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LINNÆAN SOCIETY.

Dec. 4.—Edward Forster, V.P., in the Chair.

Read, "Observations on the Anatomical and Physiological Nature of Ergot in certain Grasses." By E. J. Queckett, Esq., F.L.S.

Having had the opportunity of examining the formation of the ergot in several grasses, the author has endeavoured to trace the cause and origin of this singular formation on them, and particularly on *Elymus sabulosus*.

It was found, that when a grain of the grass was to be replaced by an ergot, it presented before the period of expansion of the flower a singular mildewed appearance. This, when examined microscopically, was seen to consist of filaments, at whose base were myriads of particles of exceedingly diminutive size, forming a complete coating to the young grain, so that no part of its body was visible through it.

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black colour was then visible, on account of the mildewed appearance not keeping pace in development with the Ergot*.

After the ergot begins to appear beyond the paleæ, it in a short time attains its full size, and loses almost entirely its mildewed covering, presenting now its perfect violet black surface, and measures in different specimens from half an inch to one inch and half.

If the ergot be examined carefully at this period, in such specimens as have not been subjected to injury or displacement on the plant, it will be found that at its base are the two scales which are observable in the same place in the healthy grain, and that it is articulated to the receptacle, and separates from it as readily as the grain when ripe does from the same spot, and at the apex of it is a small body, frequently hairy, on which can be observed the remains of the stigmas.

From the relations of the ergot to these parts, and compared with those of the healthy grain, it is found that it is placed between and upon the same organs as the grain, and there cannot be a doubt but that this singular body is not an independent fungus, but a grain diseased from causes presently to be mentioned.

When the particles before mentioned, which occur on the surface of the ergot, and are also found in a viscid fluid that hangs about the paleæ of the infected grass, are examined by the microscope, their size is found to be $\frac{1}{400}$ part of an inch in length, and $\frac{1}{800}$ part of an inch in diameter in the generality of instances, and their number is countless, probably 20 millions on each ergot. When magnified from 500 to 800 times, it then can be observed that their interior contains several well-defined green dots or granules, two or three being the most common numbers.

If these particles, which are no doubt the cause of the ergot, as they are found on every ergotized grass and are sporidia of a certain fungus, be kept moistened on any convenient surface, as between a plate of glass and talc, they soon commence germinating (if recent) in various ways; sometimes by emitting a tube or tubes containing green granules, similar to those in the interior of the sporidia, and which probably separate finally into as many perfect reproductive atoms; in other instances one sporidium gives off a minute process from its side, which goes on increasing and ultimately becomes like

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its parent, and then separates from it. Often several sporidia so generated, remain united to each other for a short time, forming a moniliform filament, composed frequently of seven or eight joints.

The next and last method is the most perfect when it is found that the sporidia have their cavity divided by a septum, which is formed by a green granule of the interior extending itself laterally; each half of each sporidium being again subdivided, and by endless repetitions of this process a radiated plant is produced, which, when arrived at a certain size and age, bears upon its branchlets sporidia similar to that one from which it was first produced.

From these observations, it is proved that the sporidia, found on the surface of the diseased grain can germinate and ultimately develope the means of their reproduction, without forming any body analogous in shape or structure to an ergot, which fact is conclusive that the filaments and sporidia are no part of that body, because they are found to flourish unconnected with it, and even grow on many parts of the same grass, as seen in the anthers by Mr. Smith, of Kew Gardens, and observed by Mr. Queckett on the paleæ, glumes and rachis; therefore the ergot, Mr. Queckett conceives, originates by the grain of the respective grass becoming diseased, from the presence of a parasite, which occasions such alteration in its developement as to cause it to assume the well-known form, and to possess also the singular properties manifested in that of rye.

If the ergot be sliced into thin transverse sections, and these examined with a very high magnifying power, it will be seen that numerous particles escape from them when they are placed in water. These have been taken by Philippar for sporidia, from which circumstance he considered the ergot as the reproductive apparatus of a fungus; but such particles are only those of a fatty oil, which escape from the divided cells, and collect on the surface of the water, in which the sections are immersed, and differ from the sporidia of the exterior by floating on the surface, whilst the latter always subside to the bottom of the vessel containing the water. The application of heat to these supposed sporidia fuses them into irregular masses of different sizes, and ether or turpentine, if allowed to evaporate after being added to them, leaves similar appearances.

The internal structure of the ergot looks extremely irregular, there being no equally formed cells, but a confused jumble, out of which can scarcely be traced the true cells, on account of their boundaries being exceedingly sinuous, which structure is very like the centre of the fungus produced during the germination of the sporidia, and appears to be occasioned by fungoid matter having grown in the interior of the grain.

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From these observations, which have been followed up in many ergotized grasses, Mr. Queckett is inclined to believe that the ergot is a grain diseased by a particular parasitic fungus developing in or about it, whose sporidia find the young state of the grain a matrix suitable for their growth, and quickly run their race, not entirely depriving it of its vitality, but communicating to it such impressions, which pervert its regular growth, and likewise the healthy formation of its constituents, being at last composed of its diseased materials, which are mixed up with fungic matter, which has developed within it.

The fungus caused to germinate in the way described is quite invisible to the naked eye, seldom measuring beyond the one or two hundredth part of an inch; and from comparisons with British and foreign genera of Fungaceæ, it has not been found that it belongs satisfactorily to any as at present constituted; the author therefore proposes a new genus, with the title *Ergotætea*, to represent this minute fungus, which will belong to the sub-order *Coniomycetes* of Fries, and to its division Mucedines, very near to the genus *Sepedonium*.

After repeated experiments with the sporidia of the ergot of rye, of *Elymus*, and other grasses, the author has always succeeded in making them germinate, and has not discovered such differences as would lead him to consider that the parasite in each case was not the same, therefore he has applied the term *abortans*, as the specific name of *Ergotætea*, to the plant found on the ergot of rye, and believes the parasites, on the other grasses which have been examined, to be of the same species.

December 18.—Edward Forster, V. P., in the Chair.

Read, "A notice of *Cereus tetragonus*," by Edward Rudge, Esq., F.R. & L.S.

This plant has blossomed during the three past years in Mr. Rudge's collection at Abbey Manor House near Evesham. The flowers expand in the evening like those of *C. grandiflorus*, which they resemble, but are not above half the size. The number of the angles of the stem is variable. The species is an old inhabitant of our stoves, but has rarely flowered.

Read, "Descriptions of the Indian species of *Iris*," by D. Don, Esq., Libr. L.S., Prof. Bot. King's College.

The number of species of this beautiful genus belonging to the Indian Flora is five, three of which have not been previously described: one of the species is from Cashmere, another from Ludak,

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The number of species of this beautiful genus belonging to the Indian Flora is five, three of which have not been previously described: one of the species is from Cashmere, another from Ludak,

From these observations, which have been followed up in many ergotized grasses, Mr. Queckett is inclined to believe that the ergot is a grain diseased by a particular parasitic fungus developing in or about it, whose sporidia find the young state of the grain a matrix suitable for their growth, and quickly run their race, not entirely depriving it of its vitality, but communicating to it such impressions, which pervert its regular growth, and likewise the healthy formation of its constituents, being at last composed of its diseased materials, which are mixed up with fungic matter, which has developed within it.

The fungus caused to germinate in the way described is quite invisible to the naked eye, seldom measuring beyond the one or two hundredth part of an inch; and from comparisons with British and foreign genera of Fungaceæ, it has not been found that it belongs satisfactorily to any as at present constituted; the author therefore proposes a new genus, with the title *Ergotætea*, to represent this minute fungus, which will belong to the sub-order *Coniomycetes* of Fries, and to its division Mucedines, very near to the genus *Sepedonium*.

After repeated experiments with the sporidia of the ergot of rye, of *Elymus*, and other grasses, the author has always succeeded in making them germinate, and has not discovered such differences as would lead him to consider that the parasite in each case was not the same, therefore he has applied the term *abortans*, as the specific name of *Ergotætea*, to the plant found on the ergot of rye, and believes the parasites, on the other grasses which have been examined, to be of the same species.

December 18.—Edward Forster, V. P., in the Chair.

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a country situated beyond the Himalaya, and the remaining three are natives of Nepal and Kamaon, and of the country to the westward.

The following are the characters of the undescribed species:

1. *I. kamaonensis* (Wall. Cat. n. 5052.), barbata; scapo brevissimo unifloro, tubo perianthii longissimo subfiliformi, sepalis inferioribus bilobis, longe unguiculatis, ovario turbinato, 3-gono.
2. *I. longifolia* (Royle Ill. t. 91. f. 2.), imberbis; foliis margine scabris, scapo brevissimo unifloro, sepalis sublanceolatis integerrimis, tubo perianthii vix ullo, ovario elongato triquetro scapum adæquante, stigmatis lobis integerrimis.
3. *I. Moorcroftiana* (Wall. Cat. n. 5051.), imberbis; scapo bifloro pedunculis breviore, spathis glumaceis, tubum perianthii superantibus, sepalis lanceolatis acutiusculis, ovario 6-sulcato.

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The author's views of the vegetable nature of the river sponge were given in a paper read before the Society on the 5th of June, 1838, a report of which was inserted in the August number of the 'Annals of Natural History.'

The present paper contains additional observations in confirmation of these views, derived from a more accurate examination of the seed-like bodies, which are found adhering in abundance to the walls of the cells or cavities of the sponge, and also frequently free and endowed with the faculty of locomotion; and which have been regarded by some authors as the ova of the *Spongilla*, and by others as those of the *Plumatella*. Mr. Hogg has determined the identity of these bodies, having succeeded in raising young *Spongilla* from both kinds; and he has also ascertained that they are destitute of cilia, being merely studded with minute granular papillæ. The motions of the unattached bodies resemble those observed by Unger in the sporules of *Ectospora clavata*, and Mr. Hogg considers the currents to be due to the same causes, which affect the circulation of the fluids in the cells of vegetables.

Jan. 15, 1839.—Edward Forster, V. P., in the Chair.

Read, "A notice of the *Encephalartos horridus*, which flowered at Kinmel Park." By Mr. Thomas Forrest. Communicated by the Secretary.

This brief notice was accompanied by the male spadix, which had flowered at Kinmel Park, the seat of Lord Dinorben, and was sent for exhibition to the meeting by command of His Royal Highness the Duke of Sussex. The plant had been sent to Lord Dinorben from

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We subjoin the characters of the new species.

1. *J. leucanthus* (Royle), culmo bifolio tereti, foliis margine involutis filiformibus culmum subæquantibus, capitulo terminali solitario 6—10-floro, involucro 5-phyllo glumaceo floribus longiore, sepalis acutiusculis, antheris acutis filamentis duplo longioribus, ovario incluso, stigmatibus stylo ter brevioribus.

This species is nearly allied to *J. triglumis*.

2. *J. leucomelas* (Royle), culmo enodi filiformi aphyllo, foliis subulatis, canaliculatis, capitulo terminali 3—5-floro, involucro 3-phyllo acuto breviore, sepalis obtusis, antheris filamentorum fere longitudine, capsula acuminata perianthio longiore.
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5. *J. indicus*, triandrus; capit ulis multifloris squarrosis trichotome cymosis, sepalis lineari-lanceolatis apice mucronatis recurvis capsulæ muticæ longitudine, stigmatibus sessilibus.

ROYAL IRISH ACADEMY.

December 10.—Sir W. R. Hamilton, A.M., President, in the Chair.

Mr. Ball read a paper, entitled "Description of the *Cydippe pomiformis*, Patterson, (*Beröe ovatus*, Flem.,) with notice of an apparently undescribed species of *Bolina*, also found on the coast of Ireland." By Robert Patterson, Esq., Member of the Natural History Society of Belfast.

The author referred to a paper of his published in the 'Edinburgh New Philosophical Journal' for January 1836, giving some account of a tentaculated *Beröe* taken in abundance by him at Larne Lough, County of Antrim, in the spring of 1835. He then noticed the occurrence on different occasions in 1836–7, of a *Beröe*, exhibiting a peculiar ramiform arrangement of whitish internal vessels, branching off from near the lower part of the stomach to the several bands of cilia; and detailed the observations by which he was enabled to identify this with the *Beröe* described in 'Mem. Wer. Soc.,' vol. iii. p. 400, by Fleming,—the tentacula having escaped the notice of that writer from the specimen he examined having been in an exhausted state when these organs were retracted within the body. The presence of the tentacula removes the animal from the genus *Beröe* of Fleming, to the *Pleurobrachia* of the same author (*Cydippe* Eschs.) and as the specific name *ovata*, under which it was described in the 'Hist. of Brit. Animals,' has been applied to a different species, Mr. Patterson proposed that it should be designated as the *Cydippe pomiformis*.

The disappearance of the internal ramiform vessels was next noticed, and the steps by which the writer was enabled to ascertain that the species now brought forward was identical with that described by him in 1835; and consequently, that a *Beröe*, of the occurrence of which we have no record, except of one individual taken in 1820, was abundant on the Irish coast. Particular reference was made to Dr. Grant's paper, 'Zool. Trans.' vol. i. p. 9, on *B. pileus*, with a view to indicate the several points of agreement and of difference between these, the only two British species of tentaculated *Beröes*. The structure of the cilia, the aqueous currents at their base, the position and structure of the tentacula, the food of the *Beröe*, its vitality, consistency, want of phosphorescence, movements,

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fourthly, the parts above described form one continuous portion with the horizontal ramus of the jaw, neither the articular condyle nor the coronoid being distinct pieces as in reptiles. These are the characters, Mr. Owen believes, on which Cuvier formed his opinion of the nature of the fossil; and they have arrested the attention of M. Valenciennes in his endeavours to dissipate the doubts of M. de Blainville*.

From the examination of a cast, the latter, however, has been induced to infer that there is no trace of a convex condyle, but in place thereof an articular fissure, somewhat as in the jaws of fishes; that the teeth, instead of being imbedded in sockets, have their fangs confluent with or anchylosed to the substance of the jaws, and that the jaw itself presents evident traces of the composite structure.

In answer to the first of these positions, Mr. Owen states that the portion of the true condyle which remains in both the specimens of Thylacotherium examined by Cuvier and M. Valenciennes, clearly shows that the condyle was convex, and not concave. It is situated a little above the level of the grinding surface of the teeth, and projects beyond the vertical line, dropped from the extremity of the coronoid process, but not to the same extent as in the true Didelphys. In the specimen examined by M. Valenciennes, the condyle corresponds in position with that of the jaw of the Dasyurus rather than the Didelphys; it is convex, as in mammiferous animals, and not concave as in oviparous. The entire convex condyle exists in the specimen belonging to the other genus, Phascolotherium, now in the British Museum, but formerly in the cabinet of Mr. Broderip. Mr. Owen is of opinion that the entering angle or notch, either above or below the true articular condyle, has been mistaken for "une sorte d'échancrure articulaire, un peu comme dans les poissons."

The specimen of the half-jaw of the Thylacothere examined by M. Valenciennes, like that [the drawing of?] which was transmitted to Cuvier, presents the inner surface to the observer, and exhibits both the orifice of the dental canal and the symphysis in a perfect state. The foramen in the fossil is situated relatively more forward than in the recent Opossum and Dasyure, or in the Placental Insectivora, but has the same place as in the marsupial genus *Hypsiprymnus*. The symphysis is long and narrow, and is continued forward in the same line with the gently convex inferior margin of the jaw, which thus tapers gradually to a pointed anterior extremity,

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In answer to the first of these positions, Mr. Owen states that the portion of the true condyle which remains in both the specimens of Thylacotherium examined by Cuvier and M. Valenciennes, clearly shows that the condyle was convex, and not concave. It is situated a little above the level of the grinding surface of the teeth, and projects beyond the vertical line, dropped from the extremity of the coronoid process, but not to the same extent as in the true Didelphys. In the specimen examined by M. Valenciennes, the condyle corresponds in position with that of the jaw of the Dasyurus rather than the Didelphys; it is convex, as in mammiferous animals, and not concave as in oviparous. The entire convex condyle exists in the specimen belonging to the other genus, Phascolotherium, now in the British Museum, but formerly in the cabinet of Mr. Broderip. Mr. Owen is of opinion that the entering angle or notch, either above or below the true articular condyle, has been mistaken for "une sorte d'échancrure articulaire, un peu comme dans les poissons."

The specimen of the half-jaw of the Thylacothere examined by M. Valenciennes, like that [the drawing of?] which was transmitted to Cuvier, presents the inner surface to the observer, and exhibits both the orifice of the dental canal and the symphysis in a perfect state. The foramen in the fossil is situated relatively more forward than in the recent Opossum and Dasyure, or in the Placental Insectivora, but has the same place as in the marsupial genus *Hypsiprymnus*. The symphysis is long and narrow, and is continued forward in the same line with the gently convex inferior margin of the jaw, which thus tapers gradually to a pointed anterior extremity,

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In addition, however, to these proofs of the mammiferous nature of the Stonesfield remains, and in part of their having belonged to Marsupialia, Mr. Owen stated that the jaws exhibit a character hitherto unnoticed by the able anatomists who have written respecting them, but which, if co-existent with a convex condyle, would serve to prove the marsupial nature of a fossil, though all the teeth were wanting.

In recent marsupials the angle of the jaw is elongated and bent inwards in the form of a process, varying in shape and development in different genera. In looking, therefore, directly upon the inferior margin of the marsupial jaw, we see in place of the edge of a vertical plate of bone, a more or less flattened triangular surface or plate of bone extended between the external ridge and the internal process or inflected angle. In the Opossum this process is triangular and trihedral, and directed inwards with the point slightly curved upwards and extended backwards, in which direction it is more produced in the small than in the large species of Didelphys.

Now, if the process from the angle of the jaw in the Stonesfield fossil had been simply continued backwards, it would have resembled the jaw of an ordinary placental carnivorous or insectivorous mammal; but in both specimens of Thylacotherium, the half-jaws of which exhibit their inner or mesial surfaces, this process presents a fractured outline, evidently proving that when entire it must have been produced inwards or mesially, as in the Opossum.

Mr. Owen then described in great detail the structure of the teeth, and showed, in reply to M. de Blainville's second objection, that they are not confluent with the jaw, but are separated from it at their base by a layer of matter of a distinct colour from the teeth or the jaw, but evidently of the same nature as the matrix; and secondly, that the teeth cannot be considered as presenting an uniform compressed tricuspid structure, and being all of one kind, as M. de Blainville states, but must be divided into two series as regards their composition. Five if not six of the posterior teeth are quinque-cuspidate and are *molares veri*; some of the *molares spurii* are tricuspid and some bicuspid, as in the Opossums. An interesting result of this examination is the observation that the five cusps of the tuberculate molares are not arranged, as had been supposed, in the same line, but in two pairs placed transversely to the axis of the jaw, with the fifth cusp anterior, exactly as in the Didelphys, and totally different

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from the structure of the molares in any of the Phocæ, to which these very small Mammalia have been compared: and in reference to this comparison, Mr. Owen again calls attention to the value of the character of the process continued from the angle of the jaw, in the fossils, as strongly contradistinguishing them from the Phocidæ, in none of the species of which is the angle of the jaw so produced. The Thylacotherium differs from the genus Didelphys in the greater number of its molars, and from every ferine quadruped known at the time when Cuvier formed his opinion respecting the nature of the fossil. This difference in the number of the molar teeth, which Cuvier urged as evidence of the generic distinction of the Stonesfield mammiferous fossils, has since been regarded as one of the proofs of their Saurian nature; but the exceptions by excess to the number seven, assigned by M. de Blainville to the molar teeth in each ramus of the lower jaw of the insectivorous Mammalia, are well established, and have been long known. The insectivorous Chrysochlore, in the order Feræ, has eight molars in each ramus of the lower jaw; the insectivorous Armadillos have not fewer; and in one subgenus (Priodon) there are more than twenty molar teeth on each side of the lower jaw. The dental formulæ of the carnivorous Cetacea, again, demonstrate the fallacy of the argument against the mammiferous character of the Thylacotherium founded upon the number of its molar teeth. From the occurrence of the above exceptions in recent placental Mammalia, the example of a like excess in the number of molar teeth in the marsupial fossil ought rather to have led to the expectation of the discovery of a similar case among existing marsupials, and such an addition to our zoological catalogues has, in fact, been recently made. In the Australian quadruped described by Mr. Waterhouse under the name of Myrmecobius an approximation towards the dentition of the Thylacotherium is exemplified, not only in the number of the molar teeth, which is nine on each side of the lower jaw in the Myrmecobius, but also in their relative size, structure, and disposition. Lastly, with respect to the dentition, Mr. Owen says it must be obvious to all who inspect the fossil and compare it with the jaw of a small Didelphys, that contrary to the assertion of M. de Blainville, the teeth and their fangs are arranged with as much regularity in the one as in the other, and that no argument of the Saurian nature of the fossil can be founded on this part of its structure.

With respect to M. de Blainville's assertion that the jaw is compound, Mr. Owen stated, that the indication of this structure near the lower margin of the jaw of the Thylacotherium is not a true suture, but a vascular groove similar to that which characterizes

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In a memoir to be brought forward on another occasion, Mr. Owen intends to describe the other genus found at Stonesfield, and for which, on account of its marsupial affinities, he proposes the name of *Phascolotherium*.

ZOOLOGICAL SOCIETY.

May 22, 1838.—Richard Owen, Esq., in the Chair.

A letter was first read, dated Sierra Leone, February 19, 1838, from F. Strachan, Esq., Corresp. Memb., in which the writer, referring to the Chimpanzee, observes, that only two had been brought over to Freetown during the late rains, both of which he believes to be on their way to England; he also remarks, that there would be no great difficulty in procuring a young *Hippopotamus*, and that it might probably outlive the voyage to England if brought home in a man of war.

Mr. Waterhouse then laid before the Meeting a collection of specimens received from Mr. Cuming, consisting of a considerable number of birds, with skins of *Mammalia*, &c.: among the latter were several new or rare species, including specimens of the genera *Tarsius*, *Galeopithecus*, *Sciurus*, and *Paradoxurus*.

The scientific value of the above donation was much increased by some manuscript notes made by Mr. Cuming upon several of the animals, giving their native names, and information relative to their habits. Of one of these, a species of *Galeopithecus*, Mr. Cuming remarks:—

"The *Caguang* is an inoffensive animal, inhabiting lofty trees in dark woods, and is known to feed upon the leaves of the Nanka or Jack Fruit; it suspends itself from the upper branches of the tree by all its feet, which gives it a large appearance, as it brings them all four together.

"It flies heavily for about a hundred yards on an inclined plane, but readily ascends the trees by its strong claws; it makes a weak noise similar to geese when at rest: when the calls of nature operate on the animal, it erects its tail and membrane up to the back part of the neck, which gives it a most singular appearance. They are easily taken by the natives throwing nets over them, or by cutting down the tree on which they are; and before they can clear themselves of the branches are taken hold of by the hand. I never saw one of them attempt to bite. When the female has young she is very easily taken. They appear much attached to their young, which are always hanging at the breast. Of late years great numbers of them have been taken for the sake of their skins, which meet

the lower jaw of Didelphys, Opossum, and some of the large species of Sorex.

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"It flies heavily for about a hundred yards on an inclined plane, but readily ascends the trees by its strong claws; it makes a weak noise similar to geese when at rest: when the calls of nature operate on the animal, it erects its tail and membrane up to the back part of the neck, which gives it a most singular appearance. They are easily taken by the natives throwing nets over them, or by cutting down the tree on which they are; and before they can clear themselves of the branches are taken hold of by the hand. I never saw one of them attempt to bite. When the female has young she is very easily taken. They appear much attached to their young, which are always hanging at the breast. Of late years great numbers of them have been taken for the sake of their skins, which meet

the lower jaw of Didelphys, Opossum, and some of the large species of Sorex.

In a memoir to be brought forward on another occasion, Mr. Owen intends to describe the other genus found at Stonesfield, and for which, on account of its marsupial affinities, he proposes the name of *Phascolotherium*.

ZOOLOGICAL SOCIETY.

May 22, 1838.—Richard Owen, Esq., in the Chair.

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Mr. Waterhouse then laid before the Meeting a collection of specimens received from Mr. Cuming, consisting of a considerable number of birds, with skins of *Mammalia*, &c.: among the latter were several new or rare species, including specimens of the genera *Tarsius*, *Galeopithecus*, *Sciurus*, and *Paradoxurus*.

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Another of the specimens was the *Tarsius spectrum* of Geoffroy, of which Mr. Cuming's *memoranda* furnished the following interesting details :—

"The *Malmag* is a small animal living under the roots of trees, particularly the large bamboo of these islands. Its principal food is lizards, which it prefers to all other. When extremely hungry, I have known it to eat shrimps and cock-roaches, and give a great preference to those which are alive. It is very cleanly in its habits, never touches any kind of food that has been partly consumed, and never drinks a second time from the same water. It seldom makes any kind of noise, and when it does emit sound it is a sharp shrill call, and only once. On approaching it in its cage, it fixes its large full eyes upon the party for a length of time, never moving a muscle: on drawing nearer, or putting anything near it, it draws up the muscles of the face similar to a monkey, and shows its beautiful sharp regular set teeth. It laps water like a cat, but very slowly, and eats much for so small an animal. It springs, nearly two feet at a time. It sleeps much by day, is easily tamed, and becomes quite familiar, licking the hands and face, and creeping about your person, and is fond of being caressed. It has an aversion to the light, always retiring to the darkest place. It sits upon its posteriors when it feeds, holding its food by its fore paws; when not hungry, it will ogle the food for a considerable time. A male and female are generally seen together: the natives of these islands make sure of taking the second having secured the first. They are extremely scarce in the island of Bohol, and only found in the woods of Jagna and the island of Mindanado.

"It produces one at a time. I had the good fortune to procure a female without knowing her to be with young: one morning I was agreeably surprised to find she had brought forth. The young appeared to be rather weak, but a perfect resemblance to its parent: the eyes were open and covered with hair; it soon gathered strength, and was constantly sucking betwixt its parent's legs, and so well covered by its mother, that I seldom could see anything of it but its tail: on the second day it began to creep about the cage with apparent strength, and even climb up to the top by the rods of which the cage was composed. Upon persons wishing to see the young one when covered over by the mother, we had to disturb her, upon which the dam would take the young one in its mouth, in the same manner as a cat, and carry it about for some time; several times I saw her when not disturbed trying to get out of the cage, with the young one in her mouth

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Jagna, Isle of Bohol, August 1837. "H. Cuming."

Among the collection sent by Mr. Cuming to the Society were specimens of two species of Saurian Reptiles, upon which, at the request of the Chairman, Mr. Martin offered some remarks.

The first species to which he adverted was the *Istiurus Amboinensis* of Cuvier: two specimens of this rare reptile, both males, were procured by Mr. Cuming in the Island of Negros. The *Istiurus Amboinensis*, from the circumstance of the male being furnished with an elevated crest or fan, supported by the spinous processes of the base of the tail, in which respect it agrees with the Basilisk, was placed by Daudin in the same genus with this latter reptile, and characterized as the *Basiliscus Amboinensis*, and in this arrangement Daudin was followed by most succeeding writers. So little allied, however, in reality, are these two reptiles (though possibly they may be the representatives of each other in different quarters of the globe), that they belong to two different sections of the *Sauria*, of which one has the Old World, the other the New World, for its range. The Basilisk (*Basiliscus mitratus*, Daud.), with all the American genera of the Iguanian group or *Eunotes* of Dumeril and Bibron, belong to the section of that group termed *Pleurodonta*, distinguished by the situation of the teeth, which rise from a furrow along the internal aspect of each jaw; whereas the *Istiurus*, with all the Old World genera of the Iguanian group, (the genus *Brachylophus*, of which there is only one species, alone excepted,) belong to the section termed *Acrodonta*, distinguished by the teeth being firmly fixed along the very ridge of each jaw, instead of having an insertion in a lateral furrow. Mr. Martin observed, that the presence of the elevated fan at the base of the tail, which occurs only in the males of *Istiurus Amboinensis*, was a circumstance of interest, inasmuch as it involves a structural difference between the osteology of both sexes. In the common Water Newt, the male of which acquires fanlike membranes at a certain season of the year, the membrane is unsupported by an osseous frame-work, and is deciduous, or rather temporary; but in this animal, while the use of such a fan may be in all probability connected with sexual functions, it is a persistent appendage. The locality from which the specimens were derived gives them additional value.

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The next species to which Mr. Martin requested the attention of the meeting was a *Varanus* from the Isle of Mindanado, which he regarded as hitherto undescribed.

This *Varanus*, he observed, appeared to be closely allied to *Varanus chlorostigma*, Dum. and Bibr., differing, nevertheless, materially in the character of the scales of the body, and in the distribution of its markings. As in *Varanus chlorostigma* and *Var. bivittatus*, the suborbital scales consist of a crescent of plates, broader than long, encircled by small plates, which latter cover the suborbital margin. The nostrils are rounded, and placed on each side of the muzzle rather nearer the apex than in *Var. chlorostigma*; the teeth are also compressed with sharp edges very minutely dentated; the head is more produced than in *Var. chlorostigma*, being, in this respect more like that of *Var. bivittatus*; and the scales are larger, coarser, and more irregular.

For this new *Varanus*, Mr. Martin proposed the name of *Varanus Cumingi*.

Varanus Cumingi. *Varan. caudâ compressâ, naribus ferè rotundatis et rostri apicem versus positis; lamellis suborbitalibus inæqualibus, septem vel octo ceteris quoad magnitudinem præstantibus latissimis, lineamque semilunarem efficientibus; dentibus compressis, acutis, et delicatè serratis; corpore suprà nigro, guttis ocellisque flavis ornato; abdomine aurantiaco.*

Hab. apud Insulam Mindanado.

MISCELLANEOUS.

ON THE GENUS *SYNGNATHUS*.

A translation of Prof. Fries' paper on the genus *Syngnathus* having appeared in this Journal, we should not be doing justice to that gentleman, were we to omit publishing the following correspondence which has taken place between him and Prof. Wiegmann with reference to a note by the latter, which will be found at p. 100. vol. ii. of the Annals.—Edit.

"To Prof. Wiegmann.—In the third part of your Journal (Archiv für Naturgeschichte) you endeavour to weaken my statement that 'the specimen which served for the original of Bloch's figure was *S. æquoreus*,' by the assertion that 'the only specimen in Bloch's collection is my *S. Ophidion*.' I am very sorry that you did not take the trouble to compare Bloch's specimen with the figure, for you would certainly have come to a contrary conclusion. I have never seen Bloch's specimen, yet I still maintain that a *S. Ophidion* never served for the original of the figure, because no *S. Ophidion* offers such proportions as those presented by the figure. In no true *S. Ophidion* can the caudal fin be placed in such relation to the anus; the figure

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For this new *Varanus*, Mr. Martin proposed the name of *Varanus Cumingi*.

Varanus Cumingi. *Varan. caudâ compressâ, naribus ferè rotundatis et rostri apicem versus positis; lamellis suborbitalibus inæqualibus, septem vel octo ceteris quoad magnitudinem præstantibus latissimis, lineamque semilunarem efficientibus; dentibus compressis, acutis, et delicatè serratis; corpore suprà nigro, guttis ocellisque flavis ornato; abdomine aurantiaco.*

Hab. apud Insulam Mindanado.

MISCELLANEOUS.

ON THE GENUS *SYNGNATHUS*.

A translation of Prof. Fries' paper on the genus *Syngnathus* having appeared in this Journal, we should not be doing justice to that gentleman, were we to omit publishing the following correspondence which has taken place between him and Prof. Wiegmann with reference to a note by the latter, which will be found at p. 100. vol. ii. of the Annals.—Edit.

"To Prof. Wiegmann.—In the third part of your Journal (Archiv für Naturgeschichte) you endeavour to weaken my statement that 'the specimen which served for the original of Bloch's figure was *S. æquoreus*,' by the assertion that 'the only specimen in Bloch's collection is my *S. Ophidion*.' I am very sorry that you did not take the trouble to compare Bloch's specimen with the figure, for you would certainly have come to a contrary conclusion. I have never seen Bloch's specimen, yet I still maintain that a *S. Ophidion* never served for the original of the figure, because no *S. Ophidion* offers such proportions as those presented by the figure. In no true *S. Ophidion* can the caudal fin be placed in such relation to the anus; the figure

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