pearance of tubercles; a very distinct impressed frontal line extending down between the antennæ; no appearance of impressed lines near the eyes: *antennæ* somewhat paler than the body, and about half the length of the body; third joint distinctly longer than the second: *thorax* longer than broad, minutely punctured; longitudinal line very distinct, deeply impressed; a transverse impressed line on the posterior submargin; lateral tubercles rather prominent, obtuse; tubercle of the anterior angle distinct from the large tubercle, acute: *elytra* hardly obviously inequal near the suture; with striæ of punctures; tip decurved, almost truncated, or obtusely rounded: *beneath*, in a particular light, dull silvery sericeous: *feet* rufous.

Length more than $\frac{3}{10}$ of an inch.

I found this species in company with *palmata* on the bank of the Schuylkill river.

(TO BE CONTINUED.)

Description of a Land Tortoise, from the Gallapagos Islands, commonly known as the "Elephant Tortoise." By RICHARD HARLAN, M. D. *&c. Read September* 5, 1826.

TESTUDO *elephantopus*, (nobis.)

Elephant Tortoise, of Mariners, vide "Porter's Journal," vol. i. p. 161. *Gallapagos Tortoise*, of others.

CHAR.—Shell reflected over the head, and over the posterior extremities: all the back-plates irregu-

larly pentagonal, with elevated concentric ridges, and with a smooth space in the centre: tail short, thick at base, without a corneous tip.*

Dimensions.	Ft.	inches.	tenths.
Length of the back-plate, following its curvature,..	1	9	6
Breadth of the back-plate, following its curvature,.	1	10	6
Vertical diameter, or height of the animal,.....	0	9	0
Lateral diameter,.....	1	2	0
Circumference of the body,.....	3	0	0
Length of the posterior extremity,.....	0	8	0
Length of the anterior extremity,.....	0	9	0
Length of the neck and head,.....	1	0	0
Length of the head,.....	0	4	0
Breadth of the head,.....	0	2	5
Length of the tail,.....	0	3	5
Breadth of the tail at base,.....	0	2	0

Description.—General colour of the animal, plumbeous: the shell appears somewhat oval, though on measurement is found to be nearly as long as broad. The marginal plates are reflected upwards anteriorly, and also over the posterior extremities, in order to afford greater freedom in the motions of the head and extremities. The posterior marginal plate is bent abruptly downwards: the *head* is very small; and like the neck, extremities, &c. is enveloped in a rugous, lax, and granulated covering; the skin being produced into flattened protuberances, somewhat corneous in structure: these protuberances are larger and more dense about the joints, and other parts of the body most subjected to pressure; two of these larger tubercles are found on each side of the elbow.

* Testa supra collum et crura reflexa: scutellis disci pentagonis, striisque elevatis, concentricis, cum læve macula centrale. Cauda brevis, crassa ad basim, sine apice cornuto.

Jaws slightly serrated; the superior emarginate at tip, with two small dentiform processes, which are sometimes destroyed: the inferior jaw closing within the upper, like scissors. There are two palatine ridges within the upper jaw; the inner one smooth, the outer serrated: one serrated ridge in the lower jaw: these ridges occupy the place of teeth; the inferior ridge, closing between the two superior, forms, with the two mandibles, powerful organs of mastication. Under jaw, and upper part of the throat, marked with yellow blotches. *Tail* short and exceedingly thick at base, abruptly terminating without a corneous tip: vent opening about one inch from the tip.

Marginal scuta, twenty-three in number; eleven on each half of the shell, and a single one posteriorly; the six anterior, elevated or reflected, and crenated at their sutures: six posterior, (with the exception of the terminal one,) elevated, slightly reversed, and crenated at their sutures. *Vertebral plates*, five in number, not carinated: *costal plates*, four on each side: all the plates of the shell of an irregular pentagonal form, displaying elevated, concentric ridges, with obsolete radiating lines, dividing each plate into different compartments; a smooth space being left in the centre. *Sternum* composed of sixteen unequal plates, two anterior very small; next come two larger pentagonal plates; then follow two narrow plates, with a small one at their anterior and terminal borders, which, with two similar ones at the posterior and terminal borders of the two largest central plates,

constitute the suture between the back-plate and sternum: posterior to the large central plates, are two of a medium size, followed by two small terminal plates. The anterior extremity of the sternum projecting forwards between the fore legs, as in the Gopher, (T. *polyphemus*, Lin.) though not projecting beyond the anterior margin of the back-plate, as in the latter species.

Toes not fissile, covered with the thick shagreened skin of the legs, like those parts in the Elephant. Five claws before, four behind, broad, flat, and blunt, the longest measuring $\frac{3}{4}$ of an inch.

Observations.—The animal which is the subject of the present observations, is no doubt young, although larger than a similar species which lately lived for several months in the Philadelphia Museum. If we are permitted to judge from the shortness of the tail, and still less certain sign, the planeness of the sternum, our specimen is a female. Its weight is forty pounds.

The only species with which there appears any probability of confounding the present, is the T. *indica* of Vosmaer; a description of which, with an indifferent figure, may be seen in Shoepff, (Hist. Test. p. 103, tab. xxii. fig. B.) On comparing these two species together, the distinctive characters of the T. *elephantopus* will be found sufficiently clear; differing widely in the number of plates, both of the sternum and shell, as well as in other essential particulars.

That the T. *indica* of Perrault, is specifically dis-

tinct from the animal of the same name described by Vosmaer, we have no doubt; and think that a reference to the figures and descriptions afforded us by Shoepff will satisfy the most sceptical. On comparing the present specimen with the T. *indica* of Perrault, an individual of which lived many months in the Philadelphia Museum, we were enabled to detect still less analogy.*

The present individual displays great docility of temper, never attempting to bite, except when much irritated; the force of its jaws is very great. Some idea may be formed of the muscular power of this animal, from the fact, that a large man seated on its back, appeared to occasion no great inconvenience to its progressive motion. During warm weather, in our climate, they are enormous gluttons; and in a state of nature, are exclusively phytivorous, eating without much discrimination, succulent vegetables of all descriptions; where the food is dryer, they drink large quantities of water: like our Box turtle, (CISTUDA *clausa*,) they are naturally timid, seeking retirement and shade, displaying equal impatience when exposed to the rays of the sun, or to a shower of rain.

* As copies of Shoepff's work ("Historia testudinum, iconibus illustrata, 1792,") are rare in this country, we subjoin a description by Vosmaer, of his T. *indica*. "Testa supra collum reflexa, disci scutellis anterioribus lævibus; margine crenato.

"Ex promontorio Bonæ spei testa hæc, absque ulla ulteriori notitia, ad nos pervenit. Ad testudines terrestres eam pertinere, primo intuitu adparet. Scuti longitudo ped. 2. poll. 8. Latitudo ped. 1. poll. $6\frac{1}{2}$. Altitudo ped. 1. poll. 2. Discus scutelli xiii, margo xxv, habet; anteriora nempe 6, postica 9, lateralia utrinque 4. Sterni scutella duo media majora, his anteriora 5, posteriora 7, horum duo, scutellis marginalibus proxime adjacent, reliquis minora sunt. Color scuti nigricans, sterni cinereus."

Thus much of their habits we are enabled to detail from personal observation; a much more extensive account of these interesting animals may be found in "Porter's Journal."*

If there be not some mistake, the enormous size to which they are said to attain in some instances, is truly astonishing; the author above quoted, states, that some individuals weighed more than 300 lbs., and that others measured five feet in length; he however states his conviction of the existence of two distinct species, as inhabiting the different Gallapagos Islands.

"Those of James' Island appear to be a species entirely distinct from those of Hood's and Charles' islands; the form of the shell of the latter is elongated, turning up forward in the manner of a Spanish saddle, of a brown colour, and of considerable thickness; they are very disagreeable to the sight, but far superior to those of James' island in point of fatness, and their livers are considered the greatest delicacy. Those of James' island are round, plump, and black as ebony; some of them handsome to the eye, but their liver is black, hard when cooked, and the flesh altogether not so esteemed as the others.

"The shells of those of James' island are sometimes remarkably thin, and easily broken, but more particularly as they become advanced in age; for then,

* Vid. Journal of a cruise made to the Pacific Ocean, by Capt. David Porter, in the U. S. frigate Essex, in the years 1812, 13 and 14, vol. 1. pp. 161, 165, 171, 173, 227, 221.

whether owing to the injuries they receive from their repeated falls in ascending and descending the mountains, or otherwise, their shells become very rough, and peel off in large scales, which renders them very thin, and easily broken.

Nothing, continues Capt. Porter, can be more disagreeable or clumsy than they are in external appearance; their motion resembles strongly that of the Elephant; their gait slow, steady, and heavy; they carry their body about a foot from the ground, and their legs and feet bear no slight resemblance to the animal to which they are likened; but hideous and disgusting as is their appearance, no animal can possibly afford a more wholesome, luscious, and delicate food; the finest green turtle is no more to be compared to them in point of excellence, than the coarsest beef to the finest veal; these animals are so fat, as to require neither butter nor lard to cook them; and this fat does not possess that cloying quality, common to that of most other animals. But what seems to be most remarkable in this animal, is the length of time it can exist without food. It has been well ascertained, that when piled away among the casks of a ship, they have lived eighteen months; and when killed at that time, were found to have suffered no diminution of fatness. They carry with them a constant supply of water in a bag at the root of the neck; and on tasting that found in those we killed on board, it proved perfectly fresh and sweet."

Capt. Porter asserts, that these animals are entirely destitute of hearing; as the loudest noise, even that

of a gun, did not seem to alarm them in the slightest degree; and at night, or in the dark, they appear totally blind. In one instance, they had to regret that numbers of these animals had been thrown overboard by the crews of the vessels, previous to their capture, to clear them for action; but a few days afterwards, were so fortunate as to find themselves surrounded by about fifty of them, which were picked up, as they had been lying in the same place where they had been thrown, incapable of any exertion in that element, except stretching out their long necks. On making the experiment, we have found this animal specifically lighter than even fresh water.

The great profusion in which the Gallapagos tortoises are found, as well as their average size, may be estimated by the following extract from the journal above quoted. "Four boats were despatched every morning, to bring in a stock of tortoises, and returned at night, bringing with them from twenty to thirty each, averaging about 60lbs.; and in four days, we had as many as we could conveniently stow. They were piled up on the quarter deck for a few days, in order that they might have time to discharge the contents of their intestines, which are considerable; after which, they were stowed away below, like any other provision. They require no food or water for a year, nor is any further attention to them necessary, than that their shells should be preserved unbroken."

The temperature of the air of the Gallapagos islands, varies from 72° to 75°; that of the blood of the tortoise is always 62°. The eggs of the tortoise

are perfectly round, white, and two and a half inches in diameter.* The islands are situated beneath the equator, between 85° and 90° of west longitude.

The present specimen is living in the possession of Mr. Whitton Evans. For the drawings which accompany the description, we are indebted to Dr. S. G. Morton.†

* The eggs of the fresh water tortoises, (Emys,) are oblong-oval, and of a white colour.

† Since writing the above, *Dr. Dekay* has obligingly communicated to us the following note, containing his observations on the T. *indica;* two specimens of which from the Isle of France, one adult, the other young, are contained in the cabinet of the Baltimore Academy of Sciences.

"T. *indica.* Marginal plates 24 to 25; anterior marginal plate very small and unequal in the young; all deeply furrowed by subquadrate concentric lines, with four other impressed lines radiating from the centre. The dorsal plates elevated in the centre; in the adult or old specimen, these lines disappear, but the bases of the dorsal plates remain, and give an undulating appearance to the dorsal disks. This same appearance is observed in the *Gallapagos* more evidently. Length of the Buckler, (in the adult) 26, breadth 17, height 13, anterior feet 11, tail $2\frac{1}{2}$, head 11 inches.

The separation of the plates very deep in the "*indica*;" in the "*Gallapagos*" these are simple, slight furrows. In the "*Indica*," the anterior plates beneath are deeply emarginate, and this emargination increases with age; in which circumstances it also differs from the "*Gallapagos tortoise.*"

"*Gallapagos tortoise*," (full grown.) Marginal plates 23 in number.

Dimensions.—Breadth $19\frac{1}{2}$ inches, length 25 inches, height 13 inches. No central marginal plate anteriorly; the costal plates descending laterally, to unite with the marginal plates, form a deep concavity, which does not exist in the T. *indica;* in the adult specimen of which the post-marginal plates are turned up, in which respect again it differs from the "Gallapagos tortoise."