Trends in Parasitology | Parasite of the Month

Dermanyssus gallinae (Poultry red mite)

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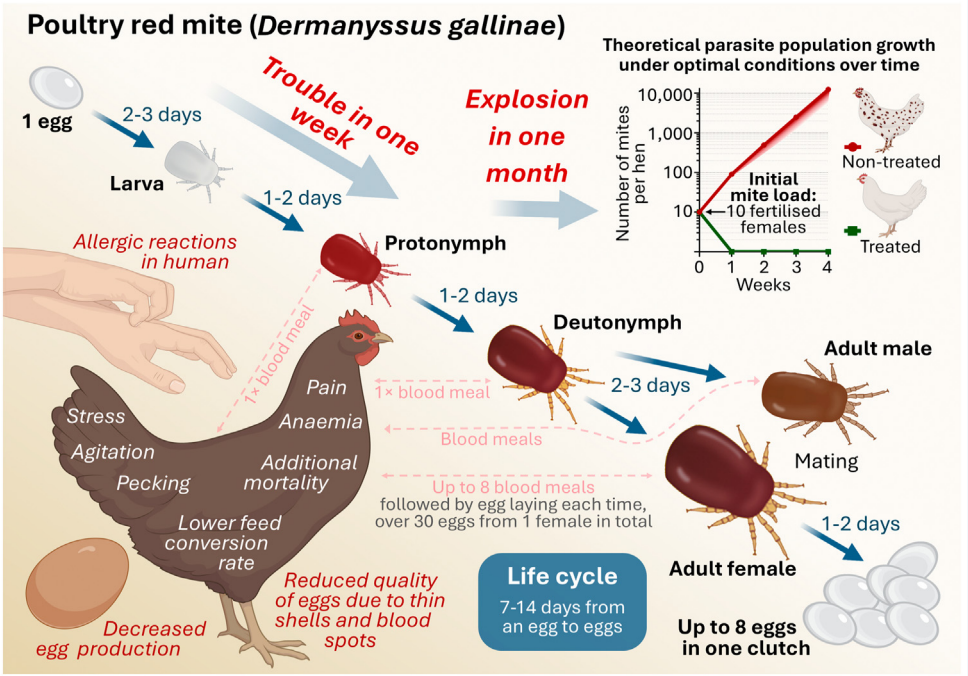
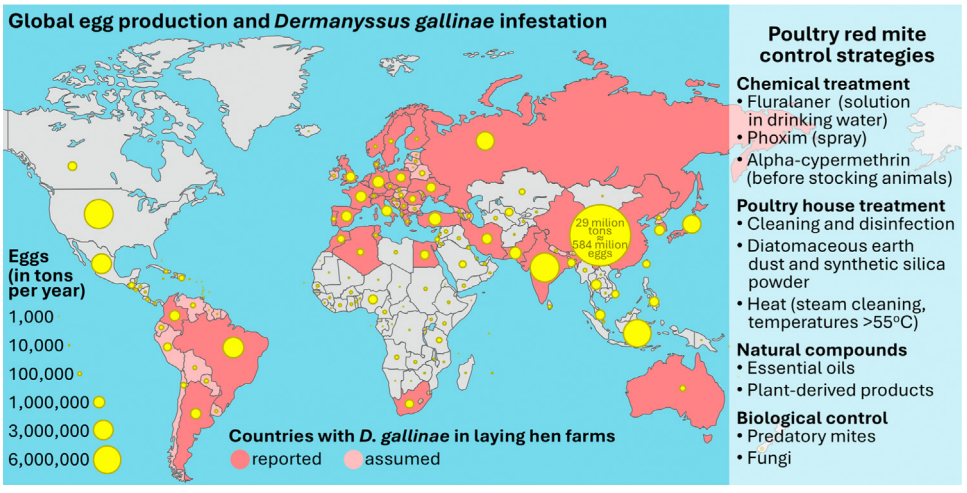


The poultry red mite, *Dermanyssus gallinae*, is a global pest of free-living and farmed birds. As a blood-feeding ectoparasite, it particularly affects the welfare of farmed egg-laying hens. Under optimal conditions, especially in the summer, the life cycle of the parasites can be completed within a week, resulting in their population surges. Heavily infested farms display decreased egg production and economic losses for the poultry industry. The ability of mites to survive for extended periods outside of the host is a major challenge in controlling efforts in poultry houses. Integrated Pest Management strategies are deployed as countermeasures to curb the population of mites. Besides farmed poultry, *D. gallinae* is also a significant nuisance to pet birds, especially parrots and pigeons. In addition to its impact on avian health, this mite is a public health concern due to its role as a vector of pathogens, and its medical impact (gamasoidosis, also known as dermanyssosis) on humans.



KEY FACTS:
The poultry red mite is the most troublesome parasite of egg-laying hens globally, excluding North America, Indonesia, and New Zealand, where the poultry is predominantly parasitised by the northern fowl mite (*Ornithonyssus sylviarum*).

It has a direct life cycle with non-feeding larvae, and blood-feeding protonymphs, deutonymphs, and adults. Blood-feeding, that can take up to 60 min, negatively affects bird health, welfare, and egg production, resulting in significant economic losses to the poultry industry.

Each female can lay eggs multiple times after each blood-feeding, contributing to rapid population growth.

Hens are primarily attacked at night, when they can be victims to thousands of mites at various stages of development.

DISEASE FACTS:
Feeding of *D. gallinae* mites can cause dermatitis and anemia in infested birds, leading to significant discomfort, and overall poor health.

Rarely, *D. gallinae* can also feed on humans, causing mild to severe dermatitis.

The stable midgut bacterial microbiome of *D. gallinae*, which includes genera such as *Bartonella*, *Staphylococcus*, *Rickettsiella*, and Micrococcaceae, may contribute to the mite's role as a significant vector and reservoir for pathogens affecting poultry and posing zoonotic risks to human health.

TAXONOMY AND CLASSIFICATION:
PHYLUM: Arthropoda
CLASS: Arachnida
ORDER: Mesostigmata
FAMILY: Dermanyssidae
GENUS: *Dermanyssus*
SPECIES: *D. gallinae* (de Geer, 1778)

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Declaration of interests

The authors declare no competing interests.

Resources

www.fao.org/faostat/en/#data/QCL

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