

explained or examined. If one or more of the distal phalanges of the leg of a common crab be torn forcibly off, the animal instantly throws off the remaining parts of the limb. This is effected with little apparent exertion, and always takes place at one spot, which is marked externally by a delicate line, covered with an annulus of thinly scattered hairs. The phalanx on either side of the ring is considerably contracted; and when the shell is taken carefully off, so as to expose the contents, they are found to consist of a fibrous, gelatinous, glandular-looking mass—the organ which supplies the germs for future limbs. Some hours after the limb is thrown off, the small foramen becomes gradually filled by a small rounded body—the germ of the future leg—which gradually increases in size, so as to push out before it the cicatrix which had been formed on the raw surface after the injury, and now forms the external covering of the young limb. As the germ increases in size, the inclosing membranes become thinner and thinner, until they burst, when the young limb, which has hitherto been bent upon itself, becomes extended and has all the appearance of a perfect limb, except in size.

'On the Fishes of Yorkshire,' by T. MEYNELL. —The total number of species which have been detected as inhabiting the shores or frequenting the fresh waters of Great Britain, are stated by Mr. Yarrell's supplement to be about 250, of which number Mr. Meynell presented a list of 140 species as frequenting the waters of Yorkshire.

Dr. CARPENTER then communicated to the Section some observations on the position which he deemed ought to be given to the compound ascidians in the zoological scale. In opposition to Milne Edwards, he considered that the compound ascidians should be placed with the Mollusca, and the ascidian polyps with the Radiata.

Prof. ALLMAN did not think the polyps should be classed with the Radiata. They were not zoophytes—they were not mollusca.—Prof. E. FORBES agreed with Dr. Allman, that we were not in a position to change the place of compound ascidians in the zoological scale.

SATURDAY.

The attention of the Section was this day devoted to Botany.

Chevalier SCHOMBURGK read a series of papers, the first of which was entitled 'Description of *Alexandra Imperatricis*, a new genus of Papilionaceæ.'—This tree, in appearance, is one of the most beautiful and gorgeous of the family of Leguminosæ, and was discovered by the author at the foot of the northern ridge of sandstone mountains in the pluvial basin of the River Cuyuni, in Guiana, and reaches a height of from 100 to 120 feet. The flowers are developed directly from the trunk and woody branches, in large clusters, and the racemes, pedicels, and calyces are of a rich crimson, the petals bright orange, striped with crimson, the vexillum of a deep purple, and ascending. The pod is from 18 to 20 inches long, and contains several seeds.

The PRESIDENT inquired what was the largest tree the Chevalier had observed in the forests of Guiana.—Mr. SCHOMBURGK replied, the *Mora excelsa* was the highest tree.

The next paper by Mr. SCHOMBURGK was a description of a new species of Barbacenia.—This plant grows on the table land from which Mount Roraima rises. It reaches frequently a height of 10 or 12 feet, branching in a dichotomous manner, and bears a number of flowers, which, in their appearance, are liliaceous, and 5 to 6 inches long. They are, outside, of a delicately purplish hue, and deliciously fragrant. It differs from the species of hitherto described Barbacenia, in possessing 18 fertile stamens. The difference in the number of stamens is not, however, allowed to be generic in allied species of Vellozia, and, therefore, the author has placed this plant with the Barbacenia.

'On the *Ophiocaryon paradoxa*, the Snake-nut tree.'—In a former communication Mr. Schomburgk had called the attention of naturalists to the peculiar seed of this tree. The seed is covered over with a membrane, which, on being removed, presents the embryo elongated and twisted in a spiral manner, so as to give it the form of a snake. From a recent examination of the flowers of this tree, the author had found that it belonged to the natural order

Sapindaceæ. The embryo is twisted in other members of this order.

On the *Calycophyllum Stanleyanum*.—There are several genera of the natural family of Rubiaceæ, as *Calycophyllum*, *Mussaenda*, *Pinkneya*, &c., where one of the teeth of the calyx expands into a coloured petioled leaf, of a membranaceous texture. In this tree it is very remarkable; and as these bractlike organs are of a rose colour, they give a very beautiful aspect to the forests where they grow. This appendage only grows after the flower has dropped off, and develops itself with astonishing rapidity. The tree grows on the banks of the rivers Rupununi and Takutu, in the third parallel of north latitude.

Mr. SCHOMBURGK then communicated a paper, entitled 'Description of *Lightia lemniscata*, a new genus of the family Buttneriaceæ.'—The Buttneriaceæ are very common in Guiana, and in some districts the author met with whole forests of the chocolate nut tree, a plant belonging to this family. The *Lightia* belongs to this family. The great peculiarity of this plant is, that the petals have an elongated appendage, which hangs down from the cluster of flowers, like ribbons, and hence its specific name. This tree attains a height of 20 or 24 feet, and produces its flowers directly from the stem, below the axis of fallen leaves. Only three specimens of this tree were discovered in Guiana by Mr. Schomburgk.

The last paper by Mr. SCHOMBURGK was 'On two New Species of the family Laurinæ, from the forests of Guiana.'—The first is a tree which affords timber which is brought to England, and known by the name of Greenheart. This tree was found, by Dr. Rodie, to possess febrifugal properties, and Dr. MacLagan has published an account of two new alkaloids which he had obtained from it by chemical processes. These alkaloids may be used instead of quinine. The second tree has long been known, and yields an aromatic fruit, known by the name of the Accawai nutmeg, and is extensively used in Guiana as a remedy in diarrhoea, dysentery, and other intestinal diseases. The author succeeded in obtaining flowers and seeds, and had found this tree to be a species of *Acroclidium*, to which he has given the specific name, *Camara*. It appears to be restricted to the sandstone mountains of Roraima, between the fifth and sixth parallel of north latitude.

Mr. SCHOMBURGK exhibited dried specimens and drawings of most of the plants he described, as also of the *Strychnos toxifera*, a plant which produces the true Wouraili poison of Guiana.

Prof. BALFOUR stated, that the Greenheart was much used for building vessels on the Clyde. The alkaloid obtained from this tree was called by Dr. MacLagan bibirine, but its insolubility rendered it unfit for medical uses.—Prof. TILLEY stated, that although Dr. MacLagan had named two alkaloids as being present in the wood of the greenheart, subsequent experiments had led him to conclude, that there was but one, and this he called bibirine. This alkaloid presented a similar chemical constitution to quinine. It was not, however, combined with an organic acid.

Mr. BABINGTON then exhibited to the Section specimens of three plants which had been added to the list of British plants during the summer of 1844. These were, 1. *Alsine stricta*, discovered on Widdy-bank Fell, in Teesdale, Durham; 2. *Carduus setosus*, growing near the shore of the Frith of Forth, in the neighbourhood of Cullrow; 3. *Galium Vaillantii*.

Mr. O. A. MOORE read a report 'On the Flora of Yorkshire,' written at the request of the Council of the Yorkshire Philosophical Society, the drawing up of which had been intrusted to himself and Mr. Baines. In this list were included 1,117 species and 158 varieties, exclusive of a few whose claims to be regarded as Yorkshire plants rest on insufficient grounds. Of these about 87 species and 81 varieties were mentioned, which had not previously appeared in any general list.

Mr. BABINGTON observed, that the occurrence of *Orobancha rubra* in Yorkshire proved that this plant was not, as supposed, sometimes confined to basaltic formations. It was always found growing on the roots of *Thymus serpyllum*.

The PRESIDENT stated, that a paper ought to have been brought before the Section, 'On the Phosphorescence of Mosses,' by Mr. Fox Strangways, but

this paper had unfortunately been lost.—Mr. BABINGTON said, that he had observed the light called phosphorescence in mosses, particularly in the *Schistostega pennata*. He could not explain the cause of the occurrence of this curious phenomenon.—Prof. BALFOUR referred to some recent papers on this subject, and spoke of the curious light given out by flowers of an orange and red colour. It was well known that many cryptogamia gave out light during their decomposition.—Chevalier SCHOMBURGK had been frequently surprised in the forests of Guiana at the bright light given off by plants belonging to the fungi. He had also seen it occur during the decomposition of the cassava roots.—Dr. LANKESTER stated, that it had been supposed that *Schistostega pennata* exhibited the appearance of phosphorescence on account of its crystalline structure. Mr. Edwin Quekett and himself had, however, examined the moss in vain for crystals. He believed that the phenomenon of phosphorescence might be referred to the union of oxygen with the tissues of the vegetable, producing a low form of combustion, and in which light was emitted.—Prof. ALLMAN considered the light observed to issue from coloured flowers an optical delusion. If it were real phosphorescence it would be seen better in the dark than in the twilight, which was not the case. He did not consider that this kind of light had any analogy with that which appeared from the stems of decaying trees and of cryptogamia.

Mr. ALLIS, of York, whose exhibition of living ferns in the gardens of the Yorkshire Philosophical Society, caused so much astonishment, from the number, variety, beauty, and rarity of the ferns cultivated, read a paper 'On the Mode he had adopted in cultivating the Ferns, as well as Notes on the rarer Species.'—At the conclusion of the paper the President and Members of the Section, accompanied Mr. Allis to the tent in the gardens in which his ferns were deposited, where he described the characters and modes of cultivating some of the rarer and less known of the family of ferns.

FRIDAY.

SECTION E.—MEDICAL SCIENCE.

A paper was read, received from Prof. PERETTI, of Rome, 'On the Bitter Principles of some Vegetables.'—The greater part of those vegetables, he observed, which contain a bitter principle not depending on an alkaloid, owe it to an alkaline resin; they are decomposed by large quantities of water, by acids, and by earthy salts. By the processes he adopted (and which he described in detail), the Professor obtained the bitter principle of wormwood, quassia, coffee, gentian, &c., and also the pure bitter of bile. The bitter principle which attracted his chief attention was that of the *Absinthium Romanum*, which he stated to have much power in allaying severe irritation of the stomach, and he had successfully used it as a remedy in sea-sickness, half an ounce of the solution being enough to prevent it, or stop it if it had commenced. The Professor detailed several of the chemical properties of these resins. The so-called resins he stated to be bi-resinated alkalis; such are the resins of jalap, guaiacum, &c. The gum resins he stated to be combinations of resinate and bi-resinate of potash with resinates of lime and magnesia. The paper concluded by observations on some other points of vegetable chemistry, and the announcement of the discovery of a new alkaloid derived from a new species of Pereira, the *Cryptocaria pretiosa*, different from the bark of the true Pereira, examined by M. Pelletier.

The next paper, by Dr. S. W. J. MERRIMAN, was on a physiological subject of purely professional interest.

SATURDAY.

Dr. HODGKIN read a paper 'On the Tape-Worm as prevalent in Abyssinia.'—He also gave some particulars of the plant called Kosso in Abyssinia, but known by different names in other regions of Africa, the flowers of which are powerfully purgative, and are used as a specific remedy for the endemic prevalence of worms.

Dr. WILLIAMS presented two specimens of *Tœnia*, one of which had been removed by the use of spirit of turpentine, after the male fern root (*Aspidium filix mas*) had failed, and the other by the latter remedy, after the turpentine had failed.