



SCHMIDT'S STING PAIN INDEX

Tarantula Hawk Wasp
Pepsis sp.

#4 on the pain index

“Blinding, fierce, shockingly electric. A running hair dryer has just been dropped into your bubble bath”

<https://youtu.be/MnExgQ81fhU?list=PLbfmhGxamZ8318c4brzfZotSbwwFyJiFp&t=632>

JUSTIN O. SCHMIDT

An entomologist at the
University of Arizona.

In 1978 began the
Schmidt Sting Pain
Index.

Gave vivid descriptions
of what each sting felt
like.



SCHMIDT'S STING PAIN INDEX

SCALE

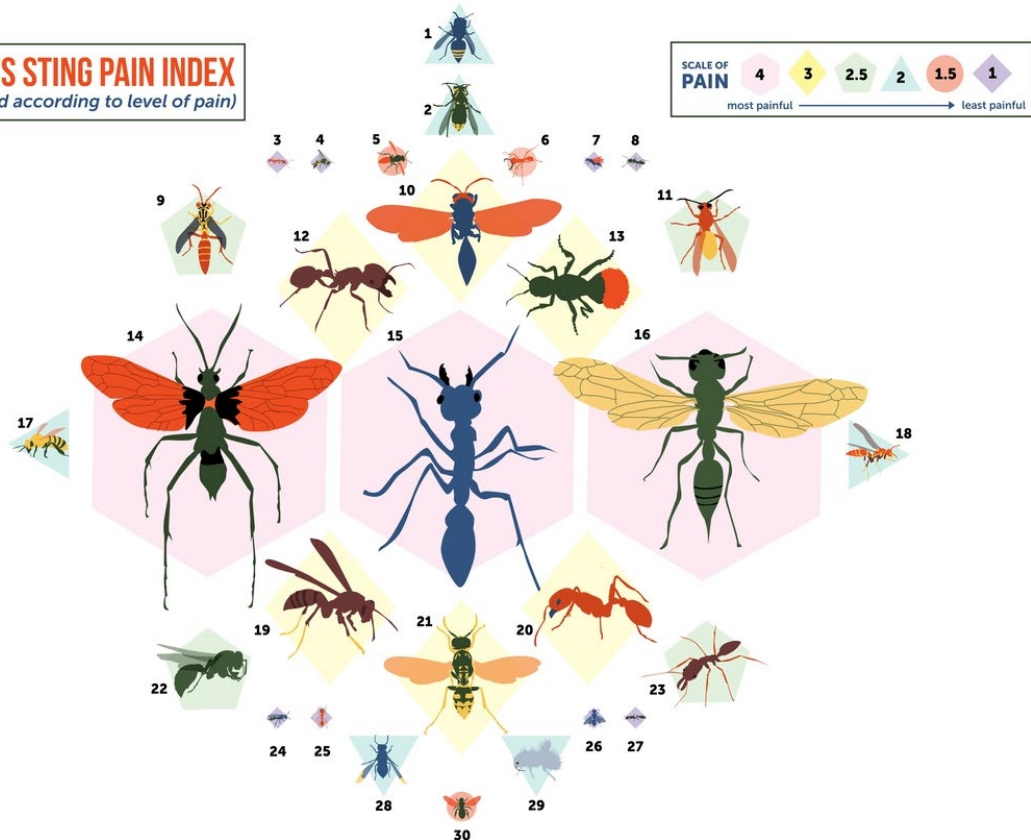
Schmidt's pain index ranges from 0-4. 0 are insects that cannot pierce skin and 4 being the highest pain.

DESCRIPTIONS & DURATION

Gave vivid descriptions to go along with how each sting felt. Bullet ant sting can last up to 5 hours.

HONEYBEE

Schmidt uses the honeybee as a base point. Schmidt gave the honeybee a pain scale of 2.





STANDING
WATER
INITIATIVE IN
THE FIELD



STINGING INSECTS THAT HENRICO FIELD WORKERS CAN ENCOUNTER

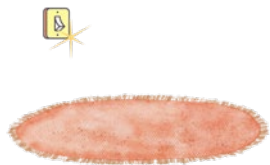
- I. Carpenter Ants
- II. Argentine Ants
- III. Thief Ant
- IV. Little Black Ant
- V. Pavement Ant
- VI. Bigheaded Ant
- VII. Fire Ant *invasive to some parts of VA
- VIII. Leafcutter Ant
- IX. Acrobat Ants
- X. Odorous House Ants
- XI. Pyramid Ants
- XII. Field Ants
- XIII. False Honey Ants
- XIV. Citronella Ants
- XV. Asian Needle Ants *invasive
- XVI. Paper Wasps
- XVII. Yellow Jackets
- XVIII. Wasps
- XIX. Honeybees
- XX. Carpenter Bees
- XXI. Bumble Bees
- XXII. Velvet Ant

STINGING INSECTS THAT COULD BE FOUND IN HENRICO COUNTY RANKED ON SCHMIDT'S INDEX



FIRE ANT – 1

“Sharp, sudden, mildly alarming. Like walking across a shag carpet and reaching for the light switch.”



PAPER WASP – 1.5

“Burning, throbbing and lonely. A single drop of super-heated oil landed on your arm.”



HONEYBEE – 2

“Burning, Corrosive, but you can handle it. A flaming match head lands on your arm and is quenched with lye and then sulfuric acid.”



YELLOW JACKET - 2

“Hot and smokey almost irrelevant. Imagine W.C. Fields extinguishing a cigar on your tongue.”



VELVET ANT #3 ON THE PAIN INDEX

Dasymutilla occidentalis

Velvet Ants are wasps, and the females are wingless.

Females can be up to an inch long with their stinger being ½ inch.

Known as the cow killer for their painful stings though the venom is not very dangerous. Most common during the warm sunny months.

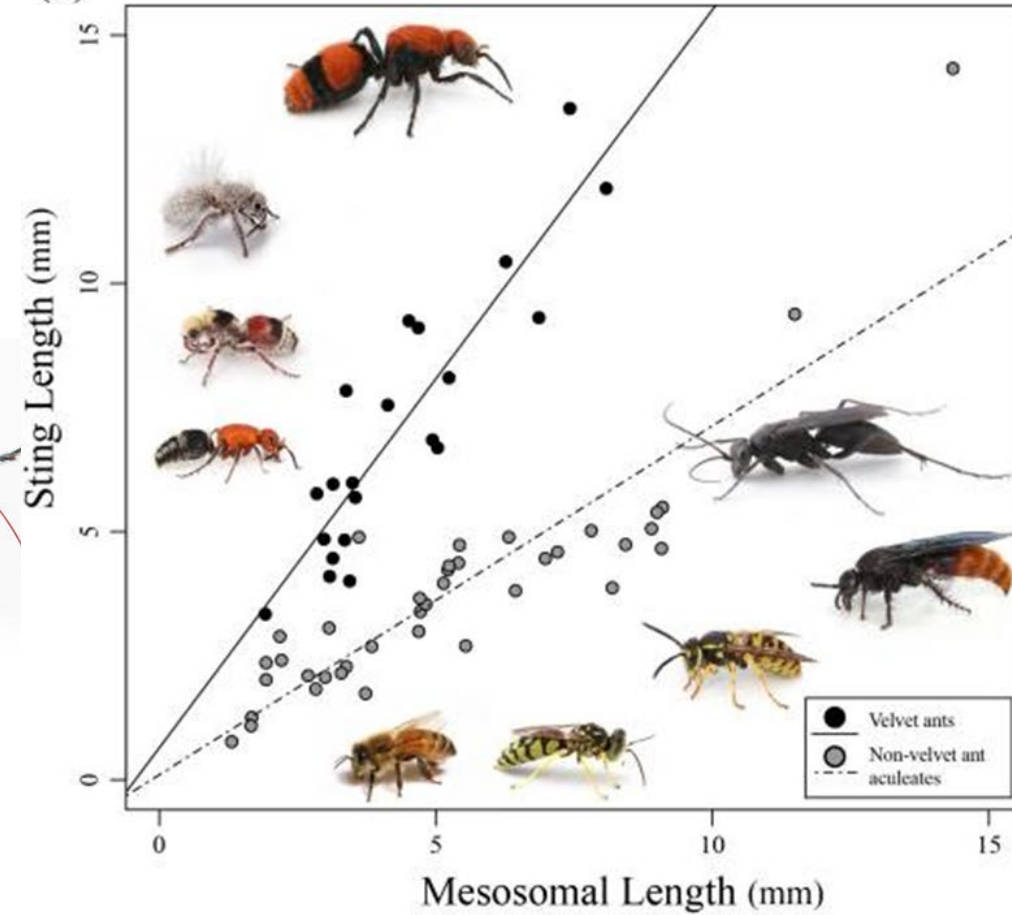
<https://youtu.be/EF-oSVCCqzU?list=PLbfmHGxamZ8318c4brzfZotSbvwFyJiFp&t=219>



(a)



(b)





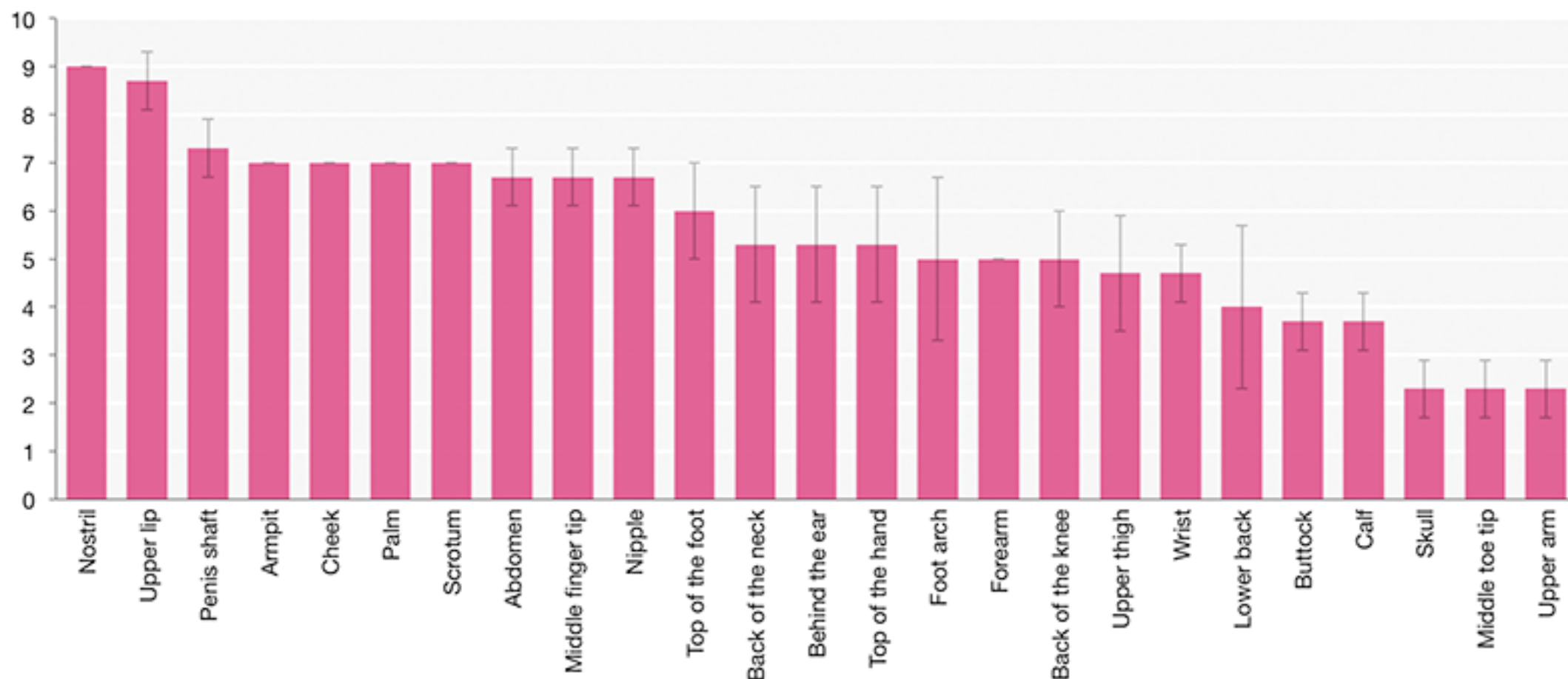
© Cornell University/ Dept of Neurobiology and Behavior

STING LOCATIONS

Michael L. Smith expanded on Schmidt's work by using the Honeybee and ranking where on the body the most painful sting is.



Relative Pain of Bee Sting by Location



Author: Joshua Stevens (@jscarto / joshuaStevens.net)

Source: Smith ML. (2014) Honey bee sting pain index by body location. PeerJ 2:e338 <http://dx.doi.org/10.7717/peerj.338>

TWO MOST PAINFUL STING LOCATIONS

NOSTRI
L

UPPER
R LIP

- It is likely due to skin thinness that allows these areas to be more sensitive to stings
- Body parts that are rarely exposed to pain may also contribute to the higher pain response when stung



IDENTIFYING A SEVERE ALLERGIC REACTION

SEVERE ALLERGIC REACTION SYMPTOMS

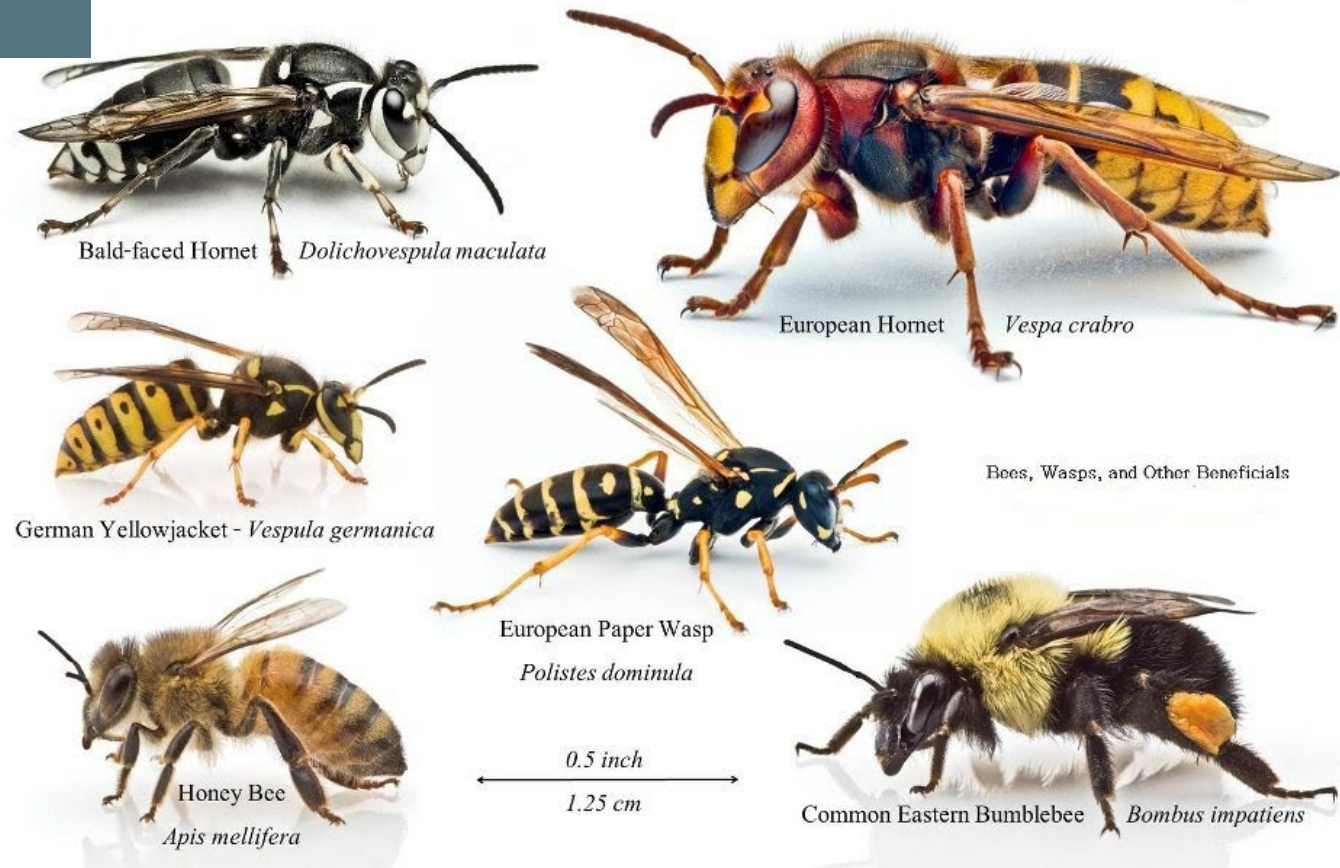
- Coughing
- Tickling in the throat
- Tightness in the throat or chest
- Difficulty breathing
- Nausea or vomiting
- Dizziness or fainting
- Sweating
- Anxiety
- Hives over a large part of the body

RESPONSE TO SEVERE ALLERGIC REACTION

- Call 911
- Person with known allergy should carry EpiPen

Or

- Carry antihistamine such as a Benadryl



Bee sting
~ 40 Deaths per year in the U.S.



Bullet Ant Sting
0 Reported death



PREVENTING STINGS

- Avoid using scented products such as lotions, hair products, and perfumes
- Wear loosely fitted clothing that is neutral in color.
- Wear foot protection, particularly when in longer grasses
- Use insect repellants



SUMMATION

- Justin Schmidt created the Schmidt sting pain index to rank the pain of stings between 0 & 4, gave vivid descriptions, duration, and used the honeybee as a base reference.
- Henrico field workers can encounter an array of stinging insects which can be seen on Schmidt's index.
- Michael Smith expanded on Schmidt's work by using the honeybee and figuring out where on the body has the highest pain response
- Stinging insects pose risk to those that are allergic and there are a series of signs that can indicate a severe allergic reaction
- Measures can be taken to prevent stings in the field.

