

**SANTA BARBARA BOTANIC GARDEN
POSITION DESCRIPTION**

Invertebrate Biodiversity Postdoctoral Scholar

About the Santa Barbara Botanic Garden:

The Santa Barbara Botanic Garden's mission is to conserve California native plants and habitats for the health and well-being of people and the planet. Since the 1930s, staff members of the Garden have developed and maintained an intimate knowledge of the California flora, with an emphasis on the plants and vegetation communities of California's Central Coast and the offshore islands. Today, we take a comprehensive approach to its conservation from genes to ecosystems, with comprehensive plant systematics, rare plant conservation, community ecology, and habitat restoration functions. This allows us to more thoroughly tackle the conservation challenges of our day, such as habitat loss and fragmentation, invasive species, and pollinator decline.

Overview:

The **Invertebrate Biodiversity Postdoctoral Scholar** will conduct terrestrial invertebrate surveys on San Clemente Island, coarsely identify and database the resulting specimens, and interface with entomological experts across California to facilitate their identification to the species level. This Postdoc will work as part of a team, following protocols outlined in a contract with the U.S. Navy, for a project designed to further our understanding of the island's invertebrates and plant-insect interactions, while also gaining knowledge that will guide rare plant and habitat restoration. This is a full time (40 hours per week), one-year long, exempt position that reports to the Director of Conservation and Research.

The ideal candidate will have a Ph.D. in Entomology, with a concentration in the systematics and taxonomy of Diptera, Hymenoptera, Coleoptera, Hemiptera, or Lepidoptera. General proficiency in all other groups to family level is necessary. Opportunities for professional development will include: networking with entomological experts across California and beyond to identify and describe San Clemente Island invertebrate specimens; preparing a project report and at least one publication detailing the biodiversity and ecology of San Clemente Island and the benefits of our approach which simultaneously achieves biodiversity inventory and conservation planning; and offering at least one local lecture or workshop to inspire an understanding and appreciation of entomology and plant-insect interactions.

Essential Duties:

- Conduct fieldwork on San Clemente Island, utilizing four techniques (sweep netting, beat sheeting, litter sampling, and pan trapping) at eight sites across a gradient of vegetation disturbance and "nativeness";
- Identify collected specimens to the family level, then assign "morphospecies"¹ based on expert knowledge of key features for that group;
- Prepare high-resolution images of morphospecies representatives using a Leica M125 with Z-stacking technology;
- Maintain spreadsheets of the resulting identifications, and serve images online on the Cal-IBIS portal of Symbiota;
- Post selected images on BugGuide.net;

- Separate specimens by group to share with a team of seven entomologist partners from U.C. Berkeley, the Santa Barbara Museum of Natural History, the University of California at Santa Barbara, the Los Angeles County Museum of Natural History, San Diego State University, San Diego Natural History Museum, and University of California at San Diego;
- Interface with the above experts and beyond, to facilitate species-level identifications. Travel to the above institutions to deliver the specimens and coordinate with partners;
- Prepare a summary report and publication;
- Offer periodic educational opportunities that may include lectures and workshops;
- Produce periodic outreach materials, including newsletter articles, web updates and social media.

¹ hypothesized species differentiated by morphological features

Knowledge and Abilities:

- Ability to identify a wide range of arthropods to the family level at minimum, and ability to assign morphospecies for these arthropods based on key features for each group;
- Ability to conduct field work for the collection of invertebrate specimens in a remote setting with rugged terrain under a variety of environmental conditions;
- Manual dexterity sufficient to prepare specimens neatly and quickly;
- Willingness and ability to work cooperatively with peers at SBBG and other institutions;
- Ability to work under pressure and meet deadlines;
- Excellent communication skills, both verbal and written;
- Support of the Garden's mission and goals;
- Computer proficiency including ability to use Microsoft Outlook, Excel, Word, and PowerPoint;
- Strong organizational skills and efficiency to process a large number of specimens in a timely manner;
- Ability to follow instructions; work successfully with others and independently with minimal supervision critical.

Qualifications and Experience:

- Extensive background in invertebrate zoology/ecology, or closely related area (Ph.D. strongly preferred);
- Experience with and knowledge of online invertebrate and biodiversity databases;
- Understanding and appreciation of invertebrate collections and curation standards.

Physical Requirements:

- Ability to stand/walk for extended periods of time, bend, squat and hike rugged trails, and safely lift and carry boxes of specimens and supplies (30+ lbs.);
- Tolerance of an outdoor work environment. Exposure to indoor and outdoor environmental conditions, including temperature fluctuations, rain, dust, allergens, poison oak, insects, wild animals, and sun exposure.

Please contact Denise Knapp (dknapp@sbbg.org) for any questions.