Postdoc in Avian Agro-Ecology and Foodborne Disease

Department of Wildlife, Fish, & Conservation Biology, University of California, Davis

Application review begin date: August, 23 2021 (applications solicited until position is filled)
Start date: January 1, 2022
Location: In-person at UC Davis

SUMMARY:

We are seeking a Postdoctoral Researcher with expertise in agro-ecology, avian ecology, and/or disease ecology to join Daniel Karp's lab in the Department of Wildlife, Fish, and Conservation Biology at the University of California, Davis. The initial appointment will be for one-year with the likely extension for a second year (contingent on adequate performance).

The postdoctoral researcher will join a collaborative and interdisciplinary team of faculty, government scientists, and other researchers focused on assessing the potential role of wild birds in spreading foodborne diseases on fresh produce farms (*i.e.,* Shiga-toxin producing *E. coli*, *Salmonella* sp. and *Campylobacter* sp.). The postdoc will be based at UC Davis but collaborate closely with scientists at the USDA Agricultural Research Service (Dr. Jeff McGarvey), Michigan State University (Dr. Olivia Smith), and Virginia Tech (Dr. Elissa Olimpi).

Tensions between farmland conservation and food-safety goals have escalated, as the produce industry becomes increasing concerned about wildlife introducing foodborne pathogens onto farms. Birds are of particular concern as they carry pathogens, are difficult to exclude from farms, and defecate on crops. Yet very few species have been studied from a food-safety perspective, and those that have form a minority of farm bird communities. For a species to pose significant risk, it must carry pathogens, defecate on crops, and produce feces that support pathogen survival (see Smith *et al*. 2020 *Biological Reviews*). The core goals of this project are to: (1) quantify pathogen prevalence across many farmland bird species via existing studies and assays of field-collected feces; (2) survey birds and collect feces on produce farms to determine which species defecate on crops and in which contexts; (3) assess pathogen survival in bird feces on different substrates and from different species; and (4) communicate risk assessments for >50 species via a photographic guide to help growers co-manage birds for both conservation and food-safety goals.

The postdoc, with mentorship from Karp, will be responsible for the following field activities:

- Work with undergraduates to capture birds (via mist nets) and obtain fecal samples from farms and adjacent natural areas in Yolo County, California (many owned by UC Davis).
- Collaborate with a field technician and growers to coordinate bird surveys on produce farms across the California Central Coast (Monterey, San Benito, and Santa Cruz counties).
- Implement pathogen survival experiments on the UC Davis Student Farm.

The postdoc will also work closely with McGarvey and a technician at USDA ARS, who will be responsible for all lab work associated with the project. Finally, the postdoc will (1) coordinate project meetings, (2) conduct statistical analyses, (4) prepare academic manuscripts, (5) develop outreach materials, and (6) mentor undergraduates and field technicians.

QUALIFICATIONS:

- A Ph.D. in Ecology or a closely related field.
- Strong interpersonal and communication skills and an ability to work both independently and collaboratively with researchers and practitioners from different backgrounds.

- Demonstrated ability to follow through on project deliverables and communicate findings in high quality peer-reviewed journals.
- Experience designing, planning, and executing research projects.
- Experience with ornithological field methods (most importantly, mist-netting)
- Strong quantitative skills and demonstrated proficiency with R.
- Demonstrated commitment to diversity, equity, and inclusion in science

The following qualifications are preferred but not required:

- Prior experience working in agroecosystems and/or interacting with growers.
- Prior experience managing field projects and mentoring students.
- Prior experience in disease ecology

SALARY:

Salary and benefits are consistent with UC Davis policy and applicant experience. See links for salary scale and benefits information: https://www.ucop.edu/academic-personnel-programs/_files/2021/2021-postdoc-salary-scales/t23.pdf and https://hr.ucdavis.edu/employees/benefits/post-doc-scholars

TO APPLY:

Please apply by preparing: (1) your CV inclusive of publications, awards, and field experience, (2) a cover letter discussing your qualifications, research interests, and motivations for this position, (3) a 1-2 paragraph summary about your commitment to diversity and inclusion in science, (4) contact information for 3 references. Send materials to dkarp@ucdavis.edu with the subject line: "***Avian Agroecology and Disease Postdoc Application.***"