LETTERS TO THE EDITOR.

[*The Editor does not hold himself responsible for opinions expressed by his correspondents. Neither can he undertake to return, or to correspond with the writers of, rejected manuscripts intended for this or any other part of* NATURE. *No notice is taken of anonymous communications.*]

Hypnotised Lizards.

SEVERAL communications relating to the so-called "death-feigning instinct" of certain reptiles have appeared in the columns of NATURE during the last few months. The following observations bearing on this question may be of sufficient interest to justify publication. They refer to a species of lizard of the genus Stellio (identified in Tristram's "Fauna and Flora of Palestine" as *S. cordylina*), which is extremely common in these parts. When one of these lizards is captured, it makes a few vigorous efforts to escape, and then, if held firmly, falls into a limp, motionless state, which might easily lead an inexperienced person to think it dead. A very little examination, however, shows that the animal is not dead, but in a trance-like condition. Gentle respiratory movements are visible just behind the shoulders, and sometimes show a rising and falling rhythm with short intervals of complete rest; the eyes may remain wide open, but are commonly half-closed, and the lids wink slowly from time to time spontaneously or by reflex action; the mouth is almost always open—sometimes wide, sometimes but little—and in either case the jaw is quite rigid, and if closed by force is apt to reopen when the pressure is withdrawn; the limbs lie extended and semi-flaccid, with some approach to a cataleptic condition, *i.e.* if bent, or stretched into positions not too strained, they maintain such positions when let go; and the same is true of the trunk and tail. If, now, the lizard be laid down gently on the floor or on a table, it will lie perfectly still and seemingly unconscious for some minutes (unless roused by a sudden jar or loud noise), the eyes preserving throughout a peculiarly vacant, expressionless aspect, quite suggestive of death. While in this state the lizard may be put into a variety of positions without eliciting any sign of consciousness, and will lie as quietly on its back as in the natural position; and I have without difficulty made one maintain various grotesque postures, such as standing erect with one hand resting on the edge of a book, like a preacher behind a pulpit; bending sharply around, and seizing the tail with the claws of one fore-foot; cocking the tail over the back, scorpion fashion, &c.

Although some reflex actions are maintained (*e.g.* winking, as above mentioned), there is a considerable degree of cutaneous anæsthesia, as shown by the fact that a pin may be run through a fold of skin without fully rousing the animal, a sluggish, feeble wriggle being the sole result.

This trance state (obviously akin to some phases of hypnotism) lasts, as before stated, for several minutes. I have on several occasions timed it, the lizard being laid on its back, and myself concealed or standing quite still at a distance, and in each instance recovery seemed to come suddenly after about five minutes (sometimes a few seconds less, sometimes more), the animal showing no sign of consciousness until by one brusque effort it turned over into the normal position; this done, it lies quite still, but evidently awake and observant, for a few moments more, and then scuttles off in a hurry.

I find that the readiest way of inducing the trance is to take the lizard's head between my finger and thumb, making gentle pressure upon the angles of the jaw and upon the tympanic membranes; but similar pressure on the sides of the trunk, just behind the forelimbs, is just about as effective.

Such are the facts: and it seems to me that, so far as the animal in question is concerned, they lend no support whatever to the hypothesis of voluntary or conscious death-feigning; but, on the contrary, are perfectly consistent with the view that such phenomena belong to the same class as the various manifestations of hypnotism, &c., with which we are all more or less familiar in the human subject.

Supposing, however, for the sake of argument, that we have to do here with a true instinct, and not, as I believe, with a mere neurosis—an incidental reaction of the higher nervous centres—what possible purpose could such an instinct serve? The natural enemies of these lizards are foxes, jackals, martens, birds of prey, and snakes. Can any one believe that any one of these animals, having captured a lizard, would be in the least inclined to let it go because it lay motionless and apparently dead in the captor's grasp? Or will it be argued that the trance condition is a special gift "in mercy" to the victim, to mitigate or abolish the pain of death? If the last be the true explanation, one is tempted to ask why such tenderness is shown to a favoured few of the victims in nature's wondrous system, while the majority (*pace* Dr. A. R. Wallace) are left in possession of consciousness and sensibility more or less acute until they have sustained enough mechanical injury to kill or stun them.

W. T. VAN DYCK,

Beyrout, Syria, May 16.

Stridulating Organ in a Spider.

IT is exactly twenty years now since I described to Geoffry Nevill the sound made by our large "Bhaluk Mokra" (or Bear Spider). I noticed that Wood Mason, who sat opposite me, appeared to be highly amused, but he said nothing.

Next morning when he joined Nevill and me at table, Mason was in high glee, and said, "I've found out all about your wonderful spider. I thought yesterday you were telling Nevill a stiff yarn for amusement, but as it wasn't your usual custom, I unbottled a lot of the big spiders, and found the stridulating apparatus."

He there and then made me recite all over again, and promise to write out, what he quoted in the *Trans. Ent. Soc.*, 1877, and give him a sketch, which is plate vii.; a previous notice of it all appearing in our *Proc. As. Soc.*, Bengal, 1876, and *Ann. and Mag. Nat. Hist.*

It was in the cold season of 1869–70 that I captured the specimen, and noticed the stridulating phenomena. The sound can be heard easily at ten or twelve yards, and is like pouring small shot on a plate.

I should not have mentioned the above, were it not that my report of "sound-producing Ants" seems to have been overlooked. If I mistake not, Sir John Lubbock looks on them as a silent group; but it is ten or twelve years now since I drew attention to the sounds made, and gave a small "Morse" diagram of the same, either in NATURE or the *English Mechanic*, one kind of ant giving a series of triple sounds, another kind a set of five or six, gradually decreasing.

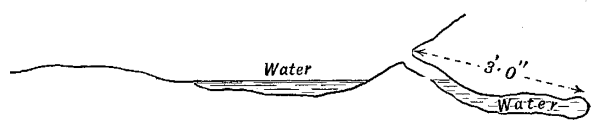
I described how the sounds were made by rasping the horny tip of the last abdominal segment on any resonant material, such as thin dry bark, dry leaves, &c.

I am not aware if the tolerably loud percussive "tok-tok" of the Mahsir (*Barbes Macrocep*) is known. I described it to a friend in England in 1879, and saw it quoted in the *Daily Telegraph* (about August to October) soon after.

While on this subject, I may mention that we have a rather rare butterfly here, which is dark in colour, some three inches across, a very hard flyer, and when darting about (generally after sunset), in a shady avenue, makes a series of taps, sounding like "tip, tip, tip."

Three or four of these butterflies generally fly together. I have not seen one alone; and though I have often enough tried to catch one, never secured a specimen. The sound, I presume, is made by striking the anterior margins of wings together; and if standing still, one can hear the "tip, tip" six or seven yards off.

There are, no doubt, many things of this sort that an old "Jungli walla" would know, and think of small value. I have been surprised at the little often known about the habits and appearance of many animals and insects. Not three years ago,



a well-known naturalist was quite interested in my description of the "happy family" one often finds in the holes, a little above water level, in our clay banks of small rivers, at low water during cold season; fish of several kinds, and crabs (three and four inches across) living together in the hole under water as a "colony." But for these tolerably deep holes, the otters would leave no fish in the smaller rivers.

S. E. PEAL.

Sibsagar, Asam, May 9.