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REPORT OF MYIASIS BY LARVAE OF RHINOESTRUS PURPUREUS (DIPTERA, OESTRIDAE) IN A HORSE IN UMBRIA (CENTRAL ITALY)

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Rhinoestrus purpureus (Brauer, 1858) is a fly belonging to the suborder Brachicera, order Diptera, family Oestridae. It is found mainly in Asia, but is also widespread in Africa and Europe. In Italy this species should be considered rare and mainly affects horses [1]. In other countries hosts of this insect are also zebras, giraffes, antelopes, warthogs and hippos.

The aim of this paper is to report the finding, in Central Italy, of *R. purpureus* in a horse, and the exceptional complete development in the laboratory of the larvae taken by an endoscope.

- Clinical case: in May 2014 a seven-year-old Sardinian Anglo-Arab mare was admitted at the Veterinary Teaching Hospital of Perugia (Central Italy) because of bilateral nasal discharge and cough. The referring vet treated the animal with Cefquinome (1 mg/kg IM for 5 days) with partial remission. At admission, the clinical examination was unremarkable, a radiography of the head showed sinusitis of maxillary sinus, and an endoscopy of upper respiratory tract allowed to detect the presence of larvae among the ethmoidal turbinates and on the pharyngeal recess. The horse was treated with Cefquinome for 7 days and ivermectin twice every 20 days. During a second endoscopy, two days after admission, larvae were collected using a biopsy forceps. A follow up examination, performed after 3 weeks, showed no abnormal findings in both radiographic and endoscopic examination, except for a slight discharge coming from the right sinus, seen on the drainage angle in the middle nasal meatus. After the discharge from the hospital, the horse showed no signs of disease until September 2014, when it was returned to the vendor because of orthopedic problems.

- Parasitological examination: at the Lab. of Entomology (Dept. of Veterinary Medicine, Perugia), the larvae III removed by an endoscope (May 19, 2014), were placed in jars containing cotton wool and absorbent paper, at an ambient temperature of 24° C and a Relative Humidity of 75%. Among four mature larvae III, only 2 impupated (May 20, 2014) and only one hatched (June 18, 2014). The fly was kept under observation at 24° C and 75% RH, until its natural death occurred (July 2, 2014).

The adult insect (about 1 cm long) was similar to *Oestrus ovis*, fly parasite of sheep which is very common in Italy. However, it differed for the distribution of cuticular tubercles, which extended even to the pro-thorax, scutellum and dorsal region of the abdomen. It was identified as *R. purpureus*. It is a viviparous species and its larvae are launched in flight on the eyes and, more often, on the nostrils of the host. The larvae I (1 mm) have solid mandibular hooks and a body covered with spines: those on the sides are particularly prominent and can easily push it forward making it quickly get down to the maxillary sinuses and pharynx. Here the larva reaches the second instar and then the third instar (2.5-3 cm). This localization causes especially phenomena of rhinitis, wheezing and coughing.

The report of *R. purpureus* in Italy is rare, but the development of the fly in the laboratory should be considered an exceptional event [2] because this insect develops only if the larva III has reached full maturity and it is in the biological phase before its expulsion from the animal.

1. Milillo P et al. 2004. *Ippologia*, 15(2):19-23.
2. Zayed AA. 1992. *Vet Parasitol*, 44(3-4):285-290.