

Chapter 1 : Our Complete Database of Insects, Bugs and Spiders of North America

North America is home to hundreds of thousands of insect and spider types - the perfect stage for casual observation, photography, research and education. The term 'bug' is often misused to represent all manner of insect (bug refers to an insect that can only use its mouthparts to bite or suck).

In the meanwhile, the parts that are complete or in progress are open for use. To determine the status of any of the five major divisions of SINA click on one of the navigation buttons at the top of this page. To determine if an insect is a cricket, katydid, or cicada Go to this page " Home " and click on How to recognize crickets, katydids, and cicadas. To identify an unknown cricket, katydid, or cicada Go to the division dealing with Crickets , Katydids , or Cicadas and click on the Keys button. When you must decide among the species within a genus, seek advice or help on the genus page. Then browse the species pages and accept or reject the choices on the basis of appearance, song, morphological features, and geographical, seasonal, and ecological distribution. To learn about a species of cricket, katydid, or cicada for which you know the name Go to the division dealing with Crickets , Katydids , or Cicadas and click on the List of Species button. In the checklist, find the species by scientific or common name and click on the link. To learn about a genus or subfamily for which you know the name Go to the appropriate division Crickets , Katydids , or Cicadas and click on the List of Species button. Within the checklist, find the genus or subfamily by scientific or common name and click on the link. To go to a key to the genera of a subfamily you know Go to the subfamily page from the key to subfamilies or from the list of species. The first section of the subfamily page will have a link to the key to genera. Image pages display the "regular" version of an image see Image views , describe the image, and give its source. They are usually accessed from thumbnails of the image on a taxon page. Other types of pages are pictorial key pages, checklist pages accessed from "List of species" buttons , and general information pages such as this one. Navigation buttons SINA has dark-green buttons and gold buttons that facilitate rapid movement to and from every part of the site. The dark-green buttons, at the top of most pages, take the user to the major divisions of SINA. The gold buttons, at the bottom of species pages and at the top of most image pages, are for local moves. The text on each button identifies its action. Image views Most images can be viewed in three sizes: To move up the scale of magnification, click on the image. To move down from a jumbo view, use the Back function of your browser. To move down from a regular view, use the appropriate local navigation button. Internal and external links Most links on this site are internal--that is, they go to items that are posted as part of SINA. For example, here is an external link to the online version of the Orthoptera Species File: Literature All references in SINA are now listed both in a union list and in at least one subject-specific list of references. The subject-specific lists are on the pages for particular SINA subjects, usually subfamilies or genera. This places the most relevant references for these subjects in a place where they can be browsed efficiently. The union list is primarily to provide an efficient means to determine whether a known reference is available in full text on this site. More than of the more than listed references are so available, usually in the form of PDF files made by scanning articles or reprints. Citations to literature in the text of SINA are made by the name-year system e. Each in-text citation is linked, as in the example just given, to an entry in a list of references. Each entry specifies the item of literature in enough detail to permit its retrieval from a library that holds it. In some cases the entry is linked to the full text of the item in PDF format. PDF files of full text are often large and take many minutes to download without a fast connection to the Internet. We encourage you to help make it better. Here are three ways you might do so. Contribute good photographs of living individuals for species for which SINA has none. If you choose to do this, you will retain your copyrights. You need only give us the right to post the photographs on SINA. You will be included in the Acknowledgements , and each of your photographs will have a credit line as an example, see this sword-tail cricket picture. If you wish, we will add your name to those who allow their contributions to be used for other noncommercial, not-for-profit purposes. As explained in the copyright section , those wishing to use such items commercially still must get written permission from those who hold the copyrights. Incidentally, we also welcome photographs of living individuals that are better than the ones currently posted

on SINA. If you are considering contributing photographs, contact us to work out the details: Once the details of a contribution are agreed on, the photographs should be sent digitally, preferably as jpeg files attached to e-mail. The digital image should be as large as possible and still fit within a rectangle pixels by pixels, in either landscape or portrait orientation. Summary for those contributing photographs. Contribute good recordings of the calling songs of species for which SINA has none. You need only give us the right to post the recordings on SINA. You will be credited for each recording as an example, see this field cricket page and included in the Acknowledgements. If you wish, we will add your name to those who allow their recordings to be used for other noncommercial, not-for-profit purposes. As explained in the copyright section, those wishing to use contributed recordings commercially still must get written permission from those who hold the copyrights. If you are considering contributing recordings, contact us to work out the details: Once the details of a contribution are agreed on, the recordings can be sent digitally e. Point out errors and suggest improvements. Cuthrell, Tony DiTerlizzi [http: Hall University of Florida](http://Hall University of Florida), William F. Johnson Agriculture Canada, James E. Marshall University of Guelph, Glenn K. Morris University of Toronto, David B. Weissman California Academy of Sciences. Other acknowledgements General Piotr Naskrecki encouraged us make an interactive Web site that could be distributed via CDs rather than merely make audio CDs of the songs of North American insects. The CD accompanying his Katydids of Costa Rica inspired us to begin this project, and we have shamelessly copied, with his approval, many of the devices that make his CD so compelling. The ones listed here are among those who deserve special credit. Paul, Doug Palmer, Dennis W. Whitesell, Phoebe Wilson, Paul M. Wineriter, Phoebe Wilson, Paul M. SINA Web site development: Data entry into GrylTett. The evolution of genitalia and mating behavior in crickets Gryllidae and other Orthoptera. The singing insects of Michigan. The taxonomy of Utah Orthoptera with notes on distribution. Orthoptera of northeastern America. Title page and introduction: PDF files of other parts are with the accounts of crickets and katydids and their families and subfamilies. Compendium of entomological methods. Notes on collecting and preserving Orthoptera. Wards Natural Science Establishment. Crickets and katydids, concerts and solos. Eades DC, Otte D. Notes on Oregon Orthoptera with descriptions of new species and races. *Ann Entomol Soc Am* 23 4: The seasonal succession of orthopteran stridulation near Raleigh, North Carolina. A monograph on food selection in Orthoptera. Phylogeny of the Ensifera Orthoptera: A monographic revision of the genus *Ceuthophilus* Orthoptera, Gryllacrididae, Rhaphidophorinae. *Proceedings of the Entomological Society of Washington* Naskrecki P, Otte D. Orthoptera Species File Online. Morphology and function of female sound-producing structures in ensiferan Orthoptera with special emphasis on the Phaneropterinae. Orthoptera Species File Online Version 2. Faunal affinities, systematics, and bionomics of the Orthoptera of the California Channel Islands. *U Calif Publ in Entomology* Phylogeny of the Orthopteroidea [translation]. Israel Program for Scientific Translations. Entomological Society of America. *Am Midl Nat* The grasshoppers, crickets, and related insects of Canada and adjacent regions.

Chapter 2 : Garden Insects of North America: The Ultimate Guide to Backyard Bugs - free PDF, CHM, DJV

"Garden Insects of North America is a tremendous contribution and is destined to be a staple on any gardener's bookshelf. Readers will find it overflowing with color pictures and informative yet easy-to-read descriptions.

I was probably eight or nine years old when I started to garden. The first plant I decided to grow in my tiny vegetable plot in the back yard was the radish. My very first flower garden consisted, like my veggie garden, of just one plant: We had a carport with two support posts on one side, and I planted my seeds there where the vines could grow upwards. In fact, I have always very successfully gardened without problems, whether I was living in New England, California, or Virginia. In I started giving monthly slide presentations in Shenandoah National Park. By the end of each program, people were blown away by the fact that I could have an abundance of plants among an abundance of animals. They did not see how that could be possible. Indeed, three years later when I wrote to Stackpole Books about the need for a book explaining the value of wildlife to gardeners, the nature editor called me up to say the Stackpole gardening editors did not believe it. Once they saw my slides and explanations, however, I immediately got a contract to write my book. The reality is that you cannot garden without the innumerable kinds of organisms that exist to keep the environment functioning properly. Some kinds of animals then seemingly become problematic when they try to correct this situation. Plants exist to feed animals, which means humans must accept that their plants are going to get nibbled. However, they can survive with holes in the leaves or even missing leaves, and even total defoliation! Therefore, it is easier on you to simply learn to live with the realities of gardening outdoors. The first step to becoming more tolerant of wildlife and gardening successfully is to learn about the animals that share your world. Containing more than color photos, it will help you to identify not only insects, but also despite the title spiders and mites, as well as other invertebrate species that you might find in your yard and garden. The most compelling reason to purchase this book is that many of the photos are of eggs and the larval immature forms of critters that you do not usually find illustrated in guidebooks. Evolutionarily speaking, this notion is illogical. Over time, the plants will die out, which means the animals will die out right along with them! To keep this scenario from taking place, predators work to limit plant-eating animals. Therefore, overpopulations signify that your yard is not functioning properly because it obviously does not support the necessary predators. Every type of plant is represented in this book, from flowers and vegetables to shrubs and trees, and even turfgrass. You locate the critters in sections defined by where you are most likely to spot them, such as on leaves, blooms, shoots, roots, or in the soil. It provides explanations for many of the terms used to describe invertebrates as well plants. You can learn a lot by reading this book, rather than just using it as a reference. Or, you can learn about unfamiliar animals. During my many years of growing radishes I did eventually come to enjoy the taste of them , I never found other critters wanting to eat them. But Garden Insects introduced me to the Radish Root Maggot, the larva of a western fly that feeds on the roots of crucifers, such as turnips and a variety of cabbages in addition to radishes. I credit this action with my extremely successful gardening endeavors, in which I was able to grow enough fruits and vegetables to eat fresh and give away, as well as to can and freeze for later use. Consider buying this book for yourself or another gardener to learn about the critters that are, or should be, sharing your landscape. I can assure you that a nature-friendly garden works!

Chapter 3 : Blue Ridge Naturalist: Garden Insects of North America | Crozet Gazette

Insect and Spider Identification - Information and Pictures of North American Insects, Spiders, and Bugs. There are over 1 million identified species of insects and spiders in the world with many more still awaiting discovery.

Many are safe to eat. Here are a few bugs to know about and how to catch and prepare them. In survival it turns out there are many species of edible insects including 3 "creatures" that are not insects but a food source still the same. Native American Methods for Catching Fish Tidal zones, beaches, and coastlines offer up a bounty of food in a time of survival, like crab, kelp, and clams. Learn how to net and trap seabirds, how to build clam "gardens" for raising and harvesting large numbers of clams, and more "forgotten" methods of early Native Americans. The Top 10 Survival Gear Effectiveness, ease of use, "Survival Power" and finally the price all play a factor. In a wilderness emergency or catastrophic disaster, what gear will you have on hand? Would you ever eat a plate full of insects? Most people in Western nations would shake their heads no in disgust. For many the idea of eating insects is on the same level as eating something poisonous. Many people are shocked to discover that actually a large variety of insects are safe to eat -- a few of these insects are dangerous though -- such as the Goliath Bird Eating Spider of Venezuela, which is a tarantula the size of a dinner plate. Insects like these must be caught and handled carefully. What happens if we go a few hours without food? Imagine going two days without food. Imagine going a week. At what point would you be finally willing to set aside your long held distaste for insects and finally see insects as something that can keep you and your family alive in an emergency or disaster? Books on the subject of edible insects have the same thing to say. Michael Spencer at PBS writes: Insects, they point out, are much easier to grow than large animals. And there are plenty of them. They are cold-blooded creatures, which makes them much more efficient in converting energy to protein -- no wasted heat. A six-ounce serving of crickets has 60 percent less saturated fat and twice as much vitamin B than the same amount of ground beef. And other countries -- including Thailand and China -- consume vast quantities of bugs. Tropical forests contain a vast amount more insects than forests in northern nations. But in North America it turns out we still have plenty of edible insects right under our nose -- insects with protein, very little fat and that can help us meet our nutritional needs for the day. Edible insects you may be quite familiar with but previously never thought of as food. Today I hope to change your mind about that. The most interesting part about including edible insects in your daily diet in a time of emergency or food shortages is this: If we include specific types of wild plants wild edibles in nature we can meet all our nutritional requirements for healthy living. At the same time we can cut the amount of excess calories that are eaten in the typical American diet -- you know all those extra calories that pack on the pounds and lead to high levels of artery clogging cholesterol and other ill effects on our bodies. Sign Up for our free email newsletter packed with survival tips and tips on preparing for widespread disaster. Topics covered include survival foods, martial law, government collapse, living off the land, self defense, survival hunting, survival fishing, and MORE Eating Insects in an Emergency In North America we have the means to live and survive off the land should the time come that we are either a lost in the wilderness or b facing a time of widespread disaster where grocery stores have closed their doors, empty and looted due to massive food shortages. Many families went hungry for days at a time in the Great Depression. Fights broke out over garbage piles as men searched for food scraps to feed themselves or their families. And we expect it to be worse than that? The population today is so much bigger than it was in the s and early 30s -- there will be more people fighting over food scraps. Scraps will disappear quickly. Millions of hungry people growing hungrier and more desperate each day. Eating Insects in a Survival Situation Am I sugar-coating the idea of eating insects when it comes to survival? Well, you could say so. These things are healthy and safe to eat. If there are hundreds and even thousands of edible insects to choose from across the entire continent, what are the top ten? These are insects you can even consider caging, raising, and harvesting. Crickets and Grasshoppers Crickets and grasshoppers contain calcium as well as a high ratio of protein for their size The legs and wings have no noticeable nutritional value to speak of and at the same time add an extra "crunch" to each bite -- because of that many people choose to simply pull off the legs and wings before eating any.

Locusts Locusts are a term used to describe crickets and grasshoppers when they form swarms, meaning they travel in large numbers and have been known to devastate crops and terrorize farmers. In some parts of the world locusts are eaten as a staple -- in fact when these swarms take place people are known to sweep them up into bags for later consumption. The Rocky Mountain locust was known to form some of the largest swarms known but is said to have gone extinct in the 19th century. Locusts were plagues that decimated crops used by God in the Old Testament at times to inflict punishment. A plague of locusts would eat crops down until there was nothing left. I would suggest that you apply that to any caterpillar that you find -- whether it has "hair" or not.

Ants Ants are edible -- though not all ants are friendly. Some, like fire ants, can bite. If a lot of them get on you those bites can be painful. When it comes to ants, you just need a way to safely scoop them into a container which means typically digging into an ant hill and then a way to shake them free of any soil that is also scooped up. Boiling removes a vinegar taste they have when eaten raw. In an emergency situation who cares about taste however?

June Bugs June Bugs are actually a common species of beetle. Some of the largest have been found living alive and well in populated cities like Santa Fe, Albuquerque, and strangely Denver, CO. Look for these bugs either on plants in the late evening hours or during the day look under plants and plant debris on the forest floor.

Termites At the same time pay close attention to any downed trees, decaying logs, and stumps that may contain termites. Like caterpillars and many other bugs, termites are also high in protein. Other parts of the world like Africa, Asia and South America termites are known to build mounds -- termite mounds. For survivors in the wilderness, there is usually plenty of damp, dead wood to be found, particularly in forests and in coastal regions that receive a lot of rain.

Centipedes How many times have you flipped over a log or large rock to see a centipede skitter away? Centipedes are not to be confused with millipedes -- millipedes are smaller and have more legs while centipedes in general are larger -- centipedes have a lot of legs, just a lot less than a millipede. Millipedes are poisonous -- do not eat these guys. They emit a foul-smelling cyanide substance, the source of their poison. Be sure you know the difference between a centipede and a millipede. Orkin calls them pests -- some people call them lunch.

Mealworms Hatched from eggs laid by darkling beetles, a common beetle in North America, mealworms are nutritious and a staple of primitive cultures. There are over species of darkling beetles in North America. You can raise scorpions for later harvesting or you can hunt for them outdoors by looking for small holes under rocks, trees, tree limbs, or other outcroppings in the soil. With that in mind it would be best to have yourself a glass bottle to catch these guys in. What you do is dig a second larger hole at the base of the first hole, and place your bottle in the hole for the scorpion to fall into when he exits his hole. Be sure to bury the stinger. No sense in getting stung because you got careless. Scorpions are said to be best eaten roasted over a fire or grilled in a pan, but they can also be eaten raw. These are a delicacy in many places and popular with a lot of people. When it comes to survival, how do we find a bees nest or wasp nest that could be hundreds of yards from where that first bee or wasp is located? Once at the nest they then used smoke to drive away the wasps so they could get to the edible larva within the nest. Build a big fire and use a lot of smoke This is one of those things where you need to read between the lines. David Cordon also gives a recipe for cooking honeybees -- adult honeybees. One way to find a honeybee nest could be the same exact way that the Japanese in past generations searched out wasp nests -- by catching a wasp and tying a long thread to it and simply following it. If you have sewing thread packed in your emergency kit then you have the means it seems to track down a honeybee nest. Of course another way is to comb the country side with a small group of people, making note on paper of the location of every wasp nest and honeybee nest you come across. How do you tie a thread around a bee or wasp? Have fun with that one. The Japanese did it. On the other hand black, brown, and green are typically colors of insects that are safe to eat.

Because of Pesticides Avoid Eating Insects from Urban Areas Though the insects named above are safe to eat, avoid eating any of these insects if you find them in urban areas, or even in the countryside around homes and neighborhoods. The reason is pesticides. Many people spray bug killer and lay traps around their homes and these pesticides can be spread to insects in the area, making them a bad choice for a food item for human ingestion. Instead, travel a few minutes out of town just to be on the safe side. No sense in loading up on pesticides when plenty of safe, edible insects can be found a short distance away in the woods, brush, or meadow or near a river or creek.

Preparing Insects Some insects may have snacked on

something not very palatable to humans and now the remnants of that last meal reside inside them.

Chapter 4 : The Top Ten Edible Insects in North America

Garden Insects of North America is the most comprehensive and user-friendly guide to the common insects and mites affecting yard and garden plants in North America. In a manner no previous book has come close to achieving, through full-color photos and concise, clear, scientifically accurate text.

Chapter 5 : Download [PDF] garden insects of north america

Pages in category "Insects of North America" The following 66 pages are in this category, out of 66 total. This list may not reflect recent changes ().

Chapter 6 : Insects - KAUFMAN FIELD GUIDES

Comprehensive yet compact, authoritative yet easy to understand, this is the perfect guide for anyone who wants to know more about the fascinating and diverse insects of North America.

Chapter 7 : Kaufman Field Guide to Insects of North America - Eric R. Eaton, Kenn Kaufman - Google Books

North America is home to many poisonous insects, but there are a few that really stand out from the crowd. Here are five of the most poisonous insects of North America that should be avoided if possible.

Chapter 8 : Category:Insects of North America - Wikipedia

North American Insects & Spiders is dedicated to providing scientific and educational resources for our readers through use of large images and macro photographs of flora and fauna in their natural habitat.

Chapter 9 : Project MUSE - Garden Insects of North America

Singing Insects of North America (SINA) by Thomas J. Walker. The primary goal of this Web site is to help users identify all species of crickets and katydids from America north of Mexico and the common species of Florida cicadas.