



## History and Hoppers

### FORT VANCOUVER NATIONAL HISTORIC SITE

**Above** Oregon State University PhD candidate Martin Adams examining a Fort Vancouver grasshopper. NPS/FOVA

**Right** Male Brown-spotted bush cricket, (*Tessellana tessellata*) NPS/FOVA

### IMPORTANCE

Although known for its cultural resources, Fort Vancouver's natural resources are an essential part of the site's unique story. Located near a major river and a protected wetland, yet still within the city limits of Vancouver, WA, the park is home to a host of plant and animal species. As an archaeological site, we need to not only study and understand the flora and fauna currently living, but to uncover and study past environments, whether the same or different from those present today.

Discussions of faunal remains at an archaeological site are generally biased toward vertebrates or marine invertebrates. Often, archaeologists pay little or no attention to insects and their relationship with humans. Not only can insects provide information about past environments, but the type of insect or arthropod found at a site may be directly related to whatever function is taking place there (food processing or storage, burial, etc.) and can often be used to indicate more about human lifestyles and living conditions than might be gleaned from artifacts.

Though much of archaeoentomology, the study of insect remains at archaeological sites, concerns the remains of beetles (Coleoptera), other insect taxa are also known. For this particular study, emphasis is placed on the Orthoptera (grasshoppers, katydids, crickets, and locusts), which have received some attention in the anthropological literature. The purpose of this study is to list and describe the different types of Orthoptera currently found at Fort Vancouver, to briefly describe the natural history and ecology of the taxa in question, and to examine any instances where Orthoptera remains might be found at Fort Vancouver and what one could interpret from those remains.

### TRENDS

Sampling methods for Orthoptera were intended simply as a presence or absence survey, and not to quantify population or abundance. Over the course of several seasons (2004, 2010, and 2011), and using several different collecting and trapping techniques, only four species of orthopterans were found. These include the red-legged grasshopper (*Melanoplus femurrubrum*), the meadow grasshopper (*Chorthippus curtipennis*), the brown-spotted bush cricket (*Tessellana tessellata*), and the camel cricket (*Ceuthophilus* sp.). True grasshoppers made up the most numerous suborder of orthopterans at Fort Vancouver, and this could be due to a bias in the collecting techniques. Pitfall traps, for example, would be useful for collecting ground-dwelling crickets, but their use at Fort Vancouver is limited by the possibility of disturbing cultural materials. Surprisingly, while Fort Vancouver does fall within the distribution ranges of 14 of the true grasshoppers (Suborder Caelifera), only two species were found (*M. femurrubrum* and *C. curtipennis*), emphasizing the need for additional Orthoptera sampling.



## DISCUSSION

The possibility exists that orthopteran remains might be found in archaeological contexts at Fort Vancouver. In general, the most common current use for grasshoppers, crickets, katydids, and locusts is as a source of food, and they are known to be eaten by modern human populations worldwide. It has been reported that over 1,500 species of edible insects have been recorded from nearly 3,000 ethnic groups in over 120 countries. Orthoptera is one of the most frequently consumed insect orders, regularly eaten in parts of Africa, Asia, and Central and South America.

Archaeologically, there are several sites in western North America where Orthoptera have been consumed. The cooked remains of crickets have been found in hearth features in Wyoming and California's Mojave Desert, and caches of stored Orthoptera have also been recovered in Wyoming, Colorado, and Nevada. Furthermore, native peoples on the western shores of the Great Salt Lake in Utah were able to mass-collect thousands of grasshoppers that were windblown onto the shore of the lake, where they were sundried, salted, and ready to eat. Though not a primary food source, they became an important supplement to the diet at times when other, non-insect game was scarce.

During the Hudson's Bay Company (HBC) occupation of Fort Vancouver as a fur trading post, the cultural composition of Fort Vancouver's Village is known to have included Native Hawaiians, Europeans, Métis, and representatives of over 30 different native tribes. Many indigenous groups – including Chinook, Cowlitz, Klickitat, and Kalapuya – were known to converge in the Vancouver/Portland Basin to take advantage of annual salmon runs and trade with other native peoples who lived along adjacent valleys and tributaries. Some of these groups were among those living in the Village during the fur trade era (1825 – 1860). Among them, the Kalapuya of Oregon's Willamette Valley were well known for their use of controlled fires in the savannas and meadows, specifically for the cultivation and collection of plant foods, deer hunting, and the collection of edible insects, including grasshoppers. Field burning would probably not have been allowed at Fort Vancouver after its establishment, but this did not mean these insects were not consumed here. Furthermore, other native groups east of Fort Vancouver, including Shoshone and Paiute, were known to consume grasshoppers and crickets, and while these groups may not necessarily have resided in the Village during the early half of the 19th-century, trade and kinship ties with these people may have made Orthoptera consumption at Fort Vancouver a possibility.

Of the four species currently collected at Fort Vancouver, only *T. tessellata* – an introduced species from central and southern Europe – would probably not be found in HBC-era cultural deposits. Furthermore, some Orthoptera species that were not collected today could be found in historic contexts. Currently, no Orthoptera remains have been found in Fort Vancouver excavations, but this could be due to past sampling. In recent years, archaeologists have transitioned to a more robust sampling protocol which focuses more attention on microartifacts such as pollen, phytoliths, and small faunal remains. If found in an archaeological context in future, orthopteran remains can enlighten archaeologists on subsistence practices and influences among the native people occupying Fort Vancouver, and also speak to the vegetation and environmental make-up in the area.

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