

fall will be very rapid, both on account of gravitation and attraction, and (a) *the evaporation will be so great, that it will be frozen.* On touching the cloud B it *condenses* (b) *part of its vapour, gets thus a coating of ice, and, having the same fluid as B, it will be repelled towards A, and so on, downwards and upwards, until it becomes heavy enough to fall to the ground.*"

My difficulties are the following:—Whence comes the evaporation spoken of at (a)?

According to the above, when it reaches B it is frozen. What then am I to understand by the "condensation of part of its vapour (b)?"

Also, would not the two clouds, A and B, having opposite fluids, themselves unite?

If you will kindly solve me these difficulties you will greatly oblige an

IGNORAMUS

Butterfly Swarms

WITH reference to the case mentioned in NATURE, vol. xx. p. 220, I agree with your correspondent that "local fecundity" cannot be the cause of the great number of *Vanessa cardui* observed this year in the south of England, more especially as this species does not emerge from the chrysalis until the end of July at the earliest. It therefore appears to me probable that the specimens observed have migrated (having hibernated) from the Northern Counties or even from Scotland, in consequence of the exceptional severity of the weather this season. I would also suggest that the "periodical abundance" of this butterfly, as also that of *Colias hyale* and *Edusa*, besides several others, may be caused by some peculiarity in the food-plant itself. This is rendered more likely by the fact that both *Colias hyale* and *Edusa*, which feed upon plants of the Leguminous order, and often of the same species, appear in great abundance at the same period.

I may mention that where I reside I observed many specimens of *Vanessa cardui* last year (1878). In the preceding year (1877) both *Colias hyale* and *Edusa* were exceedingly plentiful, whereas last year (1878) I did not see a single specimen of either of these butterflies.

F. H. HAINES

The Buses, Edenbridge, Kent, July 7

MR. J. H. A. JENNER says (NATURE, vol. xx. p. 220) that "last season (1878) he saw no specimens of *Vanessa cardui*, nor did he hear of any about Lewes." I would remark that *Vanessa cardui* was exceedingly abundant in the Isle of Wight; I could have caught scores in a few minutes. I would further remark that towards the close of the season I saw beds of nettles, many yards square, literally black with larvæ of *V. cardui*.¹ I anticipated then that they would be abundant this year, and so they are.

W. REES SWAIN

Patent Museum, South Kensington, July 4

Intellect in Brutes

As an instance of intelligence in a cat, the following story is, I think, worthy of being recorded in your pages:—

My father, when a boy, kept a tame starling, which, having had its wings clipped, was allowed to hop about the house at random. It had been brought up, so to speak, with a little kitten, and a great friendship had been established between the two, they playing together, drinking out of the same saucer, &c., &c.

One day while the family were at dinner, with open doors, the cat suddenly pounced upon the starling, and every one thought that at last the cat's nature had got the better of its affection; but no. The cat carefully took up the starling, jumped with it on to a table, and leaving it there, rushed out of the room.

A moment after, the sound of a furious fight going on in the hall reached the ears of the astonished family, and it was then found that a strange cat had stolen into the house, with which the starling's friend was fighting. Evidently the house cat heard the approach of the enemy, and having first placed its play-fellow in a comparatively safe place, rushed out to expel the intruder.

A. DUFRÉ

Kensington, W., July 5

¹ [The larvæ referred to were probably those of *V. atalanta*. *V. cardui* ordinarily feeds on *thisles*.—ED.]

THE letters of X. and of Mr. Henry Clark in NATURE, vol. xx. p. 220, referring to the recognition of portraits by dogs, are, I think, very interesting, as my observations lead me to suppose that it is very rarely that a dog takes any notice of a painting or any representation on the flat. I only know of one instance. A bull terrier of mine was lying asleep upon a chair in the house of a friend, and was suddenly aroused by some noise. On opening his eyes, the dog caught sight of a portrait of a gentleman on the wall not far from him, upon which the light was shining strongly. He growled, and for some little time kept his eyes fixed upon the portrait, but shortly satisfying himself that there was no danger to be apprehended, he resumed his nap. I have often since endeavoured to induce him to pay some attention to portraits and pictures, but without success; but sometimes he will bark at his own reflection in a looking-glass. He knows it to be his own image that he sees, for he very soon tires both of barking and looking. Other authentic instances of this kind would be valuable.

J. B. R.

July 4

I SEND the inclosed extract from the *Bedworth Guardian*. I can vouch for the fact, as Hawkesbury Station is near to me, and my son has witnessed the feats of poor Pincher. I trust that it will not be an unwelcome contribution to the interesting series of facts in evidence of animal sagacity recorded in NATURE.

Moat House, Walsgrave, Coventry, July 3

J. S. WHITTEM

"The picturesque little station at Hawkesbury Lane, between Nuneaton and Coventry, has, for some time past, been the home of a fox terrier, known as Pincher, an animal possessing almost human intelligence. Pincher—trained by its owner, Mr. Instone, to do so—would listen with marvellous patience and acuteness for the signal intimating that a train was approaching the station, and then, almost with the speed of lightning, rush to the signal-box, and, seizing the bell between its teeth, shake it heartily, and thus apprise the waiting passengers of the train's approach. This task accomplished, he would descend the steps leading from the box, proudly wagging his tail, and ready and willing, apparently, for any duty he might be called upon to perform. Often, as a train was leaving the station, Pincher would run beside it for about a hundred yards, as though acting under the impression that the engine-driver would be unable to obtain the necessary impetus without his assistance. On Sunday evening last Pincher's career was brought to an untimely end, but he died as became a dog of his attainments and renown, "in harness." Soon after seven o'clock on the evening named, two trains entered the station at one and the same time (Pincher having previously rung the bell), one going towards Nuneaton, the other in the contrary direction. Actuated by some motive or other—probably to see what was going on at the other side of the line—the dog darted under the carriages of the latter train, and one of the wheels passed over his neck, death being instantaneous."

Snails v. Glow-worms

WHEN writing on this subject I thought my facts might be questioned, but I did not expect they would be so distorted as they have been by Mr. McLachlan at p. 219.

I simply recorded what I had seen, and in accordance with the request at the head of your column for letters to the Editor, I made my letter "as short as possible."

The heading of my letter was correct, and I described what I certainly saw—a glow-worm in the *inside* of a snail, for when the snail moved its semi-transparent skin was between me and the light. There was no phosphorescent matter on the snail.

If the glow-worm was eating the snail, as both Mr. McLachlan and Mr. Greenwood Penny suggest, then, I conclude, he attacked the *liver*, and not the *lights*, as Mr. Henslow's cat did! At all events my opponents will agree with me in thinking that the snail had a *light* supper! The fact is evidently new to these gentlemen.

I shall feel obliged by any or all of them sending me some glow-worms, and I will try the experiment again, as well as some others.

R. S. NEWALL

Gateshead-on-Tyne, July 8

Occurrence of Boar Fish

I RECEIVED several notices of the capture of boar-fish (*Capros aper*), on the south and south-east coasts of England during June