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### Bioorganic Farming Practices as a Source of Atypical Ectoparasitosis

**Report of Case.** During the summer, a 46-year-old French woman presented with pruriginous dermatitis of the scalp. She reported feeling as if “small beasts” were falling from her scalp, especially in the evenings, annoying her during her work and sleep. Antilice lotions were ineffective, as was oral ivermectin treatment at 200 µg/kg. Many bites and scratches were visible on her back (**Figure 1**). The dermatologist discovered insects less than 0.04 of an inch long and sent them for identification to the Parasitology Service of the University Hospital of Tours.

On microscopic observation (**Figure 2**), arthropods of the chelicerata subphylum and the acarus subclass were suspected. The morphologic description was consistent with an atypical ectoparasitosis by *Dermanyssus* species. A malathion-based lotion and ivermectin at 600 µg/kg were prescribed.

**Comment.** *Dermanyssus* genus includes about 20 hematophagous acarus species. The main species, *Dermanyssus gallinae*, is usually a parasite of birds, which preferentially infests young birds in the nest and feeds during the night. After blood meals, the acarus hides in the dark crevices of walls and the ground. *Dermanyssus gallinae* is the most important ectoparasite affecting egg-laying poultry and has an impact on poultry productivity.<sup>1</sup> If nests are abandoned, the acarus is forced to find a new host and will occasionally feed on mammalian blood.<sup>2</sup>

Human cases are sporadic and often described during hot seasons in rural environments under the names *pseudo scabies*, *false louse*, and *poultry red mite*.<sup>2</sup> A few nosocomial cases have been reported.<sup>3</sup> In making a diagnosis, the physician must consider the patient's proximity to nests, aviaries, and henhouses. The present patient was convinced of benefits of bioorganic food; thus, she maintained a henhouse in her backyard and leaned into the henhouse to harvest fresh eggs from the laying



**Figure 1.** Dermatitis of the nape and the top of the back. Note the bloody crusty aspect of the lesions due to intense itching.



**Figure 2.** Acarine subject *Dermanyssus gallinae*. The flattened hairy body is elliptical, not segmented. Four pairs of long legs are all inserted in the anterior part. At the extremity of each leg, 2 claws are arranged in pliers. At the apical part, 2 threadlike chelicerae surround the mouth. There is no antenna. A red/brown color was noticeable, perhaps because of the presence of a blood meal.

nests. Currently, bioorganic products restrict insecticide treatments, which allows transmission of atypical ectoparasitosis to people.

Cases of human infestation with *Dermanyssus* species are uncommon. Patients feel painful localized bites with constant pruritus and urticarious maculopapular eruptions. Excoriated lesions and crusted ulcers may appear. Because clinical manifestations mirror those of scabies or pediculosis, diagnosis is often difficult; therefore, products usually active against lice and sarcoptic mites may be used ineffectively on human infestation with *Dermanyssus* species.

The source of contamination must be identified and eradicated. Patients should be kept away from the acarine repository and permitted to heal spontaneously. When the present patient stopped her daily egg collection in the henhouse, the pruritus progressively decreased. Treatment with high-dose oral antiparasitic has been tried with limited success.<sup>4</sup> Concomitantly, in-

fested locations should be thoroughly coated with pyrethrin sprays. Bedding and clothes need to be washed at high temperatures. Resistance toward traditional acaricides are emerging in the poultry-breeding industry. In the near future, it could become an environmental problem.<sup>5</sup>

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