

***Cebus apella* (Primata: Cebidae) as a New Host for *Fonsecalges johnjadini* (Acari: Psoroptidae, Cebalginae) with a Description of Anatomopathological Aspects**

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Mites collected from the auditory canal of Cebus apella (capuchin monkey), family Cebidae, were identified as Fonsecalges johnjadini (Psoroptidae, Cebalginae). It is the first record of this parasite from this monkey. This paper emphasizes the importance of clinical and anatomopathological examinations for parasitic diagnosis in wild animals.

Key words: *Cebus apella* - *Fonsecalges johnjadini* - Cebalginae - Cebidae

Primates belonging to the genus *Cebus* are medium sized animals distributed from the north of South America to north of Argentina, inhabiting chiefly the Amazon rainforest and Atlantic rainforest in Brazil. This group of Cebidae is arbicolous and can live in any kind of neotropical rainforest (Freese & Oppenheimer 1981). Each group of these monkeys consists of 8 to 18 members (Kuhlhorn 1939 *apud* Freese & Oppenheimer 1981). The female is the first source of food, protection and carriage for the nestling. The young remain attached to the mother's back for up to the 6th or 7th week after birth (Nolte & Ducker 1959 *apud* Freese & Oppenheimer 1981) and are not wholly independent until between five and six months old (Freese & Oppenheimer 1981). Their social behaviour, therefore, allows the easy spread of mites among the group.

To date, the mite species *Cebalgoides cebi*, *Cebalges gaudi* and *Saimiriopsis hershkovitzi* have been found on the capuchin monkey (*C. apella*).

The aims of this paper are to record *C. apella* as a new host for the mite *Fonsecalges johnjadini* and to emphasize the importance of a detailed clinical and anatomopathological examinations to detect these parasites.

MATERIALS AND METHODS

A female capuchin monkey about 45 days old was captured in a free market in the State of São

Paulo and sent to the Technical Department of Veterinary and Biology of Fauna. The female remained isolated in captivity for 37 days. During this period, the animal presented a light ophthalmic itching, neurological signs and symptoms that needed corticosteroid, anticonvulsive, antibiotic and support treatment. The clinical outcome was death. The carcass was submitted for necropsy and for anatomopathological examinations at the Wild Animals Comparative Pathology Laboratory in the Pathology Department of São Paulo University. The necropsy revealed a certain quantity of brownish earwax containing mites in both ears. The mites were collected, arranged between slides of glass, fixed in ethanol 70°GL and sent to the Ixodides Laboratory IOC-Fiocruz, Rio de Janeiro, for identification. Fragments from all organs including the outer ear were collected, fixed in a packed 10% solution of formalin and embedded in histological paraffin wax. Sections about 5 µm thick were stained in hematoxylin and eosin.

To prepare specimens for identification, male and female mites were cleared in lactophenol and mounted in creosote-Canada balsam. The material was examined under optical light microscopy (40x, 100x, 400x). The material preserved in ethanol 70°GL was deposited in the Ixodological Collection of the Ixodides Laboratory under the registration number: ACA-PSO no. 001.

RESULTS

The young capuchin monkey died from *Enterococcus faecalis* septicemia caused by a non-suppurative meningitis and an incomplete fusion

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of the skullcap resulting in pseudocele formation. The histological analysis of the inner surface of the auricula showed a discrete epiderm hyperplasia and an orthokeratotic keratosis associated with the presence of mites among the keratin fragments (Fig. 1) beyond discrete segmented areas of hypergranulosis. Occasional periglandular mononuclear cells, sebaceous gland and follicle enlargement were observed in the subjacent conjunctive tissue. In its outer surface, mites were found in the lumen of the enlarged hair follicles. At the dermic region of the posterior limb (Fig. 2), at the hairy region of the lower lips (Fig. 3), as well as at the other undetermined dermic regions, the following were also observed: a discrete epidermical hyperplasia, an orthokeratotic keratosis with or without segments of parakeratotic keratosis, multifocal pigmentary effusion areas, a discrete inflammatory infiltration by lymphocytes, macrophage and mastocyte migration into the surrounding dermic tissues and the presence of ectoparasites in the dilated hair follicles.

The mites were identified *Fonsecalges johnjadini* Fain, 1963 according to Fain (1963a, b, c, 1966).

DISCUSSION

Mites belonging to the genus *Fonsecalges* have been found on a few neotropical primates, i.e.: sagüi-de-tufo-branco (*Callithrix jacchus*), sagüi (*Saguinus nigricollis*), both belonging to the Family Callitrichidae, and mico-de-cheiro (*Saimiri sciureus*) belonging to the Family Cebidae

(O'Connor 1987). With the present record, it is possible to include another host.

In respect of the site of parasitism, Fain (1963a) stated that *F. johnjadini* was found under crusts removed from the skin of *C. jacchus*. In 1963 Fain also refers to lesions on body, members, head and in the interior of the ears, either living freely or underneath superficial scales (Fain 1963c). The injuries the present authors observed at the dermic region of the pelvic appendage, at the hairy region of the lower lips and at other regions presenting epidermical hyperplasia and orthokeratotic keratosis could have been produced by *F. johnjadini* parasitism. In any case it is clear that detailed clinical and anatomopathological examination is important for the correct diagnosis of symptoms. In this study, the mites were collected from both right and left auricula and many mites were removed from the earwax characterizing these sites, indicating that they were a favorite habitat for these mites in this species of primate.

In conclusion, *C. apella* (Primate: Cebidae) is a host for *F. johnjadini* (Psoroptidae: Cebalginae). The mite is found in the auricula and surely they were found in other regions of the skin.

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Fig. 1: histological section of the auricula (*Cebus apella*) with a discrete epiderm hyperplasia and an orthokeratotic keratosis associated with a presence of mites (*Fonsecalges johnjadini*), (40X).

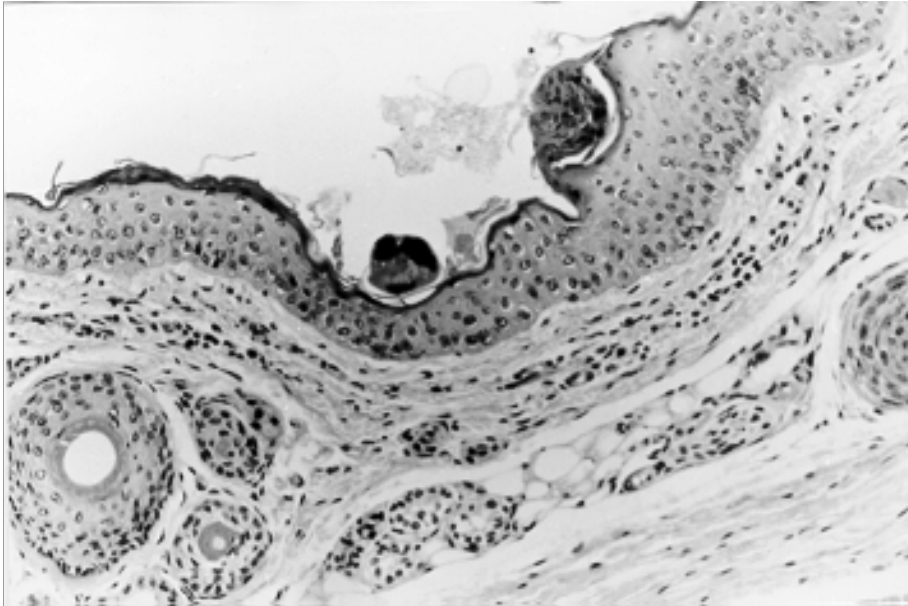


Fig. 2: histological section at the dermic region of the posterior limb (*Cebus apella*) showed ectoparasites (*Fonsecalges johnjadini*) in the lumen of the enlarged hair follicles (100X).

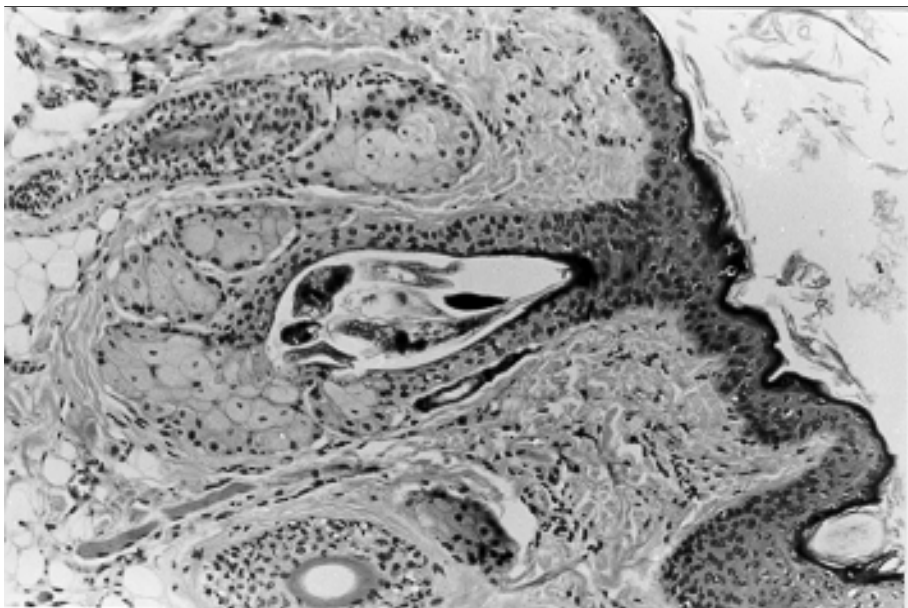


Fig. 3: histological section at the hairy region of the lower lips (*Cebus apella*) with a discrete epidermal hyperplasia and an orthokeratotic keratosis with the presence of mites (*Fonsecalges johnjadini*) in the lumen (100X).

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