by the presence or absence of articulated ribs, nor of a foramen in the transverse process for the passage of the vertebral artery, but must diligently compare them with those of others of the class, to ascertain with which they really correspond in their essential characters; and then we may draw the line of demarcation wherever suits us best, only remembering that under whichever series we place a vertebra in one species, the corresponding one in another must be reckoned under the same category. This is the view I have endeavoured to carry out in my examination of the Sloth; and being of opinion that the *eighth* and *ninth* vertebræ of that animal correspond as essentially to the *sixth* and *seventh* in the rest of the class, as do the atlas and the axis to those of other animals, and knowing that the intervening vertebræ differ in number by two, I feel bound to believe, notwithstanding the interesting fact which Professor Bell has discovered, that the cervical vertebræ of the *Bradypus tridactylus* are nine in number.

Fig. 2.

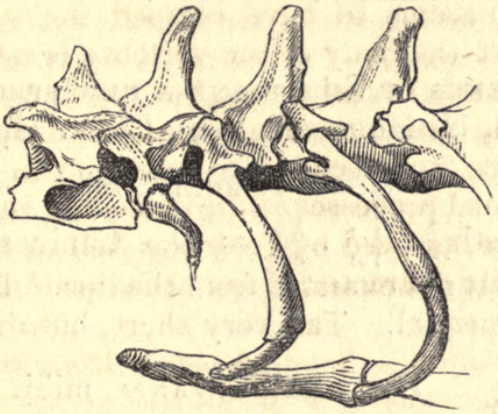

Fig. 1.

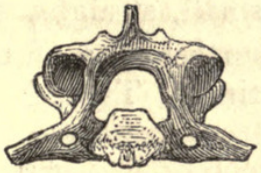

Fig. 4.

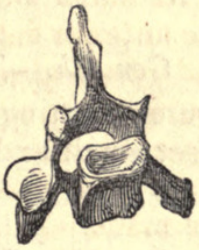

Fig. 3.

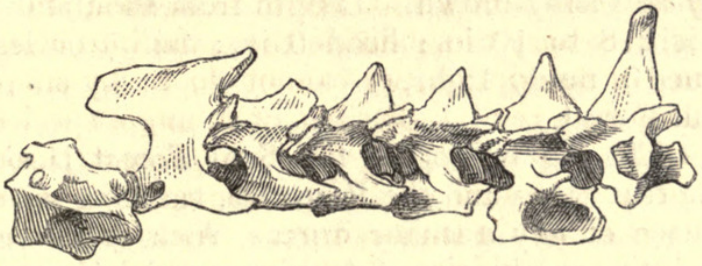

Fig. 1. A view from behind of the seventh cervical vertebra of an Opossum (*Didelphys Virginiana*), as an example of the existence of the foramen for the passage of the vertebral artery, and showing the manner of its enclosure beneath.

Fig. 2. The sixth and seventh cervical, and the first two dorsal vertebræ of a Polecat, showing the rudimental rib attached to the last cervical.

Fig. 3. The series of seven cervical vertebræ of a second specimen of the Polecat, showing the absence of the rib, and the *difference of form in the transverse processes.*

Fig. 4. A perspective view (from behind) of the last cervical vertebra of the same animal, showing the absence of the foramen for the vertebral artery, and the *flattened* form of the under surface of the vertebra.

Description of a new species of Bat. By Charles Lucien Bonaparte, Prince of Canino and Musignano, etc.

Arctibius Floresii.

Sp. Ch.—Grey brown; beneath paler, with pale tips to the hair; two broad streaks on the face, and a narrow streak on the centre of the back, white. Arm-bone rather foliated, one inch four lines in length. Heel-bone very short. Second thumb-joint elongate, slender. Nose-leaf with a distinct central rib.

This new species inhabits the unexplored region of the Republic of Equatoria, which borders on the wilds of Brazil. It was collected there in company with *Anoura Geoffroyi*, *Phyllostoma nigrum*, and *Molossus ater*, by the intrepid traveller M. Delattre, from whom I received it through M. Bourcier, the eminent Trochilidist.

I dedicate it to our common friend the high-minded General Flores, the companion of Bolivar, and once the worthy President of the Republic, to whose civilization his thoughts are still constantly directed, and where he still occupies a distinguished place in the hearts of his fellow-citizens.

On a new genus of Suidæ and a new species of Taxidea. By B. H. Hodgson, Esq., Corr. Memb. etc.

Genus Porcula, mihi.

Gen. Ch.—Teeth $\frac{6}{6} \cdot \frac{1 \cdot 1}{1 \cdot 1} \cdot \frac{6 \cdot 6}{6 \cdot 6} = 40$. Canines small, straight, severely cutting, but not exserted from the lips. Fourth toe on all the feet small and unequal. Tail very short, but distinct. Type,

Porcula Salvania, mihi.

Sp. Ch.—Pigmy Hog of a brown-black colour, slightly and irregularly shaded with sordid amber. Iris hazel. Nude skin dirty flesh-colour. Hoofs glossy-brown. Length from snout to vent 18 to 20 inches; height 8 to 10 in.; head 6 in.; tail $\frac{7}{8}$ or less than 1 in. Weight 8 to 10, rarely 12lbs.

Hab. Saul Forest.

Remark.—The Pigmy Hog of the Saul Forest is almost equally allied to the true Hogs and the Peccaries, agreeing with the former in the absence of any peculiar organs, such as the gular flaps of *larvatus* and the pelvic sac of *torquatus* and *labiatus*; also in the number and form of the incisor teeth, and in having a perfect tail and four toes to each foot; but differing from the true Hogs and agreeing with the Peccaries in the number of the molar teeth, in the style of the laniaries, in the diminished elongation of the jaws, and in the absence of the nasal cartilage, and showing yet further leaning towards the same type (*Dicotyles*) by the extreme smallness of the tail, and by the tendency of the fourth toe to disappearance.

Our proposed genus should have a place in a natural system between *Sus* and *Dicotyles*; its positive characters being the presence of a tail and of a fourth toe, the limited number of molar teeth, and

the straightness of the unexserted laniaries. The species is most rare; its flesh excellent; its manners resemble those of *Sus* in general, but with some marked differences.

Genus Taxidea, Waterh.

Taxidea Leucurus, mihi. Tibetan Badger.—Head laterally and above whitish, divided by a blackish line through the eye. Body above and laterally yellowish grey, paling towards the flanks. Below, from chin to vent exclusive, black; and limbs the same. Tail unmixed yellowish white. Ears black basally, white apically. Snout to vent 27 in.; head $5\frac{1}{2}$ in.; tail 10 in.; palma and nails $3\frac{1}{8}$ in.; planta and nails 4 in.; ear, with tuft, 2 in.

Hab. Plains of Tibet.

July 27.—William Yarrell, Esq., Vice-President, in the Chair.

The following papers were read:—

Note of the Circulation of Crocodilus lucius. By Edward Fry.

In a recent dissection of a spemcien of the *Crocodilus lucius*, measuring about five feet four inches, I discovered an arrangement of the arterial system which is, as far as I am aware, anomalous, and which may perhaps be therefore worth recording.

In all the drawings of the Saurian circulation with which I have met, the left ventricle is represented as giving off, in addition to the right aortic arch, a common trunk, which divides into two arteries for the supply of the fore-part of the body, which for a short course are to be considered as arteriæ innominatæ, when they give origin to the subclavian arteries and pass upwards, one on either side, as carotids, for the supply of the head and face. In the individual in question, however, the arrangement was this: beside the right aortic arch, two trunks are given off from the bulbus of the left ventricle; of which, one passes immediately to the supply of the right fore-limb, and the other proceeds upwards, shortly gives off a considerable branch as a left subclavian, and then continues its upward course on the mesial line lying immediately on the under side of the bodies of the vertebræ, in a channel between the longitudinal muscles of either side, and above the trachea, until it almost reaches the posterior nares, where it subdivides, its branches passing over the under side of the temporal muscles, and going to feed the lower jaw, as well as supplying the sides of the head.

The parts which this singular artery supplies prove it to be the analogue of the carotids, whilst the consideration of its origin, course and termination induces me to believe that its homological relation is with the inferior pharyngeal.

The absence of any such arrangement in the whole subkingdom of the Vertebrata is to be remarked; and in conjunction with the fact that the figure of the Saurian circulation given in Müller's 'Physiology' (by Baly, vol. i. p. 174) is stated to be from an individual of the same species, viz. *Crocodilus lucius*, induces me to suppose the anomaly above recorded to have been an individual peculiarity.

Additional Observations on the Cetacea of the British Islands. By J. E. Gray, Esq., F.R.S. etc.

1. Since my former paper was read, I have been enabled, by the kindness of Professor Goodsir, to examine the specimens of Cetacea which were prepared by Dr. Knox, and which now form part of the anatomical collection of the Edinburgh University.

The large male whale which came ashore on the 5th of October 1831, and was seventy-eight feet long, which Dr. Knox in his Catalogue calls *Balæna maximus borealis*, and of which he made many most interesting preparations of the soft parts, is one of the most beautiful and perfect skeletons I have yet seen. The latter is for the present exhibited in the elephant-house at the Zoological Gardens of Edinburgh, but unfortunately it is suspended so high that I could not take any measurements. It is a *Physalus*, very nearly allied to what I have called *Physalus antiquorum*; but it differs from the specimen taken at Plymouth in the lateral processes of the cervical vertebræ being higher compared with their length, and more truncated at the end; in the third and fourth cervical vertebræ not being so much expanded beyond the aperture; in the fifth being still thinner; and in the sixth, instead of a complete ring, having only an elongated, arched, upper lateral process, and a very short, rather depressed lower one; and the seventh only an upper one. Should this species prove distinct, it might be distinguished as *Physalus borealis*.

Dr. Spittal, who saw it when first cast ashore, informs me it was slate or grey, and the tail white (probably beneath). The baleen appeared at the distance black.

2. In the anatomical museum there is the skeleton and soft part of a Dolphin or Bottle-nose, which was sent to Dr. Knox from Orkney in May 1825. It was a female and weighed fourteen stone. It is described in Dr. Knox's 'Catalogue of the Anatomical Preparations of Whales,' Edinburgh 1838, as No. 84, *Delphinus Tursio*.

It is a nearly adult specimen of *Delphinus leucopleurus*, lately described by Rasch, Mag. Zool. 1843, p. 369, from a specimen taken at Christiania in Norway, figured by me from a Norwegian specimen in the 'Zoology of H.M.S. Erebus and Terror,' under the name of *Lagenorhynchus leucopleurus*.

Dr. Knox gives the following measurements: entire length 9 ft. 6 in.; circumference 3 ft. 2 in. Pectoral 10 inches long; tail 1 ft. 2 in. wide; and the gape 9 inches.

It is a most interesting addition to the British fauna, being the second of this genus added within the last year.

3. I may remark, that *Balæna minor borealis* of Dr. Knox in the same collection is the *Balænoptera rostrata* of my papers.

4. In the same collection there is a stuffed skin of a fœtus of a Northern or Right Whale (*Balæna Mysticetus*), two feet four inches long, showing the large flap near the edge of the lower lip, "destined to cover in the baleen," and a most beautiful skeleton of the same specimen. The bones of the head are distinctly ossified, but the

rest of the skeleton is only cartilaginous. There are also (No. 36) "the teeth of the fœtal *Mysticete* preserved in alcohol;" and Dr. Knox observes, "they never cut the gums, but become gradually reabsorbed," which agrees with Professor Eschricht's account of the teeth of *Megapteron*; and further, Dr. Knox remarks, "The integumentary system furnish the baleen, which is evidently a modified form of hair and cuticle." (p. 22.)

5. I may here add, as determining the synonyma, that the *Phoca Leopardina* of Professor Jameson in Weddel's 'Voyage,' from the specimen preserved in the museum of the Edinburgh University, is the same animal as I described under the name of *Leptonyx Weddelii*, figured in the 'Zool. Ereb. and Terror.'

A fœtus extracted from a specimen of the Pilot Whale (*Globiocephalus Svieval*) was six feet long.

In *Lagenorhynchus leucopleurus* the first, second and third cervical vertebræ are united by their spinous process, the rest free.

In *Globiocephalus Svieval* the second and third cervical vertebræ are united, the rest free.

In *Monodon monoceros* the second and third cervical vertebræ are united by the spinous process, not by the body, and the rest are free.

In *Delphinus Tursio* the atlas and the second cervical vertebra are united by the body, the spinous and lateral processes, and the rest are free and thin.

There is a perfect specimen of *Hyperoodon latifrons*, brought from Greenland by Capt. Wareham, in the museum at Newcastle, rather smaller (seven feet long) than the one from Orkney in the British Museum. There is the skeleton of an adult *Hyperoodon* from the Firth of Forth in the anatomical museum of Edinburgh University with the skull sixty inches long; the crests are very thick, but quite separate, and with flat perpendicular walls on the inner side.

There is another skull of the same species, from a specimen stranded on the coast of Lancashire, in a garden near Newly Bridge.

MISCELLANEOUS.

THE ROSE CADDICE SAW-FLY.

A WORK devoted to the investigation of the manners and œconomy of the species of insects which feed upon the Rose-tree would extend to several volumes; there is, in fact, scarcely any one kind of vegetable, the Oak, perhaps, excepted, which supports so many distinct kinds of insects, the natural history of many of which is still unrecorded: and we know no more interesting subject of garden-leisure than the examination and publication of the details of their habits, as many of them furnish remarkable details which could not fail to be highly instructive.

The insect which is the subject of the present communication is one of these Rose-feeding insects whose singular œconomy renders it very worthy of attention. For many years we have regularly noticed in our garden at Hammersmith, during the last week of May and