

Cercoleptes being characteristic. Hystricidæ abound, and Ruminants are very badly represented, only lamas, peccaries, and tapirs being found. Sloths, armadillos, and opossums are not found elsewhere, and there are no frugivorous bats, Insectivores, Viverridæ, nor elephants. The West India Islands form a well-marked (Antillean) sub-region, possessing *Solenodon*, and peculiar Rodents.

The Australian region, including Australia and the Malay Archipelago up to Wallace's line (or *Antarctogæa*), is characterised by the presence of the Monotremes and Marsupials. Lastly New Zealand (*Ornithogæa*) has no Mammals at all except two Bats.

Mr. Sclater, in conclusion, explained the different answers which had been given to the question: Why are animals thus distributed? showing that the Darwinian hypothesis is a key to the whole subject, rendering quite simple most of those difficulties which were previously insurmountable.

CAMPHOR

THE camphor of commerce, it is well known, is the produce of *Camphora officinarum* Nees, a tree of China and Japan. To obtain it the wood is cut up into pieces and boiled in water, when the camphor is deposited. It is afterwards purified by sublimation, and further refined after its arrival in this country. Immense quantities of this article are imported from Singapore, and though so valuable in European commerce, in Sumatra and Borneo a much higher value is put upon that known as Sumatra camphor, which is obtained from *Dryobalanops aromatica* Gaert. (*D. camphora* Coll.), which does not come to this country as an article of trade. Besides these there is a third kind of camphor, known in China as Ngai camphor; this, in point of value, stands between the ordinary commercial article and the Malayan or Sumatra camphor. Its botanical source has for a long time been doubtful, but it has generally been attributed to an unknown species of *Artemisia*. Mr. D. Hanbury, however, who has done so much in clearing up doubts on the botany of many of our important articles of trade, more especially in relation to drugs, has recently, in a paper read before the Pharmaceutical Society, identified the plant with *Blumea balsamifera* D.C. It is a tall, herbaceous plant, and has long been known for the powerful smell of camphor emitted from the leaves when bruised. It is common in Assam and Burma, and indeed throughout the Indian islands.

The materials from which Mr. Hanbury has been enabled to solve the problem of the origin of this peculiar camphor were sent him from Canton, and consisted of a small branch of the plant, and specimens of the camphor itself. These specimens, he says, "represented two forms of the camphor—the one a perfectly colourless crystalline substance, in flattish pieces as much as an inch in length;" the other, which was sent as crude camphor, was a crystalline powder of a dirty white colour, mixed with some fragments of vegetable tissue. "The purer sample has an odour scarcely distinguishable from that of ordinary camphor; but the odour of the other is perceptibly contaminated with a smell like that of worm-wood." This camphor, though seldom seen in this country, was at one time attempted to be brought into commerce, one hundred pounds of it having been made in Calcutta. It is used in the East, both in medicine and in the manufacture of the scented Chinese inks. It is stated that "about 15,000 dols." (3,000*l.*) worth is annually exported from Canton to Shanghai and Ningpo, whence it finds its way to the ink-factories of Wei-chau and other places."

Though it is now proved that *B. balsamifera* is the plant yielding the bulk of Ngai camphor, it is not improbable that some other plants lend their aid, for the term "Ngai" is, it appears, applied to several belonging to the Labiatæ and Compositæ. JOHN R. JACKSON

THE "SPAR CAVES" OF THE NORTH BRIDGE, EDINBURGH

THE North Bridge, which spans the deep valley lying between the Old and New Towns of Edinburgh, was built upwards of a hundred years ago, and its huge arches must be familiar to all who have entered Edinburgh from the south by railway, the terminus for the main southern lines being situated just below. Between the arches of the bridge and the roadway above are a number of chambers or vaults which have not been opened, till recently, since the bridge was built. In carrying out the operations necessary for the widening of the now too narrow bridge, these vaulted chambers have been opened up, and one of them has been visited by Prof. Geikie, who, in a communication to the *Scotsman*, describes the wonderful sights he saw.

"The chamber we examined," he says, "was about eight or ten feet broad, and varied in height according to the rise and fall of the floor over the arch underneath, the floor coming sometimes so near the roof that we needed to stoop low to get through. From the vaulted ceiling, and especially from the joints of the masonry, hung hundreds of 'stalactites'—delicate spar icicles of snowy whiteness. In many cases they reached to the floor, forming slender thread-like pillars. In making our way we were under the necessity of brushing down many of these pendant masses. Now and then we seemed to be marching through a grove of white and brittle canes. The longest entire one we could see measured rather more than six feet in length. Usually they were slim stalks somewhat like thick and not very well-made tobacco-pipes, but towards the sides of the vaults they became thicker and stronger, one which we carried off measuring about four feet in length, and as stout as an ordinary walking-stick. The same material as that forming the stalactites spread in ribbed sheets down the sides of the vault. The floor, too, was dotted all over with little monticules of the same snow-white crystalline spar.

"A more illustrative example of a stalactitic cavern could not be found. The whole process was laid open before us in all its stages. Along the joints of the masonry overhead could be seen here and there a drop of clear water ready to fall. At other places the drop hung by the end of a tiny white stone icicle, to which it was adding its own minute contribution as it evaporated. From the mere rudimentary stumps the stalactites could be traced of all lengths until they were found firmly united to the spar hillocks on the floor. Every one of these hillocks, too, lay directly beneath the drip, catching the remainder of the stone dissolved in the dropping and evaporating water. In every case the stalactites were tubes; even the thickest of them, though it had undergone great changes from deposit on its outer surface, retained, nevertheless, its bore. Usually there hung a clear water-drop from the end of the stalk, ready to descend upon its white stony mound beneath.

"So far, except for the undisturbed perfection of the whole, there was nothing which may not be seen under many an old vault. But what astonished me most was the evidence of a continuous growth and destruction of these slim stalks of stone during an actually known period. In a great many cases the little 'stalagmite' mounds were each surmounted by a short slender stalk, as the Calton Hill is by Nelson's monument. There could be no doubt that these monumental-looking objects were merely the lower ends of once-continuous stalactite pillars. And indeed, searching round the mound I could usually find fragments of the broken column imbedded in the growing stalagmite. What had broken them? Perhaps a heavy omnibus thundering overhead, or a laden lorry or a deftly-fired royal salute. Anyhow, for a hundred years