

ART. XLIII.—*Extracts of Letters from C. Darwin, Esq., to Professor Henslow.*

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“ST. IAGO (Cape de Verd Islands) is singularly barren, and produces few plants or insects: on the coast I collected many marine animals, chiefly gasteropodous mollusca (I think some new).”—P. 3.

“*Rio de Janeiro.*—I am now collecting fresh water and land animals; if what was told me in London is true; *viz.* that there are no small insects in the collections from the tropics, I tell entomologists to look out, and have their pens ready for describing. I have taken as minute (if not more so) as in England, *Hydropori, Hygroti, Hydrobii, Pselaphi, Staphylini, Curculiones, Bembidia, &c. &c.* It is exceedingly interesting to observe the difference of genera and species from those I know; it is however much less than I had expected. I have just returned from a walk; and, as a specimen how little the insects are known, *Noterus*, according to Dic. Class. consists solely of three European species. I, in one haul of my net, took five distinct species.”—P. 5.

“*Monte Video.*—I made an enormous collection of Arachnidæ at Rio; also a good many small beetles in pill boxes, but it is not the best time of the year for the latter.”—P. 5.

“Amongst the lower animals, nothing has so much interested me as finding two species of elegantly coloured *Planariæ* (?) inhabiting the dry forest! The false relation they bear to snails is the most extraordinary thing of the kind I have ever seen. In the same genus (or more truly family) some of the marine species possess an organization so marvellous that I can scarcely credit my eyesight. Every one has heard of the discoloured streaks of water in the equatorial regions. One I examined was owing to the presence of such minute *Oscillatoria*, that in each square inch of surface there must have been at least one hundred thousand present.”—P. 6.

“I might collect a far greater number of invertebrate animals if I took up less time with each, but I have come to the conclusion that two animals, with their original shape noted down, will be more valuable than six with only dates and place.”—P. 6.



“ There is a poor specimen of a bird, which to my un-ornithological eyes appears to be a happy mixture of a lark, pigeon, and snipe. Mr. M'Leay himself never imagined such an inosculating creature.”—P. 8.

“ I have taken some interesting *Amphibia*; a fine *Bipes*; a new *Trigonocephalus*, in its habits beautifully connecting *Cratalus* and *Viperus*: and plenty of new (as far as my knowledge goes), Saurians. As for one little toad, I hope it may be new that it may be christened *Diabolicus*. Milton must allude to this very individual when he talks of ‘squat like a toad.’”—P. 8.

“ Amongst the pelagic *Crustacea*, some new and curious genera. Among *Zoophites* some interesting animals. As for one, *Flustra*, if I had not the specimen to back me, nobody would believe in its most anomalous structure. But, as for novelty, all this is nothing to a family of pelagic animals, which at first sight appear like *Medusa*, but are highly organized. I have examined them repeatedly, and certainly, from their structure, it would be impossible to place them in any existing order. Perhaps *Jalpa* is the nearest animal, although the transparency of the body is almost the only character which they have in common.”—P. 9.

“ The southern ocean is nearly as sterile as the continent it washes. *Crustacea* have afforded me the most work. I found a *Zoë* of the most curious form, its body being only one-sixth the length of the two spears. I am convinced, from its structure and other reasons, it is a young *Erichthus*. I must mention part of the structure of a decapod, it is so very anomalous: the last pair of legs are small and dorsal; but instead of being terminated by a claw, as in all others, it has three curved bristle-like appendages; these are finely serrated, and furnished with cups somewhat resembling those of the *Cephalopods*. The animal being pelagic, this beautiful structure enables it to hold on to light floating objects. I have found out something about the propagation of that ambiguous tribe the *Corallines*.”—P. 11.

“ But what is of more general interest is the unquestionable (as it appears to me) existence [in Patagonia] of another species of ostrich besides the *Struthio ostrea*. All the Guachos and Indians state it is the case: and I place the greatest faith in their observations. I have the head, neck, piece of skin,



feathers, and legs of one. The differences are chiefly in the colour of the feathers and scales; in the legs being feathered below the knee, also in the nidification and geographical distribution."—P. 16.

"We were driven into Chiloë by some very bad weather. An Englishman gave me three specimens of a very fine lucanoidal insect, which is described in the Cambridge Philosophical Transactions, two males and one female." [*Chiasognathus Grantii*, Stephens.]

"In zoology I have done but very little, excepting a large collection of minute *Diptera* and *Hymenoptera*, from Chiloë. I took in one day *Pselaphus*, *Anaspis*, *Latridius*, *Leiodes*, *Cercyon*, and *Elmis*, and two beautiful true *Carabi*. I might almost have fancied myself collecting in England. A new and pretty genus of nudibranch *Mollusca*, which cannot crawl on a flat surface, and a genus in the family of *Balanidæ*, which has not a true case, but lives in minute cavities of the shells of *Concholepas*, are nearly the only two novelties."—P. 22.

"I also send a small bottle with two lizards; one of them is viviparous, as you will see by the accompanying notice. M. Gay, a French naturalist, has already published, in one of the newspapers of this country, a similar statement, and has probably forwarded some account to Paris."—P. 30.

The following is an extract from the newspaper referred to by Mr. Darwin.

"Besides these labours I employed myself during the great rains in dissecting various reptiles. It must be interesting to know the influence of the climate of Valdivia on the animals of this family. In the greater part of those which I have been able to submit to my scalpel, I have found a truly extraordinary fact, that they were viviparous. Not only the innocent snake of Valdivia has offered to my notice this singular phenomenon, but also a beautiful and new kind of *Iguana*, which approaches very near to the *Leposoma* of Spix, and to which, on account of its beautiful colours, he has given the name of *Chryso-saurus*. All the species, even those which lay their eggs in Santiago, here produce their young alive; and the same thing happens with the *Batrachia*, and particularly with a genus near to the *Rhinella* of Fitzinger, of which the numerous species have the skin pleasingly spotted with green, yellow, and black. I need not dwell on the importance of this last



example in reference to comparative anatomy: an importance which appeared to me still greater when, on analyzing a tadpole not yet transformed, I satisfied myself that nature has not varied her plan of organization. In these, as in the tadpoles, which live in water, the intestines were of a length very disproportioned to the body; now if this length was necessary to the latter, which live upon vegetable substances, it was altogether useless to those which are to undergo their metamorphosis in the belly of the mother; and thus nature has followed the march prescribed to her by a uniformity of construction, and without deviations from it, has admitted a single exception, a real hiatus, well worthy the attention of the philosophical naturalist."—P. 31.

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ART. XLIV.—*Notes on various Insects.* By IONICUS.

(Continued from page 379.)

16. *Myrmeleonidæ* were common in the Ionian Isles during the summer months. The earliest and smallest species appeared about April 17th. Having captured several of these in the perfect state, I was induced to look for the larva, and on the 19th, on the sea-shore, found several of a larger species, which appeared to have been not very long developed from the egg state, as they were nearly smooth, and preyed only on the smaller species of ants. They were then not nearly so expert in gaining their livelihood as they afterwards became, their prey frequently escaping after falling into the pit, and within reach of their jaws. Having frequently destroyed its pit, the specimen I kept would not rebuild it, but lurked in the sand. On May 16th, I missed it, and digging up the sand, found it at the depth of two inches in a hollow cavity, in which it probably changed its skin, as on the 19th it had returned above ground, and was lurking in its usual manner. On the morning of the same day I found several larger larvæ, exactly resembling the one I kept, except in size: their pits were about two inches deep and two and a half inches in diameter, and were close to the train of a large black ant. I took one of them home and put it into the tumbler with my former friend, and some of the ants, when it immediately constructed a pit, and devoured several of the ants. I should observe that the