RESEARCH NOTE

Raillietia caprae (ACARI: RAILLIETIDAE) AND *Psoroptes ovis* (ACARI: PSOROPTIDAE) IN THE EARS OF GOATS IN THE STATE OF RIO DE JANEIRO, SOUTHEAST BRAZIL*

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ABSTRACT:- FACCINI, J.L.H.; RIBEIRO, V.R. ***Raillietia caprae* (Acari: Raillietidae) and *Psoroptes ovis* (Acari:Psoroptidae) in the ears of goats in the state of Rio de Janeiro, Southeast Brazil.** [*Raillietia caprae* (Acari: Raillietidae) e *Psoroptes ovis* (Acari:Psoroptidae) nos condutos auditivos de caprinos no Estado do Rio de Janeiro, Brasil.] *Revista Brasileira de Parasitologia Veterinária*, v. 17, n. 1, p.59-61, 2008. Departamento de Parasitologia Animal, Instituto de Veterinária, Universidade Federal Rural do Rio de Janeiro, Km 7 da BR 465, Seropédica, RJ 23890-000, Brazil. E-mail: faccini@ufrrj.br

Ear cannals of 145 domestic goats including the breeds Saanen, Toggenburg, Anglobian, Alpine, Moxoto (native) and crossbred goats from 10 smallholder farms were examined by flushing for the presence of ear mites. Prevalence of *Raillietia caprae* Quintero, Bassols and Acevedo, 1980 was much more higher than *Psoroptes ovis* (Hering, 1838) in the studied area, respectively 62% (90/145) and 4% (6/145). The youngest animal parasitized was eight months old and the oldest was 10 years old. Subclinical otitis is a common feature of infestation by both species but increase of wax and the presence of pus were detected in the flushed material in approximately 10% of the goats examined.

KEY WORDS: *Raillietia caprae*, *Psoroptes ovis*, Acari, goats, Southeast Brazil.

RESUMO

Os condutos auditivos de 145 caprinos das raças Saanen, Toggenburg, Anglobian, Alpine, Moxoto (native) e mestiços provenientes de 10 pequenos criadores foram examinados pela técnica de lavagem para diagnosticar a infestação por ácaros. A prevalência de *Raillietia caprae* Quintero, Bassols and Acevedo, 1980 foi muito mais alta do que *Psoroptes ovis* (Hering, 1838) – 62% (90/145) e 4% (6/145), respectivamente. O animal parasitado mais jovem tinha oito meses de idade e o mais velho 10 anos. Otite subclínica é comum nas infestações por ambas espécies mas aumento de cerume e presença de pus foram diagnosticados no material da lavagem em aproximadamente 10% dos caprinos examinados.

PALAVRAS-CHAVE: *Raillietia caprae*, *Psoroptes ovis*, Acari, caprino, Sudeste do Brazil

The ear mite *Raillietia caprae* Quintero, Bassols and Acevedo, 1980 has been reported parasitizing goats in Mexico (QUINTERO et al., 1980), Australia (COOK, 1981), Brazil (FONSECA et al., 1983) and USA (FRIEL;GREINER, 1988) whereas goat psoroptic otocariasis by *Psoroptes ovis* (Hering, 1838) *sensu* Wall and Kolb (2006) has been reported worldwide (BATES, 1999).Although *P. ovis* seems to be more pathogenic than *R. caprae*, the impact of parasitism of both species on the host health had not been properly assessed. Otherwise, reports from Cottew and Yeats (1982) in Australia, DaMassa (1983) in USA and Ribeiro et al. (1995, 1996) in Brazil suggest that *R. caprae* and, probably, to a certain extent *P. ovis* (COTTEW; YEATS, 1982) may also be involved in the transmission of mycoplasmas to goats.

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This survey extends the work of Fonseca et al. (1983) by reporting the occurrence of ear mites in six breeds of dairy goats in state of Rio de Janeiro, Southeast Brazil. The study area consisted of a rural environment on the outskirts of the city of Rio de Janeiro, state of Rio de Janeiro, Southeast Brazil used by small dairy goat farmers for milk production.

Between May and August 1994, 145 dairy goats from 10 smallholder farms made up of several different breeds included Saanen, Toggenburg, Anglobian, Alpine, Moxoto (native) and crossbred goats were surveyed for ear mites and mycoplasmas. Results of Mycoplasma infestations had been published elsewhere (RIBEIRO et al., 1995, 1996). All goats were examined using the flushing method developed by Faccini et al. (1987) and evaluated by Leite et al. (1989) for *in vivo* collecting ear mites of the genus *Raillietia* Trouessart in cattle. Mites collected from both ears of each goat were stored in 70% alcohol for subsequent mounting in Hoyer's and identification.

Raillietia caprae was diagnosed in all six breeds examined with breed prevalence ranging from 31 to 100%(Table 1). The youngest animal parasitized was eight months old and the oldest was 10 years old. Females represented about 90% of the total mites while males and larvae accounted for 9% and 1% respectively. Nymphs were absent. Parasitism by *P.ovis* was diagnosed in one goat in the Saanen breed and three goats in the Toggenburg breed. Mixed infestation with both *P. ovis* and *R. caprae* was diagnosed in two goats in the Saanen breed.

Results of this survey clearly indicate that the ear mite *R. caprae* is very common in all six breeds of dairy goats examined. Otherwise, the prevalence of *P. ovis* was too low in comparison to the former species.

A similar survey carried out by Friel and Greiner (1988) in Florida, USA yielded a completely different result. After examining the ear canals of 284 domestic goats including Nubian, Alpine, Saanen, Toggenburg, La Mancha, Spanish/ Woods and Pygmy breeds, they found 57% (161/284) infested with *P.ovis* whereas *R. caprae* was recovered from only two goats in one herd. These differences might be due to several uncontrolled variables such as climate, age, herd management and collection method.

Absence of nymphs in naturally infested goats as observed in this survey suggest that the life cycle of *R. caprae* is similar to *R. auris* (Trouessart,1902), a common mite of the ear canals of cattle (FACCINI et al., 1987; COSTA et al., 1992) in Brazil.

Table 1. Prevalence of *Raillietia caprae* among six breeds of dairy goats from a rural environment on the outskirts of the Municipality of Rio de Janeiro, state of Rio de Janeiro, Southeast Brazil.

Breed	N	Prevalence
Saanen	48	31 (65%)
Toggenburg	22	14 (64%)
Moxoto (native)	3	3 (100%)
Anglonubian	13	5 (39%)
Alpine	20	7 (35%)
Mixed	39	28 (76%)
Total	145	90 (62%)

Accordingly, the adult males and females and larvae are parasitic whereas the proto- and deutonymphs are free living, non-feeding instars. It means that both vertical and transtadial transmission of mycoplasmas might be expected if indeed *R. caprae* is able to transmit mycoplasmas as previously though (COTTEW;YEATS, 1982; DAMASSA, 1983; RIBEIRO et al., 1995a).

The flushing technique used in this survey has not been properly evaluated, nor it was found such information in the literature making the results of this survey probably an underestimation of the true extent of the ear mite infestations in the studied area.

Clinical signs were not observed at the time of specimen collection neither in those animals infested solely with *R. caprae* nor in those with combined infestation. However, the increase of wax and the presence of pus were detected in the flushed material in approximately 10% of the goats examined. Gross lesions were noted in the ear canals of only three individuals in the Florida's survey (FRIEL;GREINER, 1988)

In Northeastern Brazil, subclinical otocariasis of goats caused by *P. ovis* is more common than clinical otocariasis (SANTOS, 1992).

Absence of clinical signs might favors transmission of both species from herd to herd thus increasing the spread of parasitism.

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