3) *SANCASSANIA BERLESEI* (MICHAEL, 1903): AN OPPORTUNISTIC MITE INFESTING LITTERS IN POULTRY FARMS CAUSING DERMATITIS IN HUMANS AND ANIMALS

Mario Principato, Federica Lisi, Iolanda Moretta, Nada Samra, Francesco Puccetti
Dipartimento di Scienze Biopatologiche Veterinarie, Sezione di Parassitologia. Università di Perugia, Italy

Corresponding author: Prof. Mario Principato, Dipartimento di Scienze Biopatologiche Veterinarie, Sezione di Parassitologia, Via S. Costanzo, 4 – 06100 Perugia, Italy. Tel +39 0755857741 – Fax: +39 0755857743 – E-mail: drprincipato@email.it

ABSTRACT Reported herein are some cases of human dermatitis caused by *S. berlesei*, a mite coming from seriously infested poultry farms. It appears unable to determine traumatic lesions on human skin, but it causes itch and inflammation also at the level of mucosas. Besides this mite can be found accidentally also on reared fowls'wounds by peak.

Key words: mite (*Sancassania berlesei*), dermatitis, itch, exam of home dusts.

***SANCASSANIA BERLESEI* (MICHAEL, 1903): UN ACARO OPPORTUNISTA CONTAMINANTE LA LETTIERA DI ALLEVAMENTI AVICOLI, CAUSA DI DERMATITI NELL'UOMO E NEGLI ANIMALI.**

RIASSUNTO
Vengono presentati alcuni episodi di dermatite umana provocati da *Sancassania berlesei*, un acaro proveniente da allevamenti avicoli fortemente infestati. Questa specie non sembra in grado di determinare lesioni traumatiche sulla cute dell'uomo, ma, piuttosto, prurito e infiammazione, soprattutto a livello delle mucose dei genitali. Questo acaro si rinviene, occasionalmente, anche nelle ferite da beccata di volatili in allevamento.

Parole chiave: acaro (*Sancassania berlesei*), dermatite, prurito, esame delle polveri ambientali

Introduction

Sancassania berlesei, better known as *Caloglyphus berlesei*, is an environmental mite of zootechnic interest, for it develops both in dried feedstuff and in litters of big industrial poultry farms.
The species was described morphologically in 1903 by Michael and *Sancassania genus* in 1916 by Oudemans. The interest for this mite in veterinary medicine was reported for the first time in Italy by Principato et al. (1987). Besides recording the presence of that mite both in dried feedstuff and inside the farms, they described some lesions on fowls from which *S. berlesei* was isolated.
The hosts, where the mite was observed, were *Gallus gallus, Numida meleagris, Phasianus calchicus* e *Turdus merula.*
Crusty lesions were variously scattered on the hosts' skin, above all in periocular areas, around the beak, but the mites were observed also on the feathers.
The inflammation caused itch and in some samples, particularly infested, the symptom of diarrhea was reported as well.
Afterwards Principato et al. (1991) supplied with a S.E.M. description of adults and hypopial deutonymphs (Figure 1) of this species and in 1992 they recorded its presence in some umbrian intensive chicken farms. Nowadays, *S. berlesei* seems to be widespread and it is recorded everywhere, sometimes even in dwellings. Reported herein are some cases of human and animal dermatitis referred to the presence of *S. berlesei*.

Material and methods

The cases of dermatitis herein described were recorded through our exams of environmental dusts carried out from 2000 to 2004 in dwellings, whose owners had frequent contact with conserved farinaceous food and feedstuff and besides that took care of rearing fowls, such as chickens, turkeys, pigeons and geese. A number of 76 exams of dust samples was examined, coming from those dwellings where symptoms of dermatitis and itch of indefinite cause were reported.
A number of 27 were recorded in spring-summer and 49 in autumn-winter. The diagnosis was made by examining both home dusts and the dust removed from the poultry houses. The exam was effected by flotation with a saturated solution of NaCl after filtering and precipitation in absolute ethyl alcohol.

Results and discussion

The direct exam of home dusts of owners of fowls revealed the presence of *S. berlesei* in 68 % of dermatites observed in spring-summer (Figure 2) and 14 % of the cases reported in autumn-winter (Figure 3).
In all the cases in which *S. berlesei* was isolated in the houses, a great spread of that mite was recorded also in fowl runs with an average of mites of about n.

Figure 2. Frequency of cases of human dermatitis caused by environmental mites in spring-summer in people dealing with poultry houses

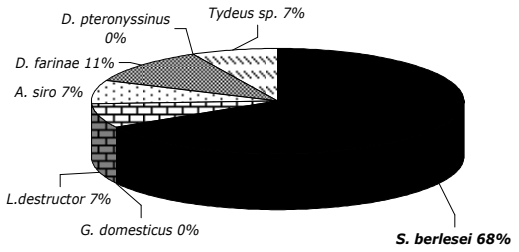
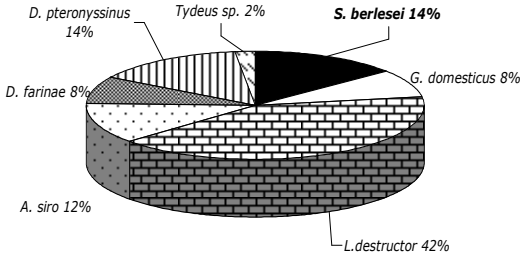
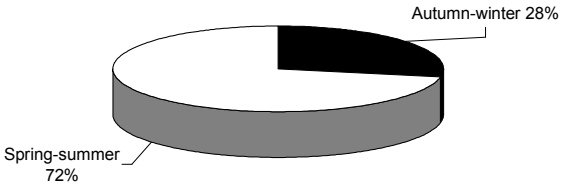


Figure 3. Frequency of human dermatitis caused by environmental mites in autumn-winterin people dealing with poultry houses



4000/g of dust in spring-summer and about n.1000/g of dust in autumn-winter. The number of hypopial deutonymphs increased about at half the cycle of rearing of animals. The dermatites observed were in most cases itchy, though not continuously. The mites were frequently isolated in clothes and in underwear and itch occurred more frequently on patients'genitals, inguinal area, arms and head. In the most serious cases it was spread also on their trunk and neck. The dermatites observed appeared always as folliculitis complicated by scratching.
Mites could be isolated from some pets' skin. On dogs the inflammation of their skin of abdomen and of the internal part of tighs resulted accompanied by a strong stimulus to scratch themselves.
On Passeriformes and on *Psittaciformes* the tendency of animals to pluck their feathers was evident. In chickens *S. berlesei* was present mainly inside the wounds caused by peaks, in their feathers and periocular and cloacal areas.
In general in spring-summer a higher percentage of cases of dermatitis by *S. berlesei* was reported (72%) in comparison with the autumn-winter period (28%) (Figure 3).

Figure 5. Frequency of cases of human dermatitis caused by *S. berlesei* in spring-summer and in Autumn-Winter in people dealing with poultry houses



Conclusions

Although the cases of human dermatitis caused by *S. berlesei* from birds are very few, it is a fact that this mites can determine itch and allergy in humans and animals. The presence of the arthropod also in underwear, with the high frequency of itch in the genital and perigenital areas appears to be interesting. *S. berlesei* is a mite that colonizes , though accidentally, animals' wounds and mucosas and its presence also in women's mucosa of vulva and vagina cannot be excluded. In this case its sanitary interest is to be correlated to the presence of bacteria of which the mite is certainly a reservoir. The possibility
for this mite to trasform itself in hypopes makes it possible the infestation from poultry houses to human dwellings with problems of allergy that can arise even some years after the contagion.
Since *S. berlesei* is a mite present in a lot of poultry farms and it is easily adaptable to any fowl run, it is necessary to contain its number through targeted treatments of litters, in order to avoid the chance of human contagion.

A useful note for a differential diagnosis is that, contrarily to the dermatitis caused by *Glycyphagus domesticus*, the one caused by *S. berlesei* appears mainly in springtime and in summer without strophuloid lesions.

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4) THE ALTERATIONS OF PLUMAGE OF PARASITIC ORIGIN

Mario Principato, Federica Lisi, Iolanda Moretta, Nada Samra, Francesco Puccetti

Dipartimento di Scienze Biopatologiche Veterinarie, Sezione di Parassitologia. Università di Perugia, Italy

Corresponding author: Prof. Mario Principato, Dipartimento di Scienze Biopatologiche Veterinarie, Sezione di Parassitologia, Via S. Costanzo, 4 – 06100 Perugia, Italy. Tel +39 0755857741 – Fax: +39 0755857743 – E-mail: drprincipato@email.it

ABSTRACT Described herein are the main lesions to the plumage caused by insects and mites, both on the vane or the calamus of feathers. Practical data are given, aimed to make a correct differential diagnosis.

Key words: insects, mites, plumage, calamus, vane, lesions.

ALTERAZIONI DEL PIUMAGGIO DI ORIGINE PARASSITARIA

RIASSUNTO Vengono descritte le principali lesioni al piumaggio prodotte da insetti ed acari, sia sulla parte vessillare delle penne, che sul calamo, fornendo elementi concreti per una corretta diagnosi differenziale.

Parole chiave: insetti, acari, piumaggio, calamo, vessillo, lesioni.

Introduction

Arhropods can interact with fowls damaging their plumage, breaking, perforating and also causing its loss. Some attack preferably the calamus, some others the vane of the feathers. The lesions reported are almost always well distinguishable to the naked eye or by the aid of a stereomicroscope, but it is not always easy to find out the arthropod that causes them. To this aim, the main kinds of lesions of feathers occurred to our observation during the past ten years were selected in order to make it easy to effect a differential diagnosis and quickly to reveal the agent causing the pathology.

Material and methods

A number of 520 fowls was examined belonging to the families *Struthionidae, Turnicidae, Phasianidae, Anatidae, Psittacidae, Columbidae; Passeriformes* of the families *Cinclidae, Troglodytidae, Sturnidae, Estrildidae, Fringillidae, Corvidae, Ploceidae, Turdidae, Alaudidae, Hirundinidae, Motacillidae, Sylviidae and Paridae*.

The macroscopic exam of plumage was carried out on them, by a stereomicroscope and at the same time the isolation of all the arthropods present was effected by using micro-needles and thin-pointed pincers. The feathers damaged and the arthropods isolated were kept in 80% alcohol, whereas some samples were clarified in warm lactic acid and mounted on slide in Berlese's solution to be identified.

To circumscribe the field of our reseach, in this study some mites causing mange and other causing indirectly the loss of feathers without lesions observable macroscopically were excluded.

Results and discussion

The arthropods identified as agents causing evident lesions of plumage belonged to two classes: *Insecta* and *Acarina*. In the former, two orders were recorded of particular interest for the plumage: *Mallophaga* and *Coleoptera*; in the latter, the order *Actinedida* (=*Prostigmata*) and *Acaridida* (=*Astigmata*).