the hind-feet; the head is covered with a helmet, the shoulders and rump with two shields, and the body with a cuirass composed of eight moveable bands connected to each other and to the two shields by nine junctures of flexible skin. The tail is likewise covered with eight moveable rings of crust, and nine joints of flexible skin. The colour of the cuirass on the back is an iron-gray, and the flanks and tail are of a whitish gray mixed with spots of iron-gray. The belly is covered with a whitish, granulated skin, interspersed with some hairs. The head of the individual described by Marcgrave was three inches long, the ears nearly two, the legs about three, the two middle toes of the fore-feet one inch, and the claws

about ten inches, and that of the tail nine; *Pennant's Synopf. of Zood. p. 325.*

Tatus; *Gefner. Hist. Zood. p. 935.*

Ayotochilli; *Hernand. Mex. p. 314.*

Tatu seu armadillo; *Classif. Exotic. p. 330.*

Tatou; *Descript. des Indes Occident. par Laët. p. 486.*

Tatuete Brésilienfibus, Verdadeiro Lusitanis; *Niæger. Hist. Brasil. p. 231.*

Rati *Synopf. Zood. p. 233.*

Tatou ou armadille; *Hist. Gen. des Antilles, par le Père du Tertre, tom. ii. p. 293.*

Cataprazzius scutis duobus, cingulis octo; *Briffon. Zood. p. 26.*

Dasypos septemcinctus, cingulis septenis, palmis tetradactylis, plantis pentadactylis; *Linæ. Syst. Nat. p. 54. Anser. Acad. tom. i. p. 560. Note.* This animal has eight bands.

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half an inch. The length of the body, from the neck to the origin of the tail, was seven inches, and that of the tail nine. The crust of the shields was interspersed with prominent white spots of the size of lentils. The moveable bands were marked with triangular figures. This crust is not very hard; for the smallest shot pierces it and kills the animal, whose flesh is white, and extremely delicate.

THE NINE-BANDED ARMADILLO*.

NIEREMBERG's description of this animal is extremely imperfect; those of Wormius and Grew are much better. Wormius's individual

* This species has long ears. The crust on the shoulders and rump is marked with hexangular figures. There are nine bands on the sides, distinguished by transverse cuneiform marks. The breast and belly are covered with long hairs. There are four toes on the fore-feet, and five on the hind. The tail is long and taper. The length of the whole animal is three feet; *Pennant's Synopf.*

Armadillo; *Warm. Mus. p. 335.*

Tatu porcinus, Schildverkeel; *Klein. Zood. p. 48.*

The pig-headed armadillo; *Grew's Rarities, p. 18. Rati Synopf. Zood. p. 233.*

Tatou ou Armadillo; *Nauvo. Voy. aux Isles de l'Amérique, tom. ii. p. 387.*

Tatu seu Armadillo Americanus; *Seba, tom. i. p. 45. tab. 29. fig. 1. Note.* Seba, in his description, mentions ten bands, though there are only nine in the figure.

Cachitame, Cachicamo, Atuco, che de chuta, &c. the Indian

vidual was an adult, and one of the largest of the species; that of Grew was younger and smaller. We shall only give their descriptions as far as they correspond with our own specimens. Besides, it is probable that the nine-banded armadillo is not a distinct species from the eight-banded; for, in every other respect, they seem to have a perfect resemblance to each other. We have two eight-banded armadillos, which are dried, and appear to be males; and we have seven or eight with nine bands; one of them, which is entire, is a female, the others are so disfigured in drying, that the sex is not distinguishable. It would appear, therefore, that the eight-banded is the male, and the nine-banded the female. This is only a conjecture, which I mention here, because, in the following article, we shall see two armadillos, one of which has more rows on the rump-shield than the other, and yet their resemblance is so great, that this difference may depend solely on sex; for it is not improbable, that a greater number of rows and of moveable bands may be necessary for facilitating the gestation and delivery of the females.

Indian names; *Hist. Nat. de l'Oréoque, par Gouillon, tom. iii. p. 225.*

Dasypos novemcinctus, cingulis novem, palmis tetradaetylis, plantis pentadaetylis; Linn. Syst. Nat. p. 54.

Cataphractus scutis duobus, cingulis novem; Brisson. Quadr. p. 27.

American armadillo; *Phil. Transf. vol. lvii. tab. 7.*

Armadillo seu Aiotoschili; *Nürnberg. Hist. Nat. Persgr. p. 158.*

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In the individual described by Wormius, the head was five inches long, from the end of the muzzle to the ears, and eighteen inches from the ears to the origin of the tail, which last was a foot in length, and composed of twelve rings. In an individual of the same species described by Grew, the head was three inches, the body seven and a half, and the tail eleven. The proportions of the head and body correspond very well; but the difference in the tail is too considerable; and, it is probable, that, in Wormius's individual, the tail had been broken, for it ought to have exceeded a foot in length. As in this species the tail tapers to a point as small as an awl, and is at the same time very brittle, it is rare to preserve a specimen with the tail entire, as in that described by Grew.

THE TWELVE-BANDED ARMADILLO*.

THIS animal seems to be the largest of the armadillo kind. Its head is thicker and broader, and its muzzle not so slender as those of the

* This armadillo has broad upright ears. The crust on the shoulders is marked with oblong pieces, and that of the rump with hexangular ones. It has twelve bands on the sides, five toes, with very large claws, on the fore-feet, and five lesser on the hind. The tail is shorter than the body, and there are some scattered hairs on the body; *Pennant's Synops. of Quad. p. 326.*

the other species. The legs and feet are also thicker, and the tail has no crust, a peculiarity which sufficiently distinguishes it from all the others. It has five toes on all the feet, and twelve distinct moveable bands. The shield on the shoulders consists of four or five rows only, each of which is composed of pretty large quadrangular pieces. The moveable bands are likewise composed of large and almost square pieces. Those which compose the rump-shield are nearly similar to those on the shoulders. The helmet on the head consists of large, irregular pieces. Between the joints of the moveable bands, and in other parts of the armour, there are some hairs, like hog's bristles. Upon the breast, belly, legs, and tail, we perceive the rudiments of scales, which are round, hard, and polished, like the rest of the crust, and, round these, are small tufts of hair. The pieces which compose the helmet, the two shields, and the cuirass, being proportionably larger and fewer in number in the twelve-banded than in the other armadillos, entitle us to conclude that it is the largest of the

Tatu five armadillo Africanus; Seba, tom. 1. p. 47. tab. 30. fig. 3. 4. Note, This armadillo, like all the other species, is a native of America, and not of Africa.

Cataphractus scutis duobus, cingulis duodecim; Brisson. Quad. p. 27.

Tatus major moschum redolens. Tatuete Brasiliensis, Marcgrave. Tatu-kabafon; Barbery, Hist. Franc. Equinox. p. 163.

Kakafon is the name given to this species by the natives of Cayenne.

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kind. In that represented in the figure, the head was seven inches long, and the body twenty-one. But we are uncertain whether that represented in the former plate belongs to the same species. They are similar in many respects, particularly in having twelve moveable bands. But they likewise differ in so many articles, that it is perhaps rash to ascribe these differences to sex alone.

THE EIGHTEEN-BANDED ARMADILLO*.

MR. Grew first described this animal from a skin preserved in the cabinet of the Royal Society. All the other armadillos have two shields, one on the shoulders, and another on the rump. But the eighteen-banded species has only one shield, which is upon the shoulders. It has obtained the name of the *wrasel armadillo*, because

* This species has a very slender head, and small erect ears. The crust on the shoulders and rump consists of square pieces. There are five toes on each foot. The length, from nose to tail, is about fifteen inches, and that of the tail five and a half; *Pennant's Synops. of Quad. p. 317.*

Cirquinca or *Circopinchum*, the name commonly given to the armadillos in New Spain.

Tatou quinchum; d'Alberville Mission au Maragnon, p. 248.

The wrasel-headed armadillo; Grew's Rarities, p. 19.

Tatu muselinus; Rall Synops. Quad. p. 225.

Dalypus uncinatus, tegmine tripartito, pedibus pentadactylis; Linn. Syst. Nat. p. 53.

Cataphractus scuto unico, cingulis octodecim; Brisson. Quad. p. 23.

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its head resembles that of the weasel. From Grew's description of this animal, we find that the body was about ten inches long, the head three, and the tail five. The legs were from two to three inches in length; the forehead was large and flat; the eyes were small, and the ears an inch long. It had five toes on each foot, and large claws, of an inch long, on the three middle toes, the others being smaller. The armour of the head and that of the legs were composed of round scales, about a quarter of an inch in diameter. The armour of the neck consisted of one piece, formed of small square scales. The shield on the shoulders consisted also of one piece, composed of several rows of similar small square scales. These rows on the shield, in this as well as in all the other species, are continuous, and adhere by a symphysis. The rest of the body, from the shield on the shoulders to the tail, is covered with moveable bands separated from each other by a flexible skin. These bands are eighteen in number. The anterior ones are largest, and composed of small square and oblong pieces. The posterior consist of round and square pieces; and the extremity of the armour, near the tail, is of a parabolic figure. The first half of the tail is covered with six rings, composed of small square pieces; and the second half, as far as the point, is covered with irregular scales. The breast, the belly, and the ears, are naked, as in the other species. Of all the armadillos,

madillos, from the moveable bands which extend to the tail, it should appear that this species has the power of contracting and rolling itself up like a ball with the greatest ease.

We have taken this description, as well as Mr. Ray, from Grew. M. Brisson has also followed Mr. Ray, and given a good description of this animal, which he calls simply the *armadillo*. But it is singular, that Linnæus, though he had the descriptions of Grew and Ray before his eyes, should mention this same animal as having but one band*, when it has no less than eighteen. This notion proceeds from a blunder as evident as that of mistaking the *tatu*, seu *armadillo Africanus* of Seba, for the *tatu muselinus* of Grew, which, even from the description of these authors, are very different animals. It is equally certain, that the animal described by Grew is a real existing species, as the existence of that of Seba, at least as he describes it, is doubtful. In his estimation, this African armadillo has the whole armour of its body divided into three parts†. If this were true, instead of many bands, the back and sides would be covered with one piece bounded by the shields on the shoulders and rump. This passage is the foundation of Linnæus's error,

* *Dasyus uncinatus*, tegmine tripartito, pedibus pentadactylis; *Lin. Syst. Nat.* p. 53.

† Scutum officum toto incumbens corpori tripartitum est; *Seba, tom. i. p. 47.*

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who calls the animal *Dasyurus unicinctus*, tegmine tripartito.

All the armadillos are natives of America. Before the discovery of the New World, they were totally unknown. They are never mentioned by the ancients; modern travellers uniformly speak of them as animals peculiar to Mexico, Brasil, Guiana, &c. and no person ever pretends to have seen any of the species either in Asia or Africa. Some voyagers have indeed confounded the armadillos of America with the manis, or scaly lizard, of the East Indies. Others have imagined that they existed on the West coasts of Africa, because they have sometimes been transported from Brasil to Guiney. Belon*, who wrote more than two centuries ago, and is the first who gave a description and figure of an armadillo from a skin he had seen in Turkey, tells us, that it came from the

* "With regard to the animal I formerly mentioned under the name of *tatua*, it is always brought from Guiney and the New World; and, though it is not taken notice of by the ancients, I have given a figure of it.

"Nature has armed this creature with a hard crust and large scales, like a corset, by which means the inwards and flesh are easily taken out, without injuring its natural figure. From these circumstances, it may be carried to any distance, and, accordingly, it is not uncommon in our cabinets. It may be called the Brazilian hedge-hog; for it retires into its scales, as a hedge-hog does into his bristles. It exceeds not the size of a middling pig. It is indeed a species of hog, having the same legs, feet, and muzzle. It has been seen alive in France, and it feeds upon grain and fruits;" *Objets de Belon* p. 211.

New Continent. Oviedo*, De Lery†, Gomara‡, Thevet§, Antoine Herrera§, P. d'Abbeville¶, François Ximenes, Stadenius**, Monard††, Joseph Acosta‡‡, de Laët§§, and all the modern historians, mention these animals as natives of South America. Of all the writers I have quoted, Fiso alone has advanced, but without any authority, that the armadillos are found in the East Indies §§, as well as in America. He has probably confounded the scaly lizards with the armadillos. The former are called *armadillos* by the Spaniards. This error has been adopted by our nomenclators and describers of cabinets, who have not only admitted the armadillos into the East Indies, but into Africa, though none of them ever existed in those parts

* Oviedo, *Summarium Ind. Occid.* cap. xvii.

† Hist. d'un Voyage fait en la Terre du Brasil, par Jean de Lery, p. 154.

‡ Gomara; Hist. Mexican. &c.

§ Singularités de la France Antarctique, par Thevet, chap. liv.

¶ Descript. des Indes Occident. par Ant. de Herrera, p. 252.

¶ Mission en l'Isle de Maragou, par le P. C. d'Abbeville, Capucin, p. 248.

** Joann. Staden. Res gestæ in Brasilia, &c.

†† Nicolai Monardi, *Simplicium Medic. Hist.* p. 330.

‡‡ Hist. Nat. des Indes, par Joseph Acosta, p. 198.

§§ Descript. des Indes Occident. par Jean Laët, chap. v. p. 485 et 486. et chap. xv. p. 556.

§§ Cum in Occidentalis non solum, sed et Orientalis Indis partibus frequens adeo sit hoc inusitata conformationis animal, non mirum si vel nomine, vel magnitudine, figura quoque subinde variet; *Pissa. Hist. Nat. Brasili.* p. 100.

of the world, except such as were transported from America.

The climate and country of these animals, therefore, are not equivocal: But it is more difficult to determine the size of each kind. With this view, we have compared the skins of a great number preserved in the royal and other cabinets: We have also compared all the descriptions of authors with our own, without being able to draw any certain conclusion. It only appears, that the twelve and six-banded armadillos are the largest, and that the three, eight, nine, and eighteen-banded species are the least. The head of the larger kinds is more solid and harder than that of the smaller; the pieces of which it is composed are larger and fewer in number; the moveable bands encroach less upon each other; and the skin and flesh are harder, and not so good. Piso says, that the flesh of the six-banded armadillo is not eatable*; and Nierenberg assures us that it is noxious†. Barrere tells us, that the twelve-banded armadillo has a strong odour of musk. All authors agree, that the flesh of the three-banded, and particularly that of the eight-banded species, is as good as that of a pig.

* *Prima et maxima (species) tatapcha, cujus descriptioni superseded, utpote non edulis; Piso, Hist. Nat. Brasil. p. 100.*

† *Quedam innoxia et gratissimi alimentum sunt, alia noxia et venenata, ut vomita ac flava alvi fuscopem inducant. — Distinguentur testarum seu laminarum numero: Innoxia octonitis, noxia semis constant; Nierenberg, Hist. Nat. Peruv. p. 59.*

They likewise remark, that all the small kinds frequent the plains and marshes; and that the largest species are found in dry and elevated places only*.

All these animals have the faculty of contracting their bodies in the form of a ball with more or less facility. When contracted, the defect of their armour is most conspicuous in those which have fewest moveable bands. In this situation, the three-banded species presents two large voids between the shields and the armour of the back. None of them can assume a form so perfectly round as the hedge-hog; they have rather the figure of a globe very much flattened at the poles.

The singular crust with which they are covered is a real bone, composed of small contiguous pieces, which, without being moveable or articulated, except at the joints of the bands, are united by a symphysis, and may all be separated from each other when heated in a fire. When the animal is alive, these small pieces, both in the shields and moveable bands †,

* In the woods of Oronook and Guiana, there are armadillos four times larger than those of the plains; *Hist. Nat. de l'Oronook, par Gussilla, tom. ii. p. 7.*

† "The nine-banded armadillo is very sensible. When his scales are pressed, he complains, and rolls himself up like a ball. I remarked, that all the rows, beside the movement by which they joint into each other, have another along the spine of the back, which enables them to extend and enlarge themselves," &c.; *Nouv. Voy. aux Isles de l'Amerique, tom. ii. p. 388.*

obey, in some measure, its motions, especially that by which it contracts itself. If this were not the case, it would not possibly roll itself up. These pieces are of different figures in different species, and are always arranged with as much regularity as the most elegant mosaic work. The thin pellicle which covers the crust, is a transparent skin, which has the effect of a varnish to the whole body. This skin rises a good deal, and even changes the reliefs of the mosaic work, which are very different when it is removed. Besides, this obscure crust is only a cover, totally independent of the internal parts of the animal's body, whose bones, and other organs, are constructed like those of all other quadrupeds.

The armadillos, in general, are inoffensive animals, and do no mischief, unless they are allowed to enter the gardens, where they eat melons, potatoes, and other roots and pot-herbs. Though natives of the warm climates of America, they can live in temperate regions. Some years ago, I saw one in Languedoc, which was fed in the house, and went about freely without doing any harm. They walk quickly; but they can neither run, nor leap, nor climb trees; so that they can never escape those who pursue them. Their only resources are to conceal themselves in their holes, or, if too distant from their retreats, to endeavour to dig a hole before they are seized; for the mole digs not more quickly than the armadillo.

madillo. Before being totally concealed, they are sometimes caught by the tail, when they make such a powerful resistance*, that the tail is left in the hands of the enemy. To prevent mutilating them in this manner, it is necessary to widen the holes, and then they are taken without resistance. Whenever they are seized, they roll themselves up, and never extend till they are placed near a fire. Their crust, though hard and rigid, is so sensible, that, when touched by the finger, the animal feels the impression, and instantly contracts itself. When their holes are deep they are forced out by smoke or by water. They are said to remain in their holes during a third part of the year†. It is certain, however, that they never come out but during the night, when they go in quest of food. The armadillo is hunted with small dogs‡, by whom they are soon overtaken. They contract them-

* The nine-banded armadillos, when their head and part of the body are concealed in the hole, believe themselves to be safe; and, indeed, they have nothing to fear, unless the following expedient be used to drag them out. The Indian arrives, and seizes the animal by the tail, which is very long. The armadillo opens his scales, and attaches them so strongly to the walls of his hole, that the Indian may pull off the tail, but cannot force the animal from his retreat. In this case, the hunter tickles him with a stick or the end of his bow, which makes the animal contract his scales, and then he is taken without difficulty; *Hist. Nat. de l'Orénoque, par Cassilla, tom. iii. p. 226.*

† *Hist. Gen. des Antilles, par le Père du Tertre, tom. II. p. 298.*

‡ *Hist. Nat. des Antilles, p. 123.*

felves long before the dogs come up with them; and in this state they are seized and carried off. When on the top of a precipice, they escape both the dogs and the hunter; for they contract, and allow themselves to roll down like a bullet*, without breaking their crust, or receiving any injury.

These animals are fat, and very fruitful. The male exhibits, by his external organs, great generative powers. The female is said to produce every four months †; and, accordingly, the species is very numerous. As they make excellent eating, they are hunted in every manner. They are easily taken with snares, that are laid on the edges of waters and other moist places, which they always frequent. They never remove far from their holes, which are very deep, and which they endeavour to regain upon every alarm. They are said not to be afraid of the bite of the rattle-snake ‡, though it is as dangerous as that of the viper. It is said that they live in peace with these reptiles, which are often found in their holes. The savages employ the crust of the armadillo for several purposes. They paint it with different colours, and make of it baskets, boxes, and other small vessels. Monard, Ximenes, and other writers, ascribe great medicinal powers to different parts of these animals. They as-

* Hernandez, Hist. Mexic. p. 314.

† Histoire Naturelle de l'Orénoque, par Gumilla, p. 225.

‡ Nicernberg, Hist. Nat. Perser. p. 159.

sure us that the crust reduced to a powder, and taken internally, even in a small dose, is a powerful sudorific; that the hip-bone, pulverised, cures the venereal disease; that the first bone of the tail, applied to the ear, restores hearing to the deaf, &c. We can give no credit to these extraordinary powers. The crust and bones of the armadillo are of the same nature with the bones of other animals. Effects so marvellous can only be produced by imaginary virtues.

S U P P L E M E N T.

OUR original figure of the six-banded armadillo was taken from a preserved crust. The figure now represented was drawn from the life by M. de Séve, who, at the same time, sent me the following description:

' The male is fourteen inches long, without
' reckoning the tail, and corresponds pretty
' well with the description given in your work.
' However, in your description, it is said the
' shoulder-shield consists of five parallel rows of
' small pentangular pieces, with an oval in each.
' But these characters seem to vary; for, in the
' animal I have drawn, the shoulder-shield is

composed of six parallel rows, of which the small pieces are irregular hexagons. The rump-shield consists of ten parallel rows, and the small pieces are narrow squares. The rows near the tail lose their square form, and become more round. The tail, a part of which was broken off, is four inches and a half in length; but, in the drawing, I have made it six inches. In walking, it carries the tail high, and a little crooked. The trunk is covered with an officious crust as well as the body. The trunk has six unequal rows, composed of small irregular hexagons. The head is three inches ten lines long, and the ears one inch three lines. The eye, instead of being sunk, as remarked in your history, is indeed very small, but the globe is prominent, and well defended by eye-lids. The body is very fat, and the skin of the belly is wrinkled, and full of small tubercles, from which issue a number of pretty long white hairs. The crust, on the broadest part of the body, is six inches seven lines. The fore legs are two inches two lines long, and those behind three inches four lines. The fore claws are very long, the longest being one inch three lines, the next one inch two lines, and the smallest ten lines. The length of the hind claws is at most half an inch. The legs are covered, as far as the claws, with a yellowish scaly skin. When the animal walks he supports himself on the tips of the claws

of

of the fore feet. His penis, when drawn out in a state of repose, is six inches seven lines long, near four lines thick, and must augment considerably during its erection. When the penis stretches, it lies upon the belly like a snail, leaving a space of a line or two between each circumvolution. I have been told, that, when these animals copulate, the female lies on her back to receive the male. The one I have described was only eighteen months old.

M. de la Borde remarks, that there are two species of armadillos in Guiana. The largest is black, and weighs from eighteen to twenty pounds. The other, which is brown, or rather iron-coloured, has three claws of different lengths. Its tail is soft, and without any armour, being covered with a simple skin. It is much smaller than the other, and weighs about three pounds only.

'The large armadillos,' says M. de la Borde, bring forth eight, and sometimes ten at a litter, in their holes, which they dig very deep. When attempts are made to unkennel this animal, he labours hard to render the hole still deeper, and descends almost perpendicularly. He goes out in the night only, and feeds upon worms, woodlice, and ants. His flesh is good, and, in flavour, somewhat resembles that of a pig. The small iron-coloured armadillo brings forth only four or five young; but the

B B 3

digs

'digs still deeper, and is more difficult to catch.
 'When it rains, these animals go out during
 'the day; but, in fair weather, they remain in
 'their holes till night. They are always solitary;
 'and they are known to be in their holes by a
 'number of flies which follow their scent.
 'When the hunter digs in order to seize them,
 'they dig likewise; and, by throwing the
 'earth behind, shut up the mouths of their holes
 'so completely, that no smoke can enter. The
 'females bring forth in the beginning of the
 'rainy season.'

The large black armadillo of M. de la Borde
 may be referred to the twelve-banded species,
 which is the largest of all the armadillos; and
 the small iron-coloured kind may be referred to
 the eight-banded armadillo, though M. de la
 Borde says, that its tail is naked, a fact which
 merits confirmation.

We have given a figure of an armadillo with
 nine moveable bands and a very long tail.
 Dr. William Watson has described this ar-
 madillo*, of which the following is an ex-
 tract. This animal was living in the house of
 Lord Southwell, and was brought from Ame-
 rica. The figure, however, in the Philosophical
 Transactions, was not drawn till after the ani-
 mal's death, which is the reason why it is rough
 and hard, as it is in our figure. This animal

* Philosophical Transactions, vol. liv. plate 7.

weighed

Plate CLV.



NINE-BANDED ARMADILLO.

A. Bell & Co.

Plate CLVI.



TWELVE-BANDED ARMADILLO.

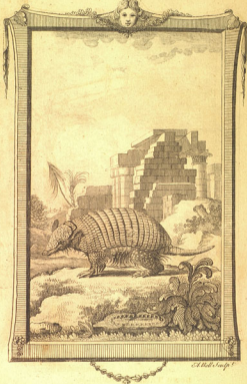
A. Bell & Co.

Plate CIVIL



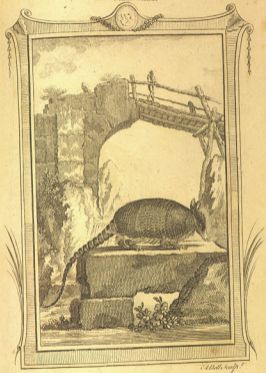
TWELVE-BANDED ARMADILLO.

Plate CLVII.



SIX BANDED ARMADILLO.

Plate CLIX.



LONG TAILED ARMADILLO.

weighed seven pounds, and exceeded not the size of an ordinary cat. It was a male, and grew considerably while in Lord Southwell's possession. It was fed with flesh and milk, and refused to eat grain or fruits. Those who brought it from America assured us, that it dug a lodging for itself in the earth.