THELAZIA GULOSA RAILLIET & HENRY, 1910 AND T. SKRJABINI ERSCHOW, 1928 INFECTION IN SOUTHERN EUROPE (ITALY)

GIANGASPERO A.*, OTRANTO D.**, VOVLAS N.*** & PUCCINI V.**

Summary :

The occurrence of *Thelazia gulosa* and *T. skrjabini* in cattle in Italy, together with an update of the prevalence of *Thelazia* spp. in the southern Italy, is reported. On 764 slaughtered native cattle, fifty-five (7.2 %) bovines were infected by *Thelazia* spp: *T. rhodesi* was found in 44 (80 %) animals, *T. gulosa* was found in 19 (34.5 %) cattle and only one (1.8 %) cattle harboured *T. skrjabini*. This is the first report of *T. gulosa* and *T. skrjabini* in Southern Europe.

KEY WORDS : *Thelazia gulosa*, *T. skrjabini*, *T. rhodesi*, cattle, Italy.

Résumé : INFECTIONS À *THELAZIA GULOSA* RAILLIET & HENRY, 1910 ET À *T. SKRJABINI* ERSCHOW, 1928 DANS LE SUD DE L'EUROPE (ITALIE)

Dans cette étude nous avons étudié la présence de *Thelazia gulosa* et *T. skrjabini* chez des bovins en Italie et la prévalence de *Thelazia* spp. dans le sud-est de l'Italie. 764 bovins sont examinés : 55 bovins (7,2 %) sont parasités par *Thelazia* spp. ; 44 (80 %) bovins sont parasités par *T. rhodesi*, 19 (34,5 %) par *T. gulosa* et un bovin (1,8 %) par *T. skrjabini*. C'est la première mention de *T. gulosa* et *T. skrjabini* dans le sud de l'Europe.

MOTS CLÉS : *Thelazia gulosa*, *T. rhodesi*, *T. skrjabini*, bovins, Italie

The genus *Thelazia* Bosc 1819 (Nematoda: Thelaziidae) includes a cosmopolitan group of spirurid parasites of the eyes and associated tissues of mammals. Bovine thelaziosis is caused by three species of *Thelazia*: *T. rhodesi* Desmarest, 1828, *T. gulosa* Railliet & Henry, 1910, and *T. skrjabini* Erschow, 1928. Thelaziosis is responsible of lacrimation, mucopurulent discharge, conjunctivitis and, less frequently, corneal opacity (Patton & Marbury, 1975; Chartier & Eboma, 1988).

Reports of *Thelazia gulosa* and *T. skrjabini* in cattle have been documented in China and Russia (Skrjabin *et al.*, 1971), Japan (Okoshi & Kitano, 1966), Australia (Smeal, 1968; De Chaneet, 1970), Canada (Frechette *et al.*, 1976) and in the United States of America, such as, Kentucky (Lyons & Drudge, 1975), Tennessee (Patton & Marbury, 1975), Massachusetts (Geden & Stoffolano, 1980), Wisconsin (Gutierrez *et al.*, 1980), Ontario (Moonlenbeek & Surgeoner, 1980), Iowa (Krafsur & Church, 1985) and Indiana (Ladoucer & Kazacos, 1981).

Relative to Europe, very few contribution are available. Reports of *Thelazia gulosa* and *T. skrjabini* in cattle

have been documented only in Great Britain by Fitzsimmons (1963), Oakley (1969) and later by Arbuckle & Khalil (1978).

In Italy, since the 1950's bovine thelaziosis was thought to be represented by only one species: *Thelazia rhodesi* and several reports indicated the presence and prevalence of this species in Calabria (D'Esposito, 1949), Sicily and Calabria (Panebianco, 1955; Niutta *et al.*, 1992), Sardinia (Corticelli & Lai, 1966) and Apulia (Sobrero & Schiavone, 1977; Puccini *et al.*, 1986), ranging from 19,2 to 69 %.

After a fortuitous report at the slaughterhouse in a single cattle of *T. gulosa* and *T. skrjabini*, an investigation was undertaken to confirm the occurrence of these species and to update the overall prevalence of thelaziosis in native cattle in Apulia region (South-eastern Italy).

MATERIALS AND METHODS

Two abattoirs, Conversano and Noicattaro (Province of Bari) were visited once a week from June 1995 to December 1997. 764 local slaughtered cattle, eight months to seven years of age were examined. Both eyes and associated tissue including the lachrymal glands, upper and lower eyelids and skin surroundings the orbits were removed and examined for *Thelazia* worms. Both eyes belong to each animals were then placed in a bottle containing physiological solution and returned to the University for examina-

* Dipartimento di Strutture, Funzioni, Patologie degli animali e Biotecnologie, Università di Teramo, Italy.

** Dipartimento di Sanità animale, Università di Bari, Italy.

*** Istituto di Nematologia agraria, Consiglio Nazionale delle Ricerche, Bari, Italy.

Correspondence: Annunziata Giangaspero.

Tel./Fax: 0039.0861.55.88.38 – E-mail: giangaspero@imi.vet.unite.it

tion. The lateral canthus was cut and after eversion of the eye the exposed surface of the conjunctiva was examined; manual pressure was applied to the base of the ducts of the lachrymal gland and the nictitating membrane to allow for the emission of worms. All nematodes recovered from individual eye were placed in physiological saline and the number, species and sex were recorded. Some specimens were placed in Amman solution for optic microscopic documentation. The identification was made by the morphological features described by Skrjabin *et al.* (1967).

RESULTS

Fifty-five (7.2 %) bovines were infected by *Thelazia* spp: *T. rhodesi* was found in 44 (80 %) animals, *T. gulosa* was found in 19 (34.5 %) cattle and only one (1.8 %) cattle harboured *T. skrjabini*. A total of 235 *Thelazia* specimens were collected: *T. rhodesi* was the most represented species (79 females, 26 males and 27 larvae), followed by *T. gulosa* (56 females, 19 males and 23 larvae) and *T. skrjabini* (one female and one male). The burden ranged from one to 17 worms with a mean count of 4.0 ± 3.8 per head. *T. gulosa* was mainly found in the excretory ducts of the lachrymal gland but also in the duct of Harderian gland and free in the conjunctiva. The two specimens of *T. skrjabini* were found free in the conjunctiva, while *T. rhodesi* was found mainly free in the conjunctiva and in two cases in the duct of the Harderian gland.

DISCUSSION

This survey indicates that besides *T. rhodesi* (Puccini *et al.*, 1986; Niuatta *et al.*, 1992) other two species, *T. gulosa* and *T. skrjabini*, are very common in cattle in Southern Italy. These species have never been documented in Italy and in all Southern Europe. In France has been documented *T. rhodesi* in cattle (Perrier, 1993) and in Germany *T. lacrymalis* in horse (Beelitz *et al.*, 1997). Also, the presence of *Musca autumnalis* and *M. larvipara* the vector of these nematodes, is well documented in many Southern European countries (Giangaspero, 1997). This first report on the presence of *T. gulosa* and *T. skrjabini* in native cattle in Southern Italy suggests that these species have a more extensive geographical distribution than previously thought.

We may hypothesized that this lack of information on the presence of *T. gulosa* and *T. skrjabini* in other European countries may be due to their sheltered location (Kennedy & MacKinnon, 1994) which probably make its detection difficult.

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