

CHORIOPTIC MANGE IN A FLOCK OF GOATS IN BRAZIL

MARCELO DE CAMPOS PEREIRA
PhD

Instituto de Ciências Biomédicas da USP

ANNELIESE DE SOUZA TRALDI
Assistent Teacher

Faculdade de Medicina Veterinária e Zootecnia da USP

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SUMMARY: The authors report the first finding of *Chorioptes bovis* parasiting a flock of goats in Brazil. They also add commentaries about the current taxonomic status of the genus and about some of the comparative morphologic features of the two species of chorioptic mites found associated with goats until now.

UNITERMS: Chorioptic mange, goats

INTRODUCTION

Chorioptic mites, which are surface-inhabiting parasites found principally on the feet of domesticated animals, produce chorioptic mange, a common cause of dermatitis in cattle, sheep, goats, and occasionally horses in most parts of the world (SCOTT¹⁶, 1988). However, these mites have been reported on many other host animals, including reindeer, llama, guanaco, Barbary sheep (SWEATMAN¹⁸, 1958), giant panda (FAIN; LECLERC⁴, 1975), and Japanese serow (OGATA et al.¹⁴, 1977).

The potential economic significance of them lies in the irritation they cause and the lesions they produce (HEATH et al.¹⁰, 1983). As the mites feed on epidermal debris the infection rarely results in serious damage to the skin (CREMERS², 1985).

Currently, five species belonging to the genus *Chorioptes* Gervais and van Beneden, 1859 are recognized (FAIN; LECLERC⁴, 1975), but only *Chorioptes bovis* (Hering, 1845) and *Chorioptes texanus* Hirst, 1924 are associated with domesticated ungulates.

In Brazil, *C. bovis* has been recorded from cattle (FREIRE⁶, 1943; FREIRE⁸, 1967; FERNANDES et al.⁵, 1972; FACCINI; MASSARD³, 1976; OBA et al.¹³, 1977; BARBOSA et al.¹, 1978) and from sheep (FREIRE⁷,

1955). FACCINI; MASSARD³ (1976) also presented the first finding of *C. texanus* as parasite of cattle in Brazil.

The primary objective of this study is to report chorioptic mites for the first time parasiting a flock of goats in Brazil.

MATERIAL AND METHOD

Two adult Anglo-Nubian goats, belonging to a State of São Paulo goat farm, were selected from a flock of 26 goats for exhibiting hindfeet visible mange lesions characteristically crusty in appearance with nonfollicular papules, alopecia, erythema and oozing. These lesions were restricted mainly to the immediate surroundings of the accessory digits, along the coronary border and also in the interdigital space. Hindfeet epidermal debris and hair samples from the lesions were collected by scraping two sites with a scalpel blade. The scraping was vigorous, but not sufficient to draw blood. From site to site and from goat to goat the scalpel blade was cleaned with methyl alcohol. The material collected was kept pooled in plastic pots.

All samples were examined under a Nikon stereoscopic microscope and the presence, or absence of mites noted. Samples that seemed to be free of mites were then subjected to a digestion and flotation technique (ROBERTS et al.¹⁵, 1964) as mites could easily be hidden among the scurf and dried serous exudate that constituted the sample.

Mites preserved for further study were either fixed in 70% alcohol with added glycerine, or were mounted on slides directly in Hoyer's medium (KRANTZ¹², 1978). Morphological studies were carried out under a Nikon phase-contrast microscope.

RESULTS AND DISCUSSION

Although domestic cattle appear to be the host species responsible for *Chorioptes* cosmopolitan distribution among domestic, feral and wild animals (HARWOOD; JAMES⁹, 1979), the question has arisen as to whether a number of separate species of chorioptic mange mites are present, or whether there is mere physiological adaptation to specific hosts. According to SWEATMAN^{17,18} (1957, 1958), mites from domestic cow, horse, goat and sheep have been shown to be identical biologically and morphologically, and the specific names of *equi*, *caprae*, and *ovis* have been synonymized with *C. bovis*. The only other valid species among domestic animals is *C. texanus*, collected from the abdomen and thorax of goats in Texas (HIRST¹¹, 1924)

and from the bodies of cattle in Brazil (FACCINI; MASSARD³, 1976).

Reports of chorioptic mites on goats have appeared less frequently than those of cattle, sheep and horses and are as sparse as those on sheep (SWEATMAN¹⁷, 1957).

Besides the criteria noted by HIRST¹¹, 1924, SWEATMAN¹⁸ (1958) pointed out comparative additional diagnostic features between *C. texanus* and *C. bovis*, from which we would like to detach the following: 1) each opisthosomal lobe on the adult male of *C. texanus* has a primary lobe with an outer, smaller secondary lobe, whereas *C. bovis* (Fig. 1-A) has a single pair of undivided lobes; 2) the secondary lobe of *C. texanus* gives rise to a short, fine seta, while a long, thick seta in *C. bovis* (Fig. 1-B) arises from the outer corner of the single opisthosomal lobe on the same plane as the prominente spatulate setae; 3) arising just anterior to the innermost spatulate setae is a short seta in *C. texanus*, whereas its counterpart in *C. bovis* (Fig. 1-C) is four times longer and arises more anteriorly.

CONCLUSION

The mites collected from the Anglo-Nubian goats were identified as *C. bovis*, which could be differentiated from *C. texanus* only by the posterior halves of the adult males.

PEREIRA, M.C.; TRALDI, A.S. Sarna coriôptica em rebanho de caprinos no Brasil. *Braz. J. vet. Res. anim. Sci.*, São Paulo, v.28, n.1, p.45-9, 1991.

RESUMO: Os autores relatam o primeiro encontro no Brasil de *Chorioptes bovis*, parasitando um rebanho de caprinos. Acrescentam também comentários sobre a situação taxonômica atual do gênero e sobre algumas das características morfológicas comparativas das duas espécies de *Chorioptes* até o presente momento, encontradas associadas com caprinos.

UNITERMOS: Sarna coriôptica, caprinos

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FIGURE 1 – Posterior half of *C. bovis* adult male

- A – opisthosomal lobe
- B – opisthosomal lobe out corner seta
- C – opisthosomal lobe innermost anterior seta