

appartenant au pays dans lequel doit avoir lieu la prochaine session du Congrès. Le nom des lauréats sera proclamé en séance solennelle; il sera transmis sans délai au président de la Société des amis des sciences naturelles.

Enfin, il a été décidé que la langue française serait seule admise pour toutes les affaires du Congrès, notamment pour la correspondance et pour les travaux manuscrits ou imprimés.

## 2. Linnean Society of New South Wales.

July 27th, 1892. — 1) Observations on the poisonous constituents of the Venom of the Australian Black Snake (*Pseudechis porphyriacus*). By C. J. Martin, M.B., B.Sc., Lond., Demonstrator of Physiology in the University of Sydney, late Demonstrator of Physiology, King's College, London. (Communicated by J. J. Fletcher.) The autor gives an account of his investigation of the venom of the black snake with regard to the presence of albumose. The poison from two black snakes was placed under absolute alcohol for three months, by which means all the proteids were precipitated. From the alcohol used (which was free from proteid) a volatile organic acid was separated. Neither the alcoholic extract nor the acid possessed any toxic properties. A portion of the coagulated proteid was soluble in 0,7 % salt solution, and the solution so obtained was very virulent, and when injected into the veins of a small animal caused death with the usual symptoms of snake poisoning. From this solution two albumoses were separated, which were shown to be the bodies to which the solution owed its poisonous power. — 2) On gall-making *Buprestidae*. By W. W. Froggatt. This paper gives an account of the gall-like excrescences formed by three species of *Ethon*, namely by *E. affine*, L. and G., on the stems of *Pultenaea stipularis*, and by *E. corpulentum* and *E. marmoreum* on the roots of *Dillwynia ericifolia*. — 3) On the Pliocene Mollusca of New Zealand. By Professor F. W. Hutton, F.G.S., Hon. Mem. L.S.N.S.W. This paper, which will appear in the forthcoming Macleay Memorial Volume, gives a complete list of the Mollusca hitherto met with in the Pliocene fossiliferous beds of New Zealand. Such beds have been found only in the southern and eastern parts of the North Island. About 64 per cent. of the Pliocene Mollusca are also found in Miocene rocks, but the Pliocene fauna is well characterised firstly by the presence of the genera *Trophon*, *Columbella*, *Turricula*, and *Mytilicarda*, by the absence of certain genera present in Miocene strata, and thirdly by the small size of sundry species common to both formations. From the recent fauna, that of the Pliocene is distinguished by the presence of from 23—37 per cent. of extinct species, and of a number of genera no representatives of which up to the present time are known to inhabit New Zealand seas. The Pliocene fauna, therefore, seems to be the remains of an earlier fauna disappearing rapidly before the conquering host of the recent fauna, which had invaded New Zealand some time previously. — 4) Contributions to our Knowledge of *Ceratodus*. Part I. The Blood Vessels. By W. Baldwin Spencer, M.A., Professor of Biology in the University of Melbourne. (Communicated by Professor Haswell.) — The author finds that the arterial system of *Ceratodus* in certain respects shows a resemblance to that of

Amphibia, — as in the origin of the branchial afferent vessels almost simultaneously from the anterior end of the conus, in the manner of union of the epibranchial arteries to form the dorsal aorta, and in the origin on either side of a pulmonary artery from the fourth epibranchial artery; and in others to that of Elasmobranch fishes — as in the presence of two efferent arteries (an anterior and a posterior) in each arch, in the origin and distribution of the carotid arteries, in the presence of an intrainestinal artery associated with the development of a spiral fold in the intestine, and in the presence of anterior spermatic and oviducal arteries which pass off from the dorsal aorta not far behind the entrance of the last pair of epibranchial arteries. In the venous even more notably than in the arterial system there is a remarkable mixture of piscine and amphibian characters, with which is associated a lack of symmetry on the two sides of the body: the characters of the cardinal system, and the presence of a very distinct lateral cutaneous vein, and of a well-developed intrainestinal vein reveal piscine affinities; while the development of the inferior vena cava and anterior abdominal systems shows that to a certain extent *Ceratodus* has developed along lines at all events parallel to those of the Amphibia. This paper also will appear in the forthcoming Macleay Memorial Volume. — Dr. Norton also related a remarkable instance of antipathy to the smell of fish on the part of a horse in his possession. — Mr. Rainbow exhibited the two sexes of an undescribed Sydney spider (*Nephila* sp.) the webs of which were said to be strong enough to catch small birds.

August 31st 1892. — 1) The Range of *Placostylus*; A Study in Ancient Geography. By C. Hedley, F.L.S. The writer remarked on the essential unity of the *Placostylus* area as a Zoological Province, embracing the archipelagoes of Solomon, Fiji, New Hebrides, Loyalty, New Caledonia, Norfolk Island (?), Lord Howe, and New Zealand; a unity explicable only on the theory that they form portions of a shattered continent, and are connected by shallow banks formerly dry land. Deep sea soundings, especially those of the »Challenger« in the Coral Sea, further demonstrate the existence of such a submarine plateau, for which the name of »The Melanesian Plateau« is proposed. Further, the writer contended that the Melanesian Plateau was never connected with, nor was ever populated from, Australia; that its fauna and flora were originally derived from New Guinea. — 2) Botanical. — 3) Jottings from the Biological Laboratory, Sydney University. No. 18. — Three Zoological Novelties. By Professor Haswell, M.A., D.Sc. I) The Occurrence of a second species of *Phoronis* in Port Jackson. *Phoronis australis*, remarkable for its large size, and for its curious habit of living in communities of twenty or thirty individuals in the substance of the wall of the tube formed and inhabited by a species of sea-anemone (*Cerianthus*), was described from Port Jackson some years ago. A second species, the animals of which are found growing thickly over empty mussel shells, no larger than the European kinds, and with hardly any important distinctive points of difference from *P. psammophila*, Cori, from Messina, has recently been dredged in the same locality as that inhabited by the larger species. — II) An Alloiocoele Turbellarian inhabiting the underground waters of Canterbury, New Zealand. This is a preliminary note, to be followed shortly by a detailed account, of a very interesting Turbellarian obtained from deep wells in two localities about 100 miles apart, forwarded by Mr. C. Chilton,

B.A., of Port Chalmers, N.Z. The animals are devoid of eyes, completely destitute of pigment, and of comparatively large size, the largest being nearly  $1\frac{1}{2}$  inches long. — III) A new genus of the *Temnocephaleae*. *Temnocephala* is such an aberrant member of the *Platyhelminthes* that the discovery of a related form is of considerable interest. In *Temnocephala* there are at the anterior end of the body a number (four to six) of long slender tentacles; at the opposite end a large ventral sucker. In the new genus, which it is proposed to call *Actinodactylus*, twelve or fourteen tentacles are present distributed along the lateral margins of the body and radiating outwards from it. A ventral sucker occupies the same position as in *Temnocephala*. Eyes are completely absent; but in most other respects the resemblance to *Temnocephala* is fairly close. The new form occurs in the branchial cavities of *Engaeus fossor*, the burrowing land-crayfish of Gippsland. — 4) Some points in reference to the muzzle of *Ornithorhynchus*. By J. T. Wilson, MB., Professor of Anatomy in the University of Sydney, and C. J. Martin, M.B., B.Sc., Demonstrator of Physiology in the University of Sydney. The so-called »duck-bill« is correctly described by Huxley (Anat. Vert.) as a »flattened muzzle resembling the bill of a duck«, but the integument covering it is not »leathery«, as he terms it, and as Owen (Anat. Vert.) also regards it, and certainly not »horny« as Flower (Osteol. Mamm.), Mivart and other authors of repute describe it. It is, on the contrary, »uniformly smooth and flexible«, as Waterhouse styles it (Nat. Hist. Mamm.), but not specially »thick«, as his description would lead one to suppose. The osseous skeleton of the jaws is correctly described by most of the authors consulted, but the cartilaginous basis of the lips forming a marginal extension of the skeleton of both upper and lower jaws, though noticed by Meckel and Owen in particular, is ignored by some writers; and, so far as the authors know, its real significance in the morphology of the skull of this animal has been entirely overlooked. W. K. Parker (Mamm. Descr.) has given ample recognition to the arrangement in question, but he leaves it doubtful whether the corresponding cartilage in the lower lip is or is not the representative of part of the slab of cartilage upon which the dentary has grafted itself. This doubt may be disposed of by the statement that the cartilaginous basis in the lower lip, though analogous in position and function to that in the upper, differs from the latter essentially, in that it is composed, not of true hyaline cartilage, but of fibro-cartilage, and hence it probably possesses no special significance in the morphology of the skull. The marginal strip or sheet of true hyaline cartilage in the upper lip, however, has a probable meaning altogether different from that suggested by Parker. The authors find that in the adult animal, which alone they have had the opportunity of examining, the marginal cartilage of the upper lip is a forward lateral growth and expansion of an area of cartilage which fills up that gap in the palate left between the separated maxillae and premaxillae, and which is itself continuous behind with the true cartilaginous nasal septum, and is therefore to be looked upon as a true prenasal element in the axial cranial skeleton. The so-called dumb-bell shaped bone has been regarded by some authors as a pre-nasal bone, but Albrecht and Turner (Journ. Anat.) have shown, and Symington (Proc. Zool. Soc.) has confirmed the conclusion, that it is really a membranous ossification corresponding to the mesial osseous centre of the premaxilla of other mammals. But none of the authors mentioned seems to

have investigated at all completely the homologies and connections of the plate of cartilage upon whose inferior or palatal face the dumb-bell shaped bone is grafted. Symington, indeed (loc. cit.) accurately describes and figures this cartilage plate in the region of and behind the dumb-bell shaped bone. But he is silent in respect of its anterior relations. Where he describes it, the plate is formed by the alinasal cartilages which are continuous dorsally with the dorsal margin of the septum nasi, but after bending round laterally to form the side walls of the nasal fossae, they turn inwards ventrally to form its floor and meet but do not fuse in the middle line of the palate. It is here close to their mesio-ventral edges that they are excavated by the cavities of Jacobson's organs, and that they have grafted on their inferior or palatine surfaces the single mesial dumb-bell bone. If, however, these cartilages be traced forwards in a series of sections in front of Jacobson's organs and in front of the dumb-bell bone, their mesio-ventral edges are gradually found to diverge from each other so as to admit of the inferior edge of the cartilaginous septum nasi, which descends between them, expanding at the same time so as to assume a considerable share in the formation of the cartilaginous palate between the aforesaid alinasals. Still further forwards the lateral margins of this now flattened and expanded septal cartilage fuse with the now widely separated margins of the alinasals, and the cartilage with this compound origin may be traced forwards right to the anterior end of the snout and into direct continuity with the marginal lip cartilage. Where the lower margin of the cartilaginous septum nasi descends and expands between the alinasals, it becomes gradually separated off from the upper margin of the septum, so that for an appreciable distance we have two cartilaginous septal elements, one dorsal and the other ventral or palatine, joined by an intervening connective tissue portion. But the dorsal portion stops abruptly immediately behind the anterior nostrils, which are dorsal in position. Almost immediately, however, in front of its point of cessation an entirely new cartilage appears, having a peculiar form. It consists of a flat ventral plate from whose lateral margins two vertical plates project dorsally, the whole arrangement being placed between the nostrils. This arrangement is continued forwards for a short distance, but is soon much modified by the abrupt disappearance of the lateral plates. The ventral plate remains, however, lying parallel to and a short distance dorsal of the palatine prenasal prolongation of the septum, which has already been described. And still further forwards the ventral plate descends still more so as to lie almost in contact with the dorsal surface of the prenasal cartilaginous plate, and gradually fades away with it, coming into actual contact with it or fusing with it. It is well known that in the pig embryo there is a very large prenasal tract of cartilage, which is the continuation forwards of the axial skeleton of the cranium in that animal. That, however, becomes proportionately greatly reduced in development. But in *Ornithorhynchus* we must regard such a prenasal expansion of the cranial basis as not only permanent in adult life, but as attaining in that animal a high degree of structural development and actually taking on a functional importance as part of the skeleton of the muzzle. — 5) On the peculiar rod-like tactile organs in the integument and mucous membrane of the muzzle of *Ornithorhynchus*. By J. T. Wilson, M.B., Professor of Anatomy in the University of Sydney, and C. J. Martin, M.B., B.Sc., Demonstrator of Physiology in the Univer-

sity of Sydney. — This paper gives a detailed account of the peculiar sense organs discovered by Mr. E. B. Poulton, F.R.S., and briefly described and referred to as »hair-like« in structure, in his note (Proc. Physiol. Soc. 1884) on some points in the structure of the skin covering the so-called beak of *Ornithorhynchus*. These organs, which are distributed over the whole surface of the skin covering the upper and lower jaws, and the lappet surrounding the base of the muzzle, but are also found in the mucous membrane of the palate, present an appearance remarkably like the roots of hairs, surrounded by their follicles, but possessing no papillae. The core, which simulates the hair-shaft, is seen to be longitudinally striated, which adds still further to the general resemblance; it is built up of a series of superimposed nucleated epithelial elements. The nervous arrangements of these organs are much more complicated than Poulton describes: towards the base of each organ a considerable leash of nerve fibres is directed, and these terminate in three ways — 1) in the small Pacinian bodies described by Poulton, in the connective tissue beneath the flattened base of the organ; 2) in a number of small lenticular bodies situated in the base of the organ between the epithelial cells which are formed by the apposition of two lens-like cells with an intermediate disk, the latter being the flattened termination of the axis cylinder of a nerve fibre, which can be seen to enter the periphery of the basal portion of the organ; and 3) the larger number of the nerve fibres thus entering lose their medullary sheath and divide, being continued in a longitudinal direction as fine nodose fibrils, of which two series may be distinguished. Papers Nos. 4 and 5 will appear in the forthcoming Macleay Memorial Volume. — Mr. Brazier exhibited, in a good state of preservation, a copy of a very old work, *Index Testarum Conchyliorum*, by Gualtier, printed and published in Florence, Italy, in 1742. Also a specimen of *Cassia nana*, Tenison-Woods, from Ballina, Richmond River, the first record of this species from the N.S.W. coast, the type having been found at Moreton Bay by the late Mr. C. Coxen. Also examples of *Murex octogonus*, Quoy, from Auckland, received from Professor Hutton, and of *M. umbilicatus*, Tenison-Woods, from South Australia; the latter was named *M. scalaris* by A. Adams in 1853, but the name being preoccupied, that of *nana*, T.-Woods, must be reverted to.

### III. Personal-Notizen.

Königliche Biologische Anstalt auf Helgoland. Zum Assistenten für Botanik ist, vorläufig bis zum 1. April 1893, Dr. Paul Kuckuck, bisher in Kiel, angestellt worden.

#### Necrolog.

Am 30. August starb in Marburg Professor Dr. Richard Greeff, 64 $\frac{1}{2}$  Jahr alt.

#### Berichtigung.

Zoologischer Anzeiger No. 399. — Gerd, Zur Frage über die Keimblätterbildung bei den Hydromedusen. In der Übersetzung hat sich eine kleine Ungenauigkeit eingestellt, welche zu berichtigen wir für nöthig halten. Nämlich der Ausdruck »Absorption« der Zellschicht ist im Sinne »Absonderung« gebraucht worden.

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Zeitschrift/Journal: [Zoologischer Anzeiger](#)

Jahr/Year: 1892

Band/Volume: [15](#)

Autor(en)/Author(s): Anonymous

Artikel/Article: [2. Linnean Society of New South Wales 424-428](#)