



# POULTRY PONDERINGS



A QUARTERLY NEWSLETTER SUMMARIZING POULTRY RELATED WORK AT UC

## Backyard Chicken Ectoparasite Study

Amy Murillo and Brad Mullens  
UC Riverside, Department of Entomology

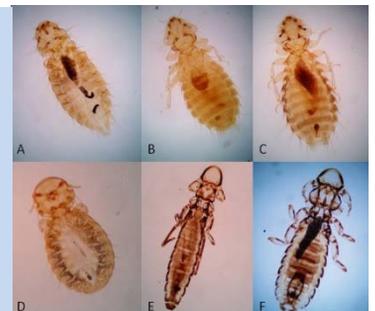
We examined 100 backyard birds throughout southern California between June and August 2015 for parasites living on or near the birds. Four of 20 premises were ectoparasite free. Lice were the most common parasites found, with 6 different species detected: *Menacanthus stramineus* (chicken body louse), *Goniocotes gallinae* (fluff louse), *Lipeurus caponis* (wing louse), *Menopon gallinae* (shaft louse), *Menacanthus cornutus*, and *Cuclotogaster heterographus* (head louse). One flea species, the sticktight flea (*Echidnophaga gallinacea*) was found. Three parasitic mite species were recovered: *Ornithonyssus sylviarum* (northern fowl mite), *Knemidocoptes mutans* (scaly leg mite), and *Dermanyssus gallinae* (chicken red mite). The parasite diversity found on backyard chickens was greater than what is commonly found on commercial chicken flocks in the US. This study is published in the Journal of Medical Entomology, 2016.



Photo of Dr. Mullens and PhD student Amy Murillio washing parasites off of a bird (photo by A. Yzaguirre)

## Common Lice Found In Backyard Chickens

Chicken lice (not to scale) collected in survey. (A) *Menopon gallinae*; (B) *Menacanthus cornutus*; (C) *Menacanthus stramineus*; (D) *Goniocotes gallinae*; (E) *Lipeurus caponis*; (F) *Cuclotogaster heterographus*.



PLEASE CONTACT MAURICE PITESKY AT MEPITESKY@UCDAVIS.EDU OR 530-752-3215 WITH  
QUESTIONS OR COMMENTS

## Avian Influenza Persistence and Testing the Effectiveness of Biosecurity Approaches

Rüdiger Hauck, Daniel Rejmanek, Beate M. Crossley, Rodrigo A. Gallardo  
UC Davis School of Veterinary Medicine and CAHFS

As part of the Egg Industry Center (EIC) grant obtained through a collaboration between CAHFS and the School of Veterinary Medicine at UC Davis, investigators from both institutions have been testing the persistence of avian influenza viruses (AIV) and the effectiveness of certain disinfectants used in footbaths as a way of keeping AIV out of poultry premises. Among those experiments a pilot study was conducted with a product commonly known as “dry footbath.” According to the manufacturers instructions a dry footbath was set in a pan. Rubber boots were impregnated with a mixture of AIV spiked feces and rice hulls. Spiked boots were immersed in the footbath for a couple of seconds. After that, samples from the boot sole were collected in viral media, without eliminating the disinfectant attached to the boot. Viral particles were detected by qRT-PCR at 5, 15 and 30 minutes post use of the dry footbath. We are in the process of confirming that those viral particles were alive.

## Tenosynovitis Associated with Reovirus in Broiler Chickens in California

H. L. Shivaprasad, G. Senties-Cue and Simone Stoute  
CAHFS

We have been seeing an increased number of submissions of broiler chickens between the ages, 12 to 45 days with clinical signs of leg problems and mild increased mortality. The clinical signs ranged from birds having difficulty walking, down on their legs, lateral recumbency to occasional deviation of legs either laterally or anteriorly. Most of these birds had swollen hock joints with increased yellow exudate that extended along the tendon sheaths. Reovirus was isolated from the joints of some of these chickens. Serological titers were high for reovirus in these chickens compared to the normal control chickens.



38-day-old broiler chickens down on legs which had tenosynovitis due to reovirus.

A few birds had increased pericardial fluid in the heart and mild to moderate epicarditis and myocarditis.

It is well known that reovirus can cause tenosynovitis, a disease of great economic significance in broiler chickens resulting in decreased weight gain, increased mortality and downgrading of carcasses at the processing plant. *Continue story on next page*

*Continued from previous page.* One way to prevent the disease in broiler chickens is to vaccinate the breeders so that they can pass on the maternal antibodies to the progeny. Over the last four or five years, in spite of vaccination of the breeder chickens with reovirus vaccine, increased incidences of tenosynovitis with occasional tendon rupture have been reported in broilers in parts of the USA and Europe. Reoviruses were isolated from the joints of the broiler chickens and characterized as novel reoviruses compared to the vaccine strains based on molecular and serum neutralization tests. We are in the process of characterizing the reovirus isolates from the California broiler chickens.

## **UC-ANR Grant to Study Avian Influenza (AI) in California**

**Maurice Pitesky**

**UC Davis School of Veterinary Medicine-Cooperative Extension**

A 3-year study that will include researchers from UC Davis-Cooperative Extension, UC Davis, School of Veterinary Medicine, USGS, CDFA and the University of Delaware will begin in April of 2016 to better understand the epidemiology AI in waterfowl in the central valley of California. Given that the Central Valley of California is one of the most important wintering areas for waterfowl in North America and also contains the majority of California's commercial poultry industry, our approach will help identify which farms are at greatest risk of waterfowl intrusion. Various statistical mapping tools will be used to develop novel risk maps that will be accessible for stakeholders as an "app" or as a resource on the UCCE poultry website. One novel approach that will be integrated into these maps will be Next Generation Radar (NEXRAD) which offers the potential to monitor waterfowl remotely and in real-time. Leveraging NEXRAD data could allow for the creation of an "early warning system" that may be useful for poultry producers. Over the next year, researchers will look back on 20 years of NEXRAD ,

wetland and agricultural data to better understand the variability in water fowl habitat. Years 2 and 3 of the study will include sampling for the detection of AI in waterfowl based on the results of the novel risk maps.



## What's New on UCCE Poultry Website

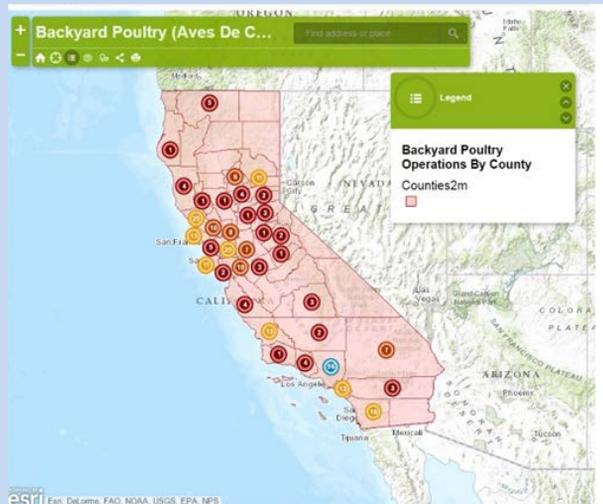
Myrna Cadena

Survey based and anecdotal observations demonstrate that backyard poultry ownership is increasing nationally and in California. To better reach out to backyard poultry enthusiasts UC Davis Cooperative Extension and the UC Davis School of Veterinary Medicine have developed a short geo-survey (~2minutes) designed for the backyard poultry community. The survey results are designed to facilitate communication between poultry experts and backyard poultry enthusiasts. An interactive map linked to the survey can be seen viewed at

[http://ucanr.edu/sites/poultry/California\\_Poultry\\_Census/](http://ucanr.edu/sites/poultry/California_Poultry_Census/). Participate and have your poultry represented!

Our “Who to Contact In Case of Poultry Issues” flowchart is expanding with Dr. Rodrigo Gallardo—poultry veterinarian and assistant professor at the UC Davis School of Veterinary Medicine—becoming our newest contact. If you have any questions related to common avian diseases, please feel free to contact him at [ragallardo@ucdavis.edu](mailto:ragallardo@ucdavis.edu). The complete flowchart is available at <http://ucanr.edu/sites/poultry/contact/> and can be seen on the following page.

*Continue story on the next page*



View of the California Backyard Poultry Census. Over 300 backyard enthusiasts have signed up representing 44 of California's 58 counties.

Name a bird that can fly backwards?



Last quarters trivia: Female birds dictate the sex of the offspring (as opposed to mammals). Two exception are ratities and some birds of prey.

Useful Information on Highly Pathogenic Avian Influenza can be found at:  
[http://www.cdffa.ca.gov/ahfss/Animal\\_Health/Avian\\_Influenza.html](http://www.cdffa.ca.gov/ahfss/Animal_Health/Avian_Influenza.html)

Continued from previous page. Another resource that we are continually updating is our “Private Veterinarians Who Treat Poultry” list. Finding private veterinarians interested in treating backyard poultry is difficult. For this reason, we are reaching out to veterinarians who treat backyard poultry and listing them by county on our website. Our newest additions are Dr. Nik Weber from Butte County and Dr. Eileen Gillen whose hospital covers Santa Barbara and Ventura Counties. We now have backyard poultry veterinary resources in 11 California counties.

Along with these changes, we are constantly adding new material to our resources sections. For example, we recently uploaded a podcast titled, “Keeping Your Poultry Healthy” with Dr. Maurice Pitesky”, hosted by Mr. Homegrown from Root Simple. In addition, a new article titled “Clean Water: An important step for happy and healthy chickens,” from Chicken Whisperer magazine is now accessible in our “Husbandry” section.

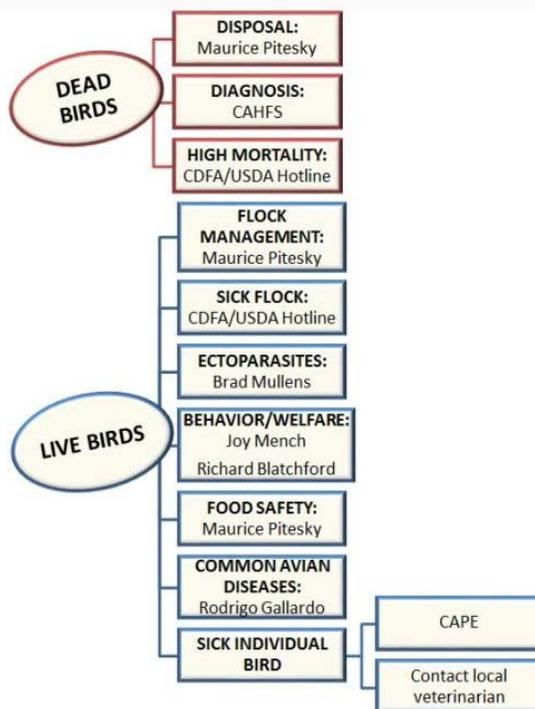
If you have questions or ideas on how to make the website better please feel free to email Myrna Cadena (mmcadena@ucdavis.edu) or Maurice Pitesky (mepitesky@ucdavis.edu)

## Have Poultry Questions

### Getting Ready to Hatch ...

2016 Davis Tour de Cluck.  
Saturday May 21<sup>st</sup> 10AM-3PM

More information including when and where to buy tickets at:  
<http://tourdecluck.org/>



The web address for the this flow chart along with individual contact information is at:

<http://ucanr.edu/sites/poultry/>