

NATURAL

THE ZOOLOGICAL SOCIETY.

Chameleons.

CHAMELEONS are exceedingly difficult to keep alive during the winter in England, because artificial heat is an inadequate substitute for sunlight and the warmth that accompanies it. The Society seldom, therefore, has specimens on exhibition during the winter season. Now and again an exceptional individual will survive the cold, gloomy months of the year, but it exhibits at that time none of the habits which make these lizards, when active, such attractive objects in the reptile house. The opinion of most people, the chief peculiarity of chameleons is their power to change colour. In this respect, however, they are equalled, if not surpassed, by other kinds of lizards. It is the structural characteristics which render the reptile's adaptation to arboreal life that marks them off from other members of the Lacertilia. The body, enveloped in a skin resembling shagreen, is strongly compressed, and during prostration can carry high the legs, which terminate with feet fashioned somewhat like those of parrots, and endowed with remarkable powers of prehension. The long tail is also prehensile. Most lizards which live on insects, as chameleons do, are dependent upon the swiftness of their movements, which brings them into close quarters with their prey before it can take flight. But the chameleon's method is quite different. Upon sighting an insect that has alighted within range of vision the reptile slowly and surely creeps along a bough until within a distance of 6in., more or less, of the coveted morsel, then, pausing for a moment to take aim, shoots out a tongue as long as his body and with body and head recoiling sticks the object with the club-shaped, sticky end of that organ. The tongue is then withdrawn into the gaping mouth with the insect adhering to it. The profit and retention of the insect, the satisfaction of the whole performance is effected in perhaps less than one second. This is a marvelous sight, and one not easily forgotten when once seen.

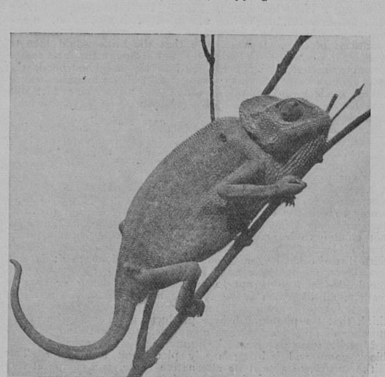
Chameleons are comparatively defenceless creatures, but, in addition to their power of altering their colour to suit that of their surroundings, they are also able to conceal themselves by compressing the body to such an extent that when looked at from above or below—that is to say, edgewise—they appear to be, as I once heard it expressed, no thicker than a piece of paper. On the other hand, when angry and in a pugacious mood they blow themselves out like toads and hiss, the inflation being effected by filling the lungs and the air sacs that pass from them into the abdomen with air.

The grotesque appearance of chameleons, due largely to their shape and attitudes, is a little enhanced by their very peculiar eyes, which are like two cones, one set on each side of the head, the base of the one being lodged in the orbit and the apex freely projecting. In the apex there is a small orifice, formed by the fusion of the lids, so that the pupil peeps through a narrow aperture. This arrangement is probably connected with the concentration of vision necessary for precise work. The tongue, which is attached to the rounded end of the eye, the organ is capable of being rolled in its socket in the most ludicrous manner, but this extreme mobility enables the chameleon to look in all directions without moving its head. It is oddly enough, the two eyes are moved quite independently of one another, so that while the right eye is watching the foliage in front for a moving insect, the left scans that to the side and rear.

The two species usually exhibited in the Gardens are the common chameleon (*C. vulgaria*), which is found in Southern Spain and Northern Africa, and the dwarf chameleon (*C. parvulus*) of Southern Africa. Apart from certain unimportant structural differences, these two species are distinguished by a peculiarity that often puzzles people only acquainted with one of them. The common chameleon lays eggs, but the dwarf chameleon is viviparous. It is unusual for a difference of this kind to obtain between two tolerably closely related species of reptiles.

No chameleons are found in America. Some sixty species are known, and the majority of these occur in Africa. But they also live in Madagascar, the Mascarene Islands, Sootra, parts of Arabia, India, and Ceylon, and, as stated above, Southern Africa. The Madagascar group was evolved in Madagascar when Madagascar was part of that continent.

"A few weeks ago it was thought desirable to clear some tanks in the insect house of a large number of water beetles and other insects. The little grebe was fetched from the diving bird house and placed in the tanks, and for an hour or so provided an extraordinarily interesting exhibition. The tanks here are lighted from above in the way that all modern aquaria are arranged, the spectators viewing the exhibits from a darkened passage, and thus every movement of the bird could be studied to the best advantage. It was most interesting to see the extremely thorough way in which it searched the shingle on the bottom of the tanks and hunted amongst the stems of the growing water plants, when no moving insect escaped it. With sudden forward darts one insect after another would be secured. When hunting for food on the bed of the tank the legs were frequently thrown up over the tail in a vertical position, being worked very rapidly to overcome the tendency to float to the surface. Every half minute or so, stopping this movement of



[Phot. Marie Leon.

THE COMMON CHAMELEON.

the feet, the bird would rise like a cork to the surface, but only for a second or two. The head would be thrust below the surface, when the sharp eyes of this little bird would detect some moving object below, and with a dive another hunting expedition would commence.

It is present there is very little accommodation for these most attractive birds at the Gardens; the so-called diving birds' house is merely an adaptation of the old fish house, and with the exception of the large central tank, which is reserved for penguins and cormorants, and the tank at the north end of the house which is occupied by darters, there is no other tank really suitable for water birds, and it is much to be hoped that a better house for them may be built before long.

Two more American darters.

"I referred recently to the arrival of a pair of American darters (*Potus anthingi*), a species not often represented in our Gardens. They are by no means hardy, and probably need more warmth than we are able to give them in the present house, and this fact doubtless accounted for the death of one of our birds. By great good fortune, however, a few days after this unfortunate occurrence an offer of a pair of the same species was received from a London dealer. They were promptly secured, and prove to be a remarkably fine pair in nearly adult plumage.

HABITS OF THE WHITE RHINOCEROS.

SR—In answer to the concluding remark in Mr. Neave's interesting note on the death of a magpie of that species in East London, I write to say that I first took notice of the white rhinoceros in the East when I returned last year from an expedition to the Bahr-el-Ghazal, which made specially good sport in East Africa. I was fortunate to have secured heads of the giant eland and white rhinoceros, and also to have killed several black rhinoceroses, as well as of course, many other animals. I was, of course, accompanied by a sufficient number of the places one finds commonly in the bush in East or Central Africa, viz., a number of droppings, which, when I returned to England, I had day after day for the purpose of securing them about my house. I was, naturally, therefore, very anxious to remember rhinoceros spoor without this rather peculiar characteristic. I was, naturally, therefore, surprised on first going on spoor of the white rhinoceros in the Bahr-el-Ghazal, to find no trace of this. I had described this habit of the black rhinoceros to my companion, who had not previously had the experience of the animal, and he had never seen any of its tracks. I concluded that the best way to see if I got our wind or been disturbed in some way, was to make a search in a hurry. Eventually I started early in the morning on foot spoor of two white rhinos from a water hole, and made them up for some hours, eventually shooting one and following saw no trace of the habit referred to: in fact, I can only conclude the white rhinoceros had not this habit, and suggested to my friend, who was quarters in that part of Sudan, that if he went into Mongalla, where one of the species are to be found, he would always be able, when he had struck rhinoceros spoor, to distinguish it from the black (small elephant). I can say my rhinoceros droppings will be of the sites of the white rhinoceros, for when I cut my best spoor, I do not find any trace of the habit referred to. In fact, I do, for we were very short of food many hours from water, and I noticed, in addition to the much greater size of the species and its extraordinary long head and square-shaped body, that the skin on the black rhinoceros, the skin of which was much smoother, and there was no evidence of the huge, water, festering sores, crammed with maggots and other horrible parasites, which one always finds more or less on the skin of the East or Congo white rhinoceros, but I do not notice any parasites whatever, and am sure that I should for the absence of that *dele noise* of the sportsman's rhinoceros bird, which the species found further south in East Africa, which I had seen in the East, but I do not notice any after sighting them before I could get close up to them, and as I had been very ill and was in poor condition, I do not think I could find no rhinoceros birds about me, no risk of being betrayed by their characteristic droppings.

I have seldom found the black rhinoceros in British East Africa unaccompanied by his attendant sentinel birds, and they were very good actually perched on his back they were in a much worse position if upon the trees or bushes, and starting their antics and getting the beast's head up to me the sooner. In Nyassaland, indeed, I found them a great deal when stalking game generally, but they were always to be seen on the backs of sable antelope. I refer to the small rhinoceros bird, not the lesser egret, which is so often seen on the backs of elephants, buffaloes, and occasionally with rhinoceros.

As we are only allowed one on licence in the Sudan, my experience is, of course, limited to this one; but I will be glad to see any other notes on the subject, and I will be glad to see any conclusions as I have from their experience in the East. Richmond, Yorkshire. SYDNEY J. PEARSE.

THE WILD CAT.

THE ACCOMPANYING PHOTOGRAPHS OF A YOUNG WILD CAT