VII. *Account of a non-descript Worm (the Ascaris pellucidus) found in the Eyes of Horses in India. In Letters from ALEXANDER KENNEDY, M. D. F. R. S. EDIN. to Professor RUSSELL and Dr HOPE. With a Description of the Animal, by Captain THOMAS BROWN, F. R. S. E. & F. L. S.*

(Read Feb. 5. 1816, and Nov. 9. 1818.)

DEAR SIR,

Edinburgh, 5th February 1816.

WHEN I lately mentioned to you in conversation, the disease in the eyes of horses in India, occasioned by the presence of a worm within the ball of the eye, I thought that you might probably have heard of it before ; but as you had not, and are desirous of further information upon the subject, I now take this method of mentioning the circumstances to you, so far as I know them.

The animal occasioning this disease, is termed by the natives about Madras, the “Worm” in the Horse’s Eye, by using the corresponding words in their respective languages. I have been told that in Bengal it is called the “*Sānp*,” or the Snake in the Horse’s Eye. As it seems more to resemble a fish or an aquatic insect, it might perhaps with more propriety be regarded as an eel.

This disease often follows blows or external injuries ; but also frequently occurs without this previous cause. After weakness, watering, and inflammation of the horse's eye, it assumes a whitish look, and then the worm may be plainly observed, of a white colour, swimming with great briskness and activity through the aqueous humour. The cure depends upon its being extracted, without which, I believe, that the eye is always lost by suppuration. I have known several medical gentlemen attain much dexterity in performing this extraction. The mode of proceeding is as follows : Being provided with a common lancet, armed at the shoulders by being wrapped round with tow, the operator places himself by the horse's head, next to the diseased eye, and moving his hand gently up, so as not to alarm the horse, he thus watches the opportunity of the eye's being well open, and then suddenly plunges the lancet through the lower and fore part of the cornea, directing the point across, and at the same time cutting downwards. The aqueous humour being in this manner suddenly evacuated, by a gush, or in a stream, the worm passes out along with it. The eye is then covered up, and kept wetted with a cooling solution. When the extraction has been successfully performed, and the aqueous humour is again restored, the vision is found unimpaired.

The fineness and small size of the worm sometimes prevent its being found, even when the extraction has been successfully performed. It is frequently detected, however, in the track of the aqueous humour over the horse's face. When picked up, it generally appears to be dead, at least I have met with none which retained any appearance of life. I have seen none of them so long as the nail of the thumb. It is of a grey-white colour, very soon lies flat and flaccid, and appears to be not much broader or thicker than a horse's hair. My friend

Dr

Dr BERRY, however, who has frequently succeeded in extracting them, informs me that he has not only often met with them considerably longer than I have described, but also that upon his placing them in a tumbler of tepid water, he has seen them swim about for several minutes, and even for a quarter of an hour; and that when viewed in this situation, the shape evidently appears to taper off towards the tail. Had I thought of placing those which I have met with, as Dr BERRY did, in tepid water, it seems not improbable, that I might both have found some of them alive, and also of greater length, than when viewed under exposure to the open air.

Upon this occasion, it is both proper and satisfactory to refer to the testimony of that eminent naturalist, the late Dr JAMES ANDERSON of Madras. Having had occasion, several years ago, to mention this worm, and the disease which it occasioned in the horse's eye, to one of his scientific correspondents, it is believed to Dr RUSH of Philadelphia, his letter was at the time given to the public, in one of the Madras newspapers. Though Dr ANDERSON's correspondence was afterwards collected from the newspapers, and reprinted, it might now be difficult to find a copy of it. But I recollect to have heard afterwards, that the letter now alluded to, had been communicated by Dr ANDERSON's correspondent to the American Philosophical Society. I remain, &c.

ALEX. KENNEDY.

To James Russell, Esq.

DEAR

DEAR SIR,

Edin. 17th Nov. 1819.

FINDING that my last communication, regarding the worm in the eyes of horses in India, submitted to the Royal Society by Mr RUSSELL, has been mislaid, I shall now do what in me lies, to replace that loss, in the most satisfactory manner I can, from memory.

Immediately after my letter upon this subject to Mr RUSSELL, under date 5th February 1816, I applied to several of my friends in India for a specimen of the worm; and the papers now amissing, consisted of a short letter from myself to Mr RUSSELL, covering the original letter from Mr WILLIAM SCOT, Surgeon of one of the battalions of Madras artillery, along with which he had sent home one of the worms, extracted by himself, and which was presented to the Royal Society at the time his letter was read.

I now regret not having preserved a copy of that letter, but am willing to believe, that in the following recapitulation of its contents, there can be no material error.

The worm was discovered in the eye of a horse belonging to Lieutenant-Colonel FREESE at St Thomas's Mount, on the 5th of May 1818, and was extracted next day by Mr SCOT, in presence of Colonel FREESE, Dr M. S. MOORE, and a third person, whose name I do not now recollect. Mr SCOT's letter was dated 7th May. In it he described the appearance of the eye, much as I had done, in my letter to Mr RUSSELL, and noticed its milky appearance, and the lively motion of the animal in the aqueous humour, comparing the mode of its progress to something resembling leaping, which it seems to me might be no inapt comparison, when the worm was fore-shortened, by moving nearly in the line of vision of the spectator.

In this instance, it was found necessary to throw down the horse, an attempt to operate while he was standing having failed. The worm was received among tepid water, in a
China

China saucer, where it continued to move about briskly, until a little cold water was added, when it fell dead instantly, and was afterwards with difficulty detected at the bottom of the vessel.

This may be the most proper place to mention, that I have lately received three more of these worms from Mr Scot, which were extracted by Mr BERRIDGE, who keeps a livery stable at Madras. Having presented two of these to the University Museum, they are now in the custody of Professor JAMESON. I have the honour to remain, &c.

ALEX. KENNEDY.

To Dr T. C. Hope, F. R. S. E. &c.

ASCARIS pellucidus.—Head slightly subulate, with the extremity somewhat obtuse; body smooth, pellucid, of a bluish-white colour; thickest at the centre, and gradually tapering towards the head, and abruptly towards the tail, which terminates in a sharp point; its diameter not being more than a fourth of the head. Length an inch and a quarter.

Inhabits the aqueous humour of the eyes of horses in India; in which it may be seen swimming about with great activity. Is said to be generally produced by external injuries; though in some instances it has occurred without any known cause.