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PARASITIC LESIONS OF FOWL PLUMAGE

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On the bird plumage, ectoparasites may produce slight lesions, with small alterations, invisible to the naked eye, or more serious and visible alterations, with consequent loss of the ability of thermal and mechanical insulation of the feathers. The severity of the lesions depends on the parasite load, but also on the capability of some parasites to cause itching and then to stimulate the bird to peck itself, completing the detrimental action on the feathers, that so end to crack at various points [1].

Aim of this work was to get a comprehensive overview of the alterations of plumage of parasitic origin and to classify them depending on the location on the animal and on the feathers.

In the Urania Centre of Research (Perugia, Italy), material stored in the last 30 years, resulting from the scientific collaboration with the Parasitology Section-Dept. of Veterinary Medicine of Perugia and Istituto Zooprofilattico Sperimentale dell'Umbria e delle Marche, was observed by stereomicroscope. The arthropods present were isolated, mounted on glass slides with the solution of Berlese and identified by optical microscope.

The anatomical areas most frequently affected were: the wings and axillary areas, tail, chest, neck, head and periorbital areas. The lesions of the feathers may be distinguished, in relation to their distribution, as:

1) Lesions by *Siringophilus* inside the calamus [2], which assume a typical orange colour for the presence of these mites.

2) Lesions by *Knemidokoptes* outside the calamus with intracorneal galleries.

3) Lesions by *Knemidokoptes* on the calamus in the outer follicular area, manifested by a crusty collar in the basal area of rachis and in the apical area of the quill.

4) Punctiform lesions between the barbules caused by feather mites, such as *Proctophyllodes*, which are located in long lines along the barbs.

5) Linear lesions by the rescission of individual barbs due to the action of the jaws of Mallophaga. They are the most frequent and the most obvious ones.

6) Lesions of feathers for shredding of barbs by Mallophaga with adhesion of the eggs. As a result the feathers stick together to form large blocks, sometimes in the underaxillary area, but also in the head and periorbital areas.

7) Lesions between the barbs due to grafting of eggs laid with silky threads; typical lesions are those produced by *Neochyletiella* (= *Ornithocheyla*) *megaphallos* in small birds.

8) Linear lesions by the rescission of bundles of barbs due to the action of the jaws of Dermestidae beetles (*Dermestes*), which can also affect the rachis of the feathers, especially in the tail and the wings, causing their breakage. These insects attack the animals during the night, causing, for example, the pathology known as "broken tail" in pheasants in breeding.

9) Irregular lesions on the entire feather that ends up breaking spontaneously, caused by the action of Dermestidae beetles (*Anthrenus*, *Attagenus*, *Trogoderma*) on the feathers, that touch the ground during the night.

Ectoparasites of birds are able to cause lesions to the plumage that not only affect the health of animals with loss of waterproofing of the feathers, of fundamental importance for migratory birds and swimmers, but also at the economic level, determining the general decline of the animal and its depreciation in the market.

1. Principato M et al. 2005. *Ital J Anim Sci*, 4:296-299.

2. Clark GM. 1964. *Acarologia*, 6: 77-92.