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THE RHINOCEROS OF JAVA. (*Rhin. Sondaicus*, Cuv.)

IN the time of Linnæus only a single species of the more bulky quadrupeds, as the elephant, rhinoceros, and hippopotamus, was known; and Buffon, who too frequently generalized on slight grounds, considered it as a law of Nature, that in these her larger productions the genus was limited in its representation to a solitary species. But every day brings fresh instances of the boundless extent of the Creative Power; and both species that now move on the surface of the earth, as well as those which are concealed beneath its crust, demonstrate that the principle of variety is by no means limited to the minuter forms of animal life.

We have in a former Number enumerated the different species of Rhinoceros which are at present known to exist, and have given a detailed account of the One-horned Rhinoceros of the Asiatic Continent, (*Rhinoceros Indicus*, Cuv.)

The present description relates to the one-horned species which inhabits the Island of Java, which is the smallest rhinoceros now known to exist. Its specific distinction from the *Rhin. Indicus* was first suspected by Camper, from the difference he observed in the form of their crania. Subsequently the Baron Cuvier established with great exactness the peculiar characters of this species, founded on a comparison of its entire skeleton with that of the Indian rhinoceros, and on a drawing and description of the living animal which he had received from India.

It has not been known to exceed nine feet in length, is less massive in its proportions, and stands higher on its legs, than the Indian species. It has only a single horn, which is situated nearer the eyes than the front horn of the two-horned species, and which in the female is reduced to a mere semi-oval tuberosity; the front teeth or incisors of the upper jaw are four in number in the young animal, two in each intermaxillary bone, small and almost cylindrical: they are soon shed, and are replaced in the adult by two small external incisors, and two large internal ones; the latter, however, scarcely project from the gums, and are smooth and rounded at the extremity, which is opposed to the front part of the long inferior incisors.

The learned and indefatigable naturalist, Dr. Horsfield, to whom we are chiefly indebted for a knowledge of the ani-
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mal creation in the Island of Java, observes, "The folds of the hide, on the whole, appear less rough or prominent than in the Indian rhinoceros: those of the neck are comparatively smaller; and the posterior fold, which has an oblique direction towards the spine, is less extended. The thick covering or coat of our animal is divided on the surface into small tubercles, or polygonous scutula; and a few short bristly hairs, rising from a slight depression in the centre, constitute a peculiar character. The ears are bordered with a series of long stiff bristles, closely arranged; and a similar series of bristles also extends along the tail, underneath, through its whole length."

When the French descriptions in the *Histoire Naturelle des Mammifères* and the *Encyclopédie Méthodique* were written, nothing was known of the habits of this species. This hiatus has been in a great measure supplied by the accurate observer above quoted. "The individual which is represented in our plate, and which has afforded the preceding details, was taken, while very young, in the forests of the Province of Kedda, and was conveyed to the Residency at Magellan in the year 1815 or 1816. By kind treatment it soon became domesticated to such a degree, that it permitted itself to be carried in a large vehicle resembling a cart, to the capital of Surakarta. I saw it during its conveyance, and found it perfectly mild and tractable. At Surakarta it was confined in the large area or square which bounds the entrance to the royal residence. A deep ditch about three feet wide limited its range, and for several years it never attempted to pass it. It was perfectly reconciled to its confinement, and never exhibited any symptoms of uneasiness or rage, although, on its first arrival, harassed in various ways, by a large proportion of the inhabitants of a populous capital, whose curiosity induced them to inspect the stranger of the forest. Branches of trees, shrubs, and various twining plants were abundantly provided for its food; of these the species of *Cissus*, and the small twigs of a native fig-tree were preferred. But plantains were the most favourite food, and the abundant manner in which it was supplied with these by the numerous visitors, tended greatly to make the animal mild and sociable. It allowed itself to be handled and examined freely, and the more daring of the visitors sometimes mounted on its back. It required copious supplies of water, and when not taking food, or intentionally roused by the natives, it generally placed itself in the large excavations which its movements soon caused in the soft earth that covered the allotted space.

“ The animal rapidly increased in size : in the year 1817, having been confined at Surakarta about nine or ten months, the dimensions, as already stated, were nine feet in length, and four feet three inches in height at the rump. In 1821 it had acquired the height of five feet seven inches. This information I received from my friend Mr. Stavers, who is now in England, on a visit from the interior of Java ; and he favoured me further with the following detail, which completes the history of the individual whose figure is annexed to this article. Having considerably increased in size, the ditch of three feet in breadth was insufficient for confining it ; but leaving the inclosure, it frequently passed to the dwellings of the natives, destroying the plantations of fruit-trees and culinary vegetables which always surround them. It likewise terrified those natives that accidentally met with it, and who were unacquainted with its appearance and habits. But it showed no ill-natured disposition, and readily allowed itself to be driven back to the inclosure, like a buffalo. The excessive excavations which it made by continually wallowing in the mire, and the accumulation of putrefying vegetable matter, in the process of time became offensive at the entrance of the palace, and its removal was ordered by the emperor to a small village near the confines of the capital, where in the year 1821 it was accidently drowned in a rivulet.

“ The rhinoceros lives gregarious in many parts of Java. It is not limited to a peculiar region or climate, but its range extends from the level of the ocean to the summit of mountains of considerable elevation. I noticed it at Tangung, near the confines of the Southern Ocean, in the districts of the native princes, and on the summit of the high peaks of the Priangan Regencies ; but it prefers high situations. It is not generally distributed, but is tolerably numerous in circumscribed spots, distant from the dwellings of man, and covered with a profuse vegetation. On the whole, it is more abundant in the western than in the eastern districts of the island. Its retreats are discovered by deeply excavated passages, which it forms along the declivities of mountains and hills. I found these occasionally of great depth and extent.

“ In its manners, the rhinoceros of Java is comparatively mild. It is not unfrequently met in the wilds by Europeans and by natives. No instance of its showing a disposition to make an attack has come to my knowledge ;—being the largest animal in Java, its passions are not roused, as in many parts of India, by contentions with the elephant. It is rarely seen in a domestic state, but it is occasionally decoyed into pits, and destroyed. Our animal rambles chiefly at night, and

often occasions serious injury to the plantations of coffee and pepper, which are laid out in the fertile districts selected for its retreats.

“The horns and skin are employed for medicinal purposes by the natives*.”

The Baron Cuvier observes that the folds of the hide are observable in the foetal animal. These folds differ in their arrangement from those of the Indian rhinoceros; they are altogether wanting on the head, the integument of which is rugous and covered by a cuticle divided into small angular plates like those on the body; the fold behind the occiput is situated close to the head; another stretches like a hood transversely across the middle of the shoulders, and extends on either side beneath the throat, so as almost to form a continuous circle. A second doubling, which also nearly begirds the body, is situated behind the shoulders: a transverse fold exists above each fore-leg, but there is no fold in the direction of the spine, as in the Indian rhinoceros: a large fold crosses the region of the crupper, and descends on either side in front of the thighs: a slighter depression advances forwards upon the thigh on either side from the root of the tail.

This species has hitherto been found only in the Island of Java. It is called by the Malays, Badak.

The extended and minute comparisons which have been instituted between the several bones of this species and those of the Indian rhinoceros, prove incontrovertibly the specific difference of the two animals. These observations, with figures of the skeletons, &c., are contained in the second volume of the great work by Cuvier on Fossil Remains.

The extinct species whose osseous remains have hitherto been collected and compared, are four in number. First, The rhinoceros described by Pallas in the Commentaries of the Petersburg Academy (1773). Not only are its bones found scattered abundantly over Siberia, but the entire carcass, enveloped in its hairy hide, has been preserved from the ravages of time, frozen up in the ice on the banks of the Wiluji, a river which opens into the Lena. This rhinoceros had two long horns, which were supported by a strong bony, instead of gristly, partition of the nostrils; hence the name, which Cuvier has given to this species, of *tichorrhinus*. This enormous species appears to have extended its wanderings into Germany, France, and even England, in all which countries its bones are occasionally found.

The remains of the second extinct species abound in Italy, principally in the Val d'Arno in Tuscany, and in the valley

* Zoological Researches in Java.

of Pô in Lombardy, mingled with the bones of elephants and hippopotamuses. It bore also two horns on the nose, but had not the bony partition of the nostrils: it also wanted incisive teeth;—in all of which characters it approximates to the living two-horned species of Africa; but its nostrils are much narrower, and the bones of the nose thinner: it is termed *Rhinoceros Cuvieri*, and *Rhin. ptorhinus*.

The third species (*Rhinoceros incisivus*,) is known only by its enormous incisive teeth, which could only have belonged to an animal as large as the two fossil species we have just mentioned, which are totally devoid of this kind of teeth.

Lastly, A fossil species, with incisive teeth, not larger than a common hog, has been discovered; teeth and numerous bones, not only of adult but of old individuals, have been found in France: M. Cuvier denominates it *Rhinoceros minutus*.

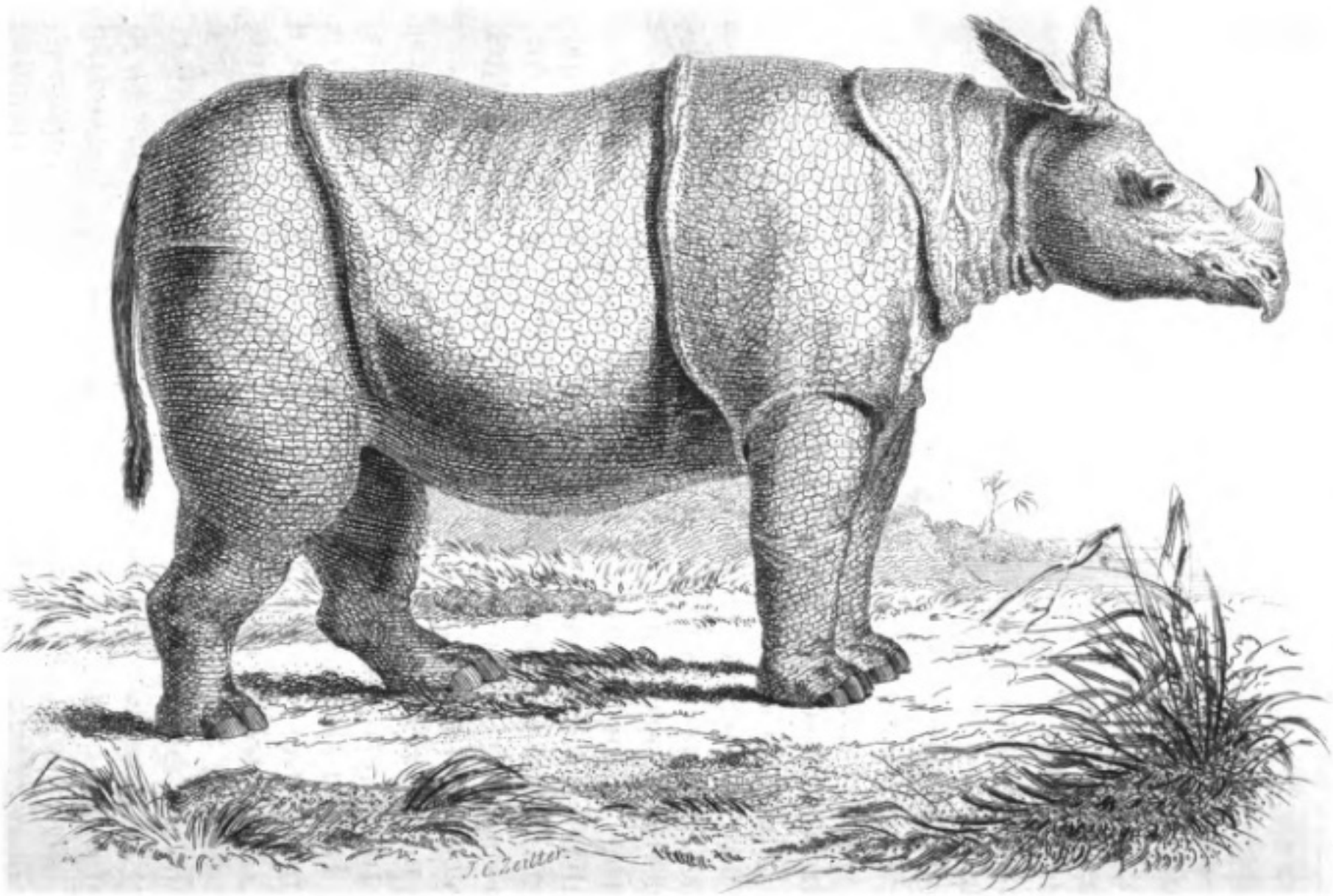
REMARKS ON THE ALBATROSS AND PETREL.

[From Freycinet's '*Voyage autour du Monde*.']

THE ocean has its own peculiar birds as well as the land. Compelled to traverse incessantly its solitudes to obtain their subsistence, they are endowed with a wonderful power of flight; so that in a few hours they are able to cross immense distances, and to betake themselves to those places to which their instinct directs them. Among these numerous tribes there exist distinctions of manners as decided as the physical characters by which they are classified; and this induces us to give the name of Birds of the Ocean (*oiseaux pelagiens*), properly so called, to the petrels and the albatrosses. The former are found in every sea, under every meridian, and in almost every latitude. Except the short time which they devote to rearing their young, all the rest of their life is occupied in traversing the ocean, and laboriously seeking in the midst of storms, a scanty sustenance, almost as soon digested as procured; which seems to place them under subjection to a single duty, that of obtaining nourishment.

Boobies (*Sula Bassana*), Noddies (*Sterna*), Men of War Birds (*Pelecanus Aquilus*, Linn.) and Tropic Birds (*Phaëton erubescens*), although they occasionally take long flights over the sea, do not deserve the name of Birds of the Ocean: they simply make excursions; and preferring their lonely cliffs to the rocking of the waves, they generally return to them every evening.

The discrimination of the several species of Albatross has become a matter of great difficulty, from the many different



RHINOCEROS SONDAICUS.