

Kissing Bug Identification

Rachel Curtis-Robles, PhD

Texas A&M University

San Mateo County Mosquito and
Vector Control District



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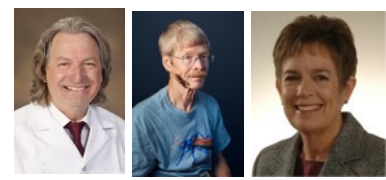
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KISSING BUGS & CHAGAS DISEASE

IN THE UNITED STATES

A Community Science Program

Please explore to learn more about kissing bugs, the parasite they transmit, and how you can submit your insects and observations to our research program.



Steven Klotz, Justin Schmidt, Patricia Dorn, ongoing research

<https://kissingbug.medicine.arizona.edu/research>

Feeding behavior of triatomines from the southwestern United States:
An update on potential risk for transmission of Chagas disease

Stephen A. Klotz^{a,b,*}, Patricia L. Dorn^c, John H. Klotz^d, Jacob L. Pinna^b,
Christiane Weirauch^d, Jonathan R. Kurtz^c, Justin Schmidt^e

CLINICAL RESEARCH STUDY

THE AMERICAN
JOURNAL of
MEDICINE®

Free-roaming Kissing Bugs, Vectors of Chagas Disease, Feed Often on Humans in the Southwest

Stephen A. Klotz, MD,¹ Justin O. Schmidt, PhD,² Patricia L. Dorn, PhD,³ Craig Ivanyi, MS,⁴ Katherine R. Sullivan, BS,⁵ Lori Stevens, PhD⁶

¹Division of Infectious Diseases, Department of Medicine, University of Arizona, Tucson; ²Southwestern Biological Institute, Tucson, Arizona; ³Department of Biological Sciences, Loyola University, New Orleans, LA; ⁴Arizona-Sonora Desert Museum, Tucson; ⁵Department of Biology, University of Vermont, Burlington.

Kissing Bug (*Triatoma* spp.) Intrusion into Homes: Troublesome Bites and Domiciliation



Stephen A. Klotz¹, F. Mazda Shirazi², Keith Boesen², Norman L. Beatty¹, Patricia L. Dorn³, Shannon Smith¹ and Justin O. Schmidt⁴

¹Division of Infectious Diseases, University of Arizona, Tucson, AZ, USA. ²Arizona Poison and Drug Information Center, University of Arizona, Tucson, AZ, USA. ³Department of Biological Sciences, Loyola University New Orleans, New Orleans, LA, USA. ⁴Southwest Biological Institute, Tucson, AZ, USA.

“Kissing Bugs”: Potential Disease Vectors and Cause of Anaphylaxis

John H. Klotz,¹ Patricia L. Dorn,² Joy L. Logan,³ Lori Stevens,⁴ Jacob L. Pinna,³ Justin O. Schmidt,⁵ and Stephen A. Klotz³

Vector Blood Meals and Chagas Disease Transmission Potential, United States

Lori Stevens, Patricia L. Dorn, Julia Hobson, Nicholas M. de la Rua, David E. Lucero, John H. Klotz, Justin O. Schmidt, and Stephen A. Klotz



<https://deptmedicine.arizona.edu/news/2016/battling-kissing-bugs-and-chagas-disease-bisbee-ua-help>

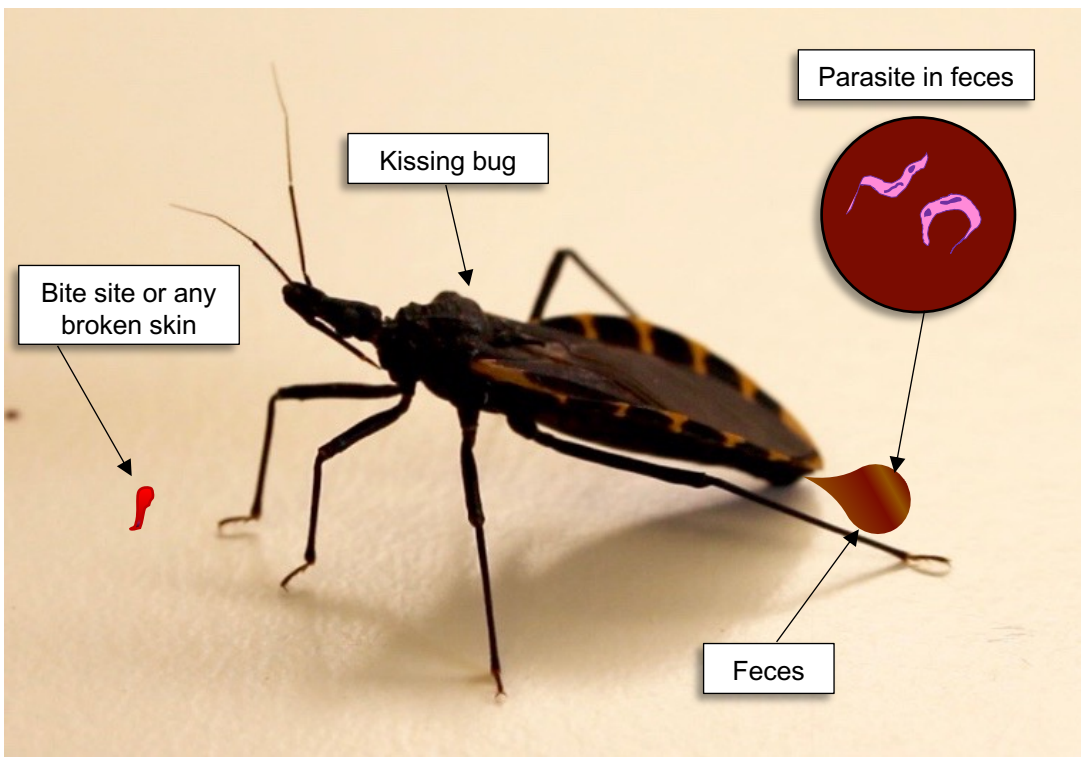
Public Health Importance

Chagas disease

- Infects humans and animals
- ~6 million cases in Central/South America; ~300,000 in United States
- Parasite spread through feces, NOT bite
- Low risk of infection in United States

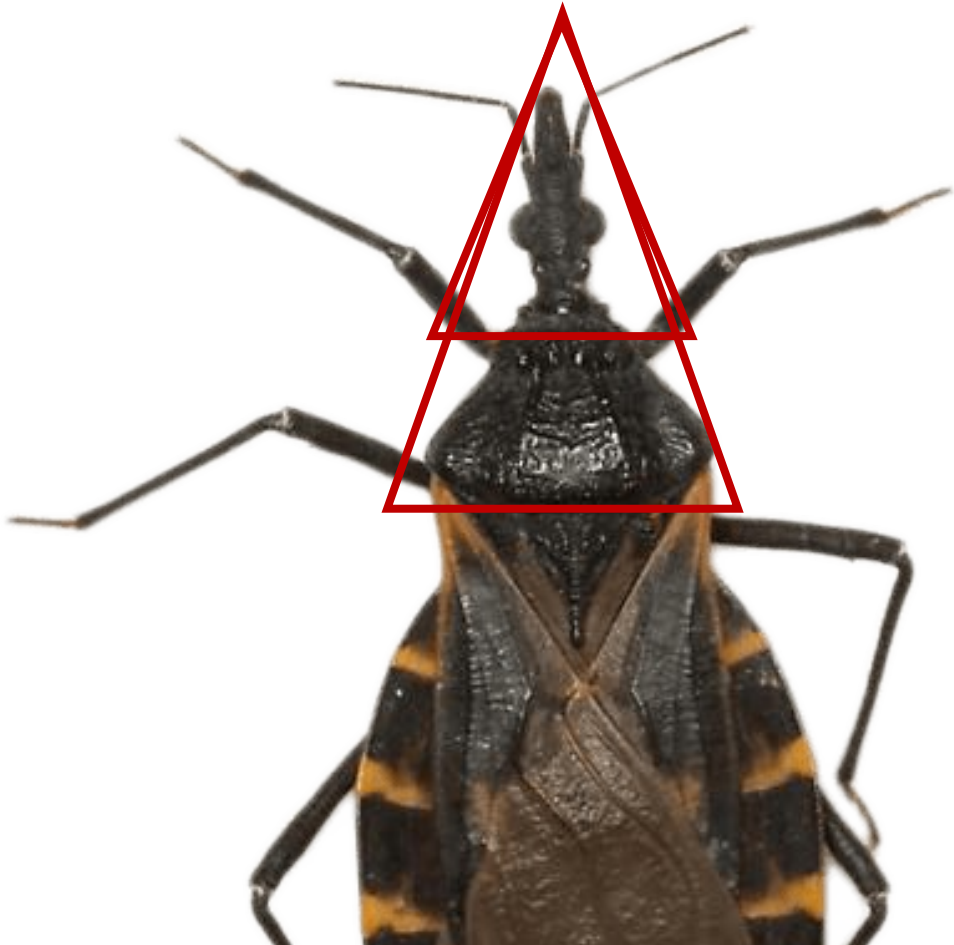
Allergic reactions

- Including anaphylactic shock
- More common in western US

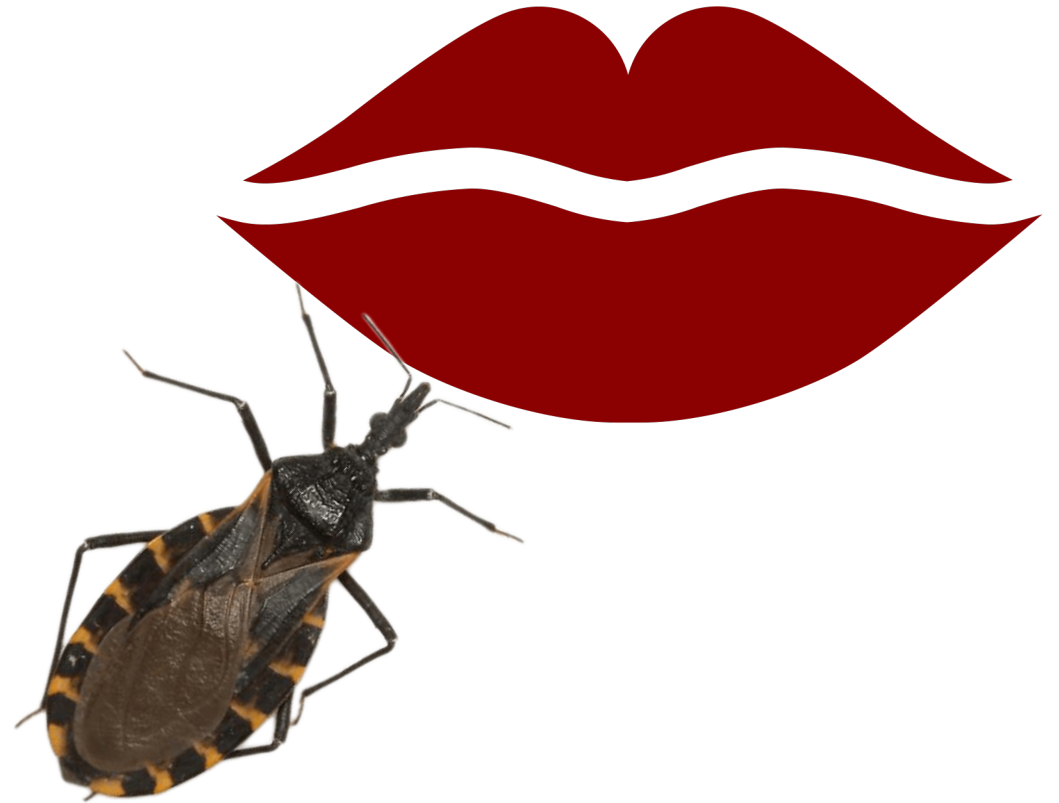


In the US, most commonly called...

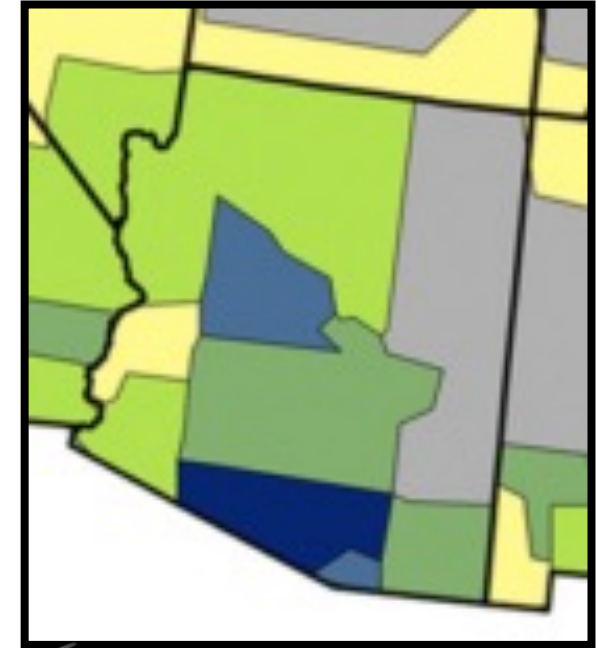
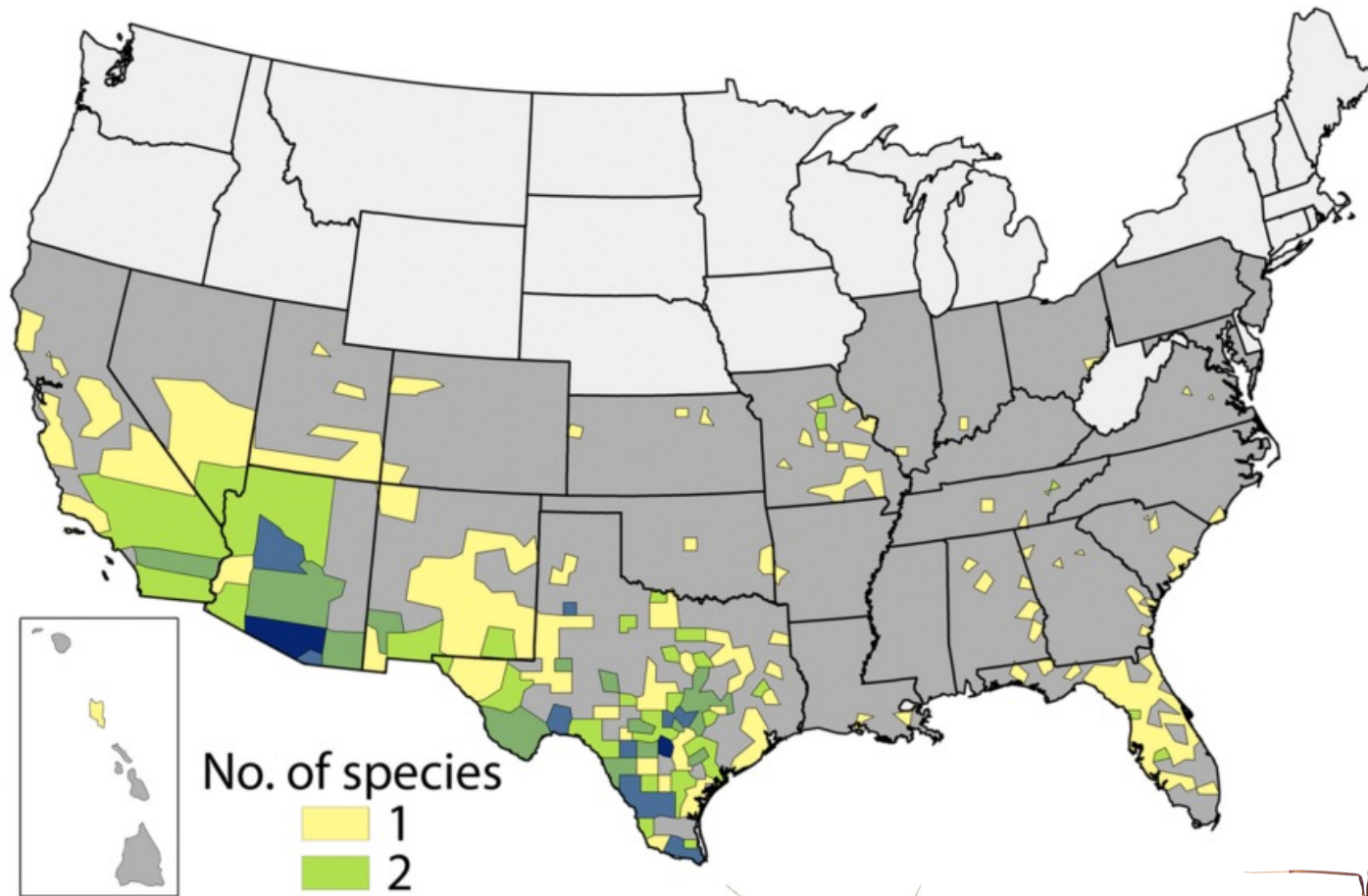
Conenose bugs



Kissing bugs



Arizona is a jackpot state for diversity!



No. of species



Bern *et al.* 2011.
Clin Microbiol
Rev 24(4): 655.



T. rubida



T. protracta



T. recurva



T. indictiva



Paratriatoma hirsuta



T. incrassata

Wood rat nests are usual sylvatic habitats

Bugs fly towards lights in evening

Tend to be found singularly in homes



Ekkens. 1984. J Med Ent 21(2): 140.



Most commonly reported/recorded species in Arizona



Triatoma rubida



Triatoma protracta



Triatoma recurva

For the entomologists – Lent and Wygodzinsky 1979

Available free online: <https://digitallibrary.amnh.org/handle/2246/1282>

REVISION OF THE TRIATOMINAE (HEMIPTERA, REDUVIIDAE), AND THEIR SIGNIFICANCE AS VECTORS OF CHAGAS' DISEASE

HERMAN LENT AND PEDRO WYGODZINSKY

BULLETIN
OF THE
AMERICAN MUSEUM OF NATURAL HISTORY
VOLUME 163 : ARTICLE 3 NEW YORK : 1979

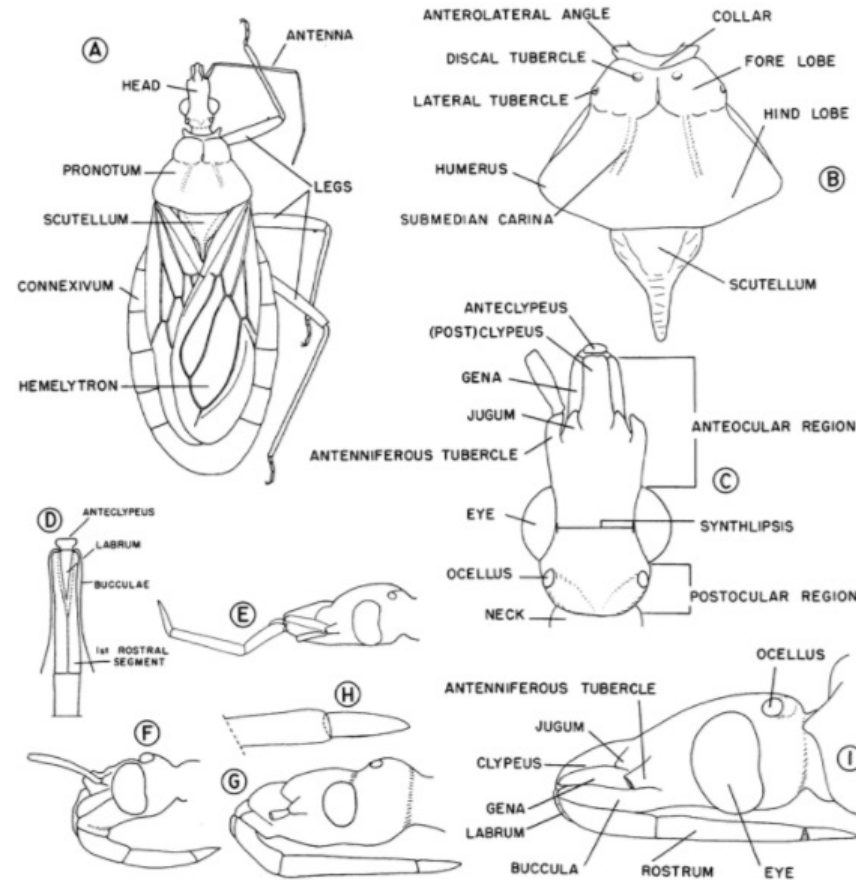


FIG. 4. A-D. *Triatoma rubrofasciata*. A. General aspect. B. Pronotum and scutellum, dorsal view. C. Head, seen from above. D. Area of base of rostrum, ventral view. E. Head of triatomine, with rostrum extended in typical feeding position. F. *Opisthacidius* sp. (Reduviinae), head, lateral aspect. G. *Physoderes* sp. (Physoderinae), head in side view. H. *Idem*, apex of rostrum, higher magnification. I. *Triatoma rubrofasciata*, head, lateral view.

KEY TO THE SPECIES OF *Triatoma* OF THE UNITED STATES

1. Body clothed with numerous black setae, conspicuous on head, all three rostral segments, pronotum and corium (fig. 93D); head strongly convex dorsally, especially between eyes (fig. 93B); antenniferous tubercles elongate, comparatively close to eyes (fig. 93B) *lecticularia*
Body practically glabrous, with at most short, scattered setae; rostrum either entirely glabrous, or with long setae on second and third but not on first segment; head not strongly convex above; antenniferous tubercles short, remote from eyes 2
2. First antennal segment attaining or surpassing level of apex of clypeus (figs. 158A; 162B) 3
First antennal segment not attaining level of apex of clypeus 4
3. Head and pronotum strongly granulose (figs. 161, 162B); anterolateral angles of pronotum prominent, oblique (figs. 161, 162B); posterior process of scutellum short (figs. 161, 162C) *rubrofasciata*
Head and pronotum not granulose; anterolateral angles of pronotum short, obtuse (figs. 156, 158A); apical process of scutellum elongate (fig. 156) *rubida*
4. Larger insects, more than 24 mm. long, very rarely only 23 mm.; postocular region with sides straight, subparallel (figs. 73A; 155A); rostrum practically glabrous (figs. 73B; 155B) 5



Order: Hemiptera

Family: Reduviidae

Subfamily: Triatominae

Genera: Include *Triatoma* and *Paratriatoma*

11 species in US

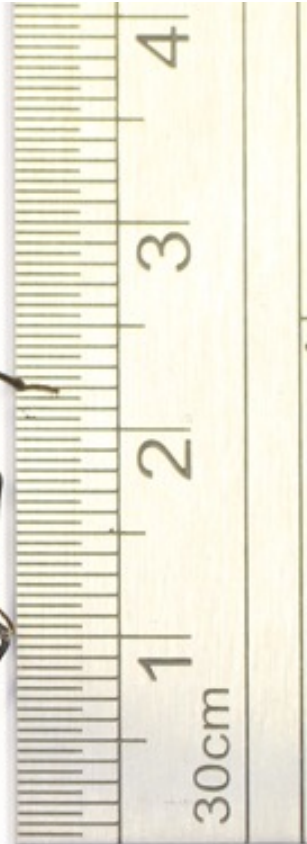
Small,
light,
oval
eggs

5 wingless nymphal stages
(bloodmeals required to molt!)

Adult female
(bloodfeeds)

Adult male
(also bloodfeeds)

*Triatoma
gerstaeckeri*



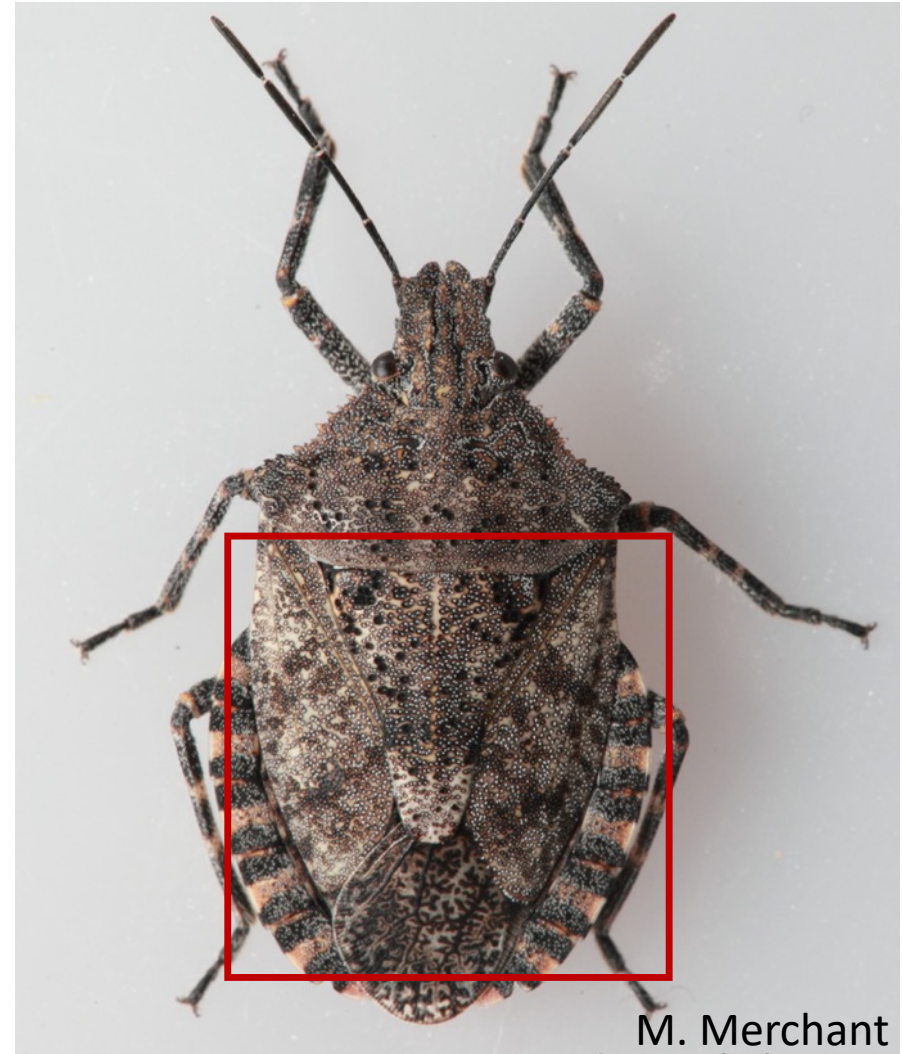
Mainly active during evening/night



Elongated body (rectangle, not square), with narrow 'neck'

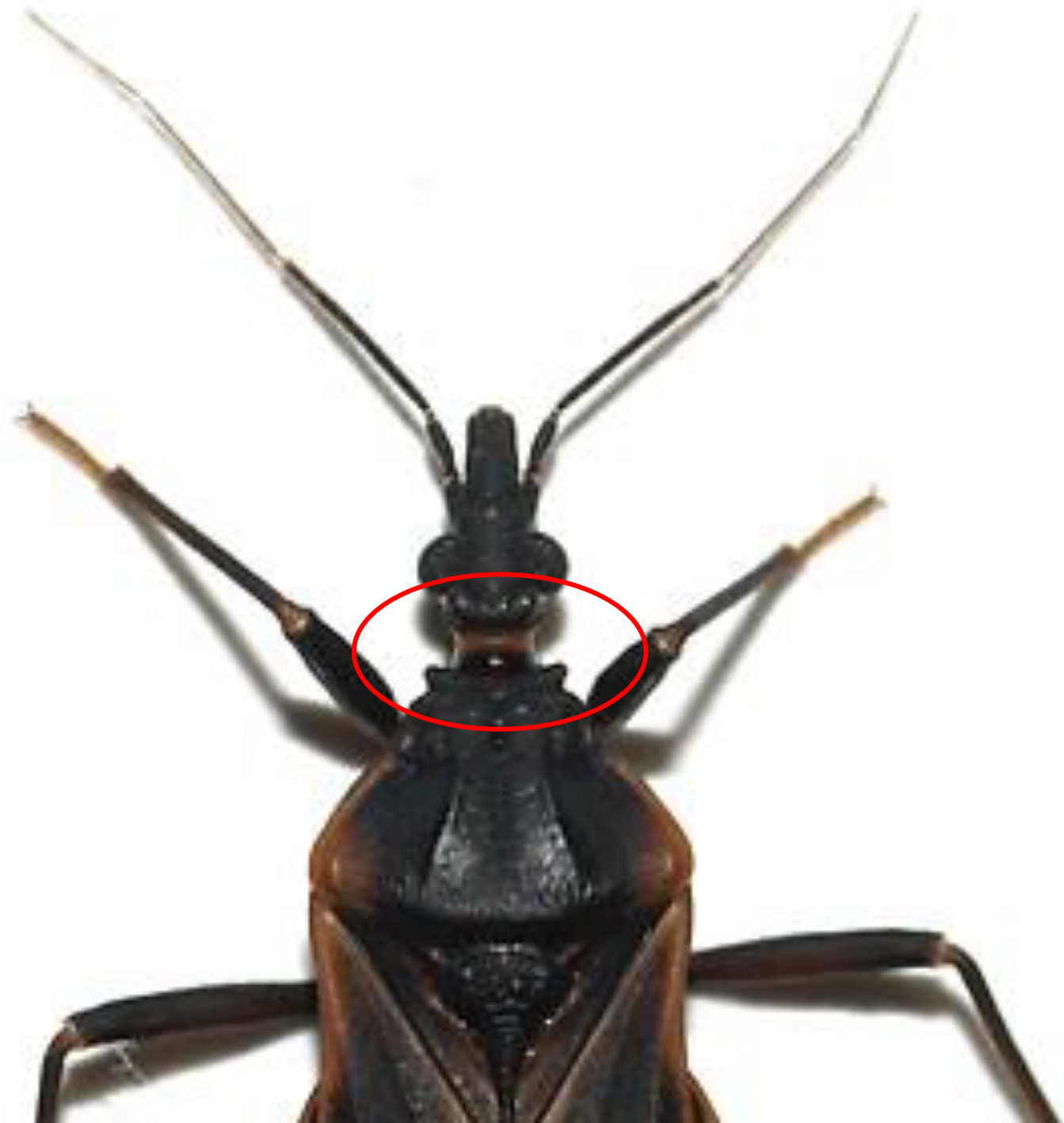


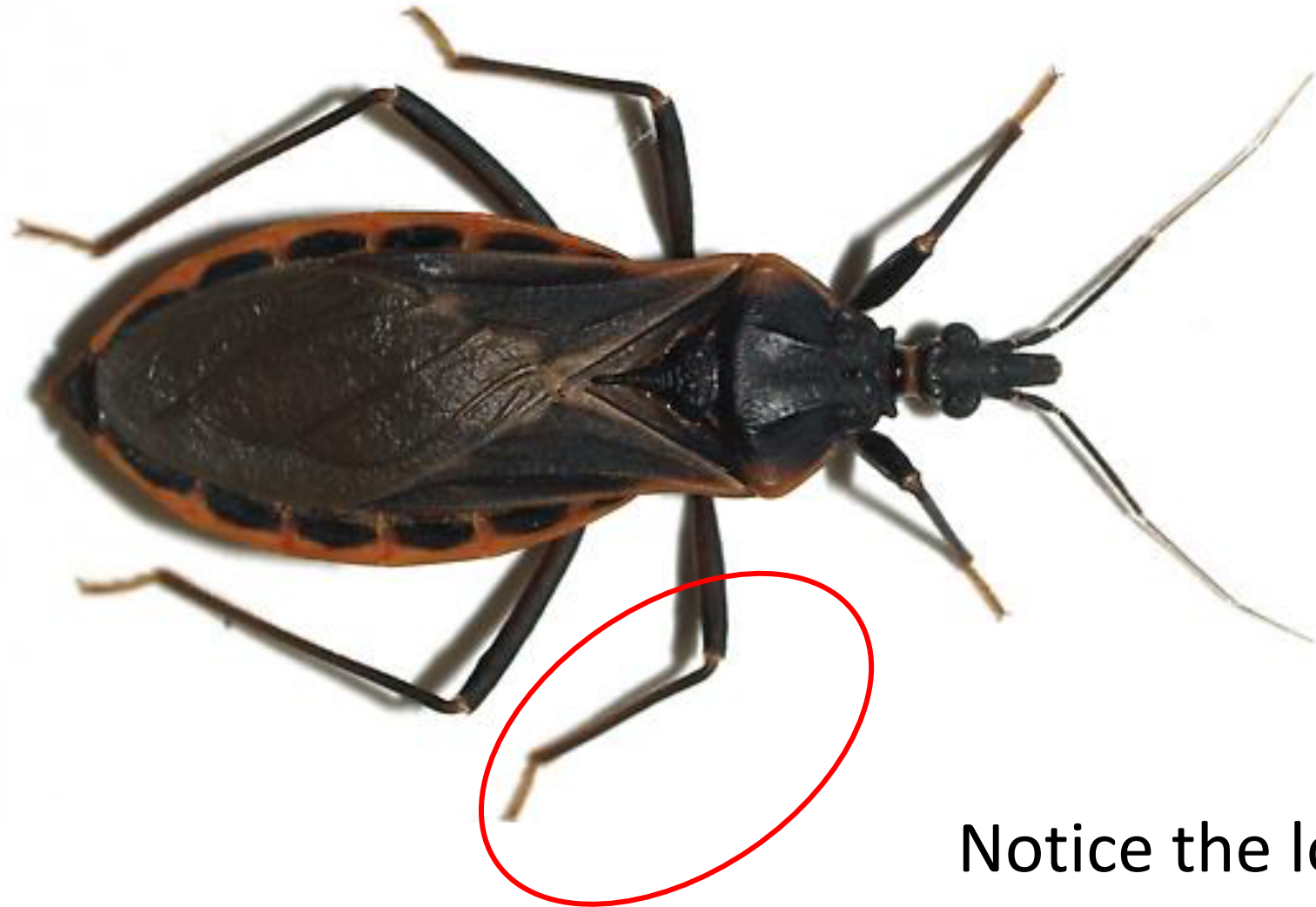
Kissing bug (*Triatoma rubida*)



M. Merchant

Brown marmorated stink bug
(*Halyomorpha halys*)





Notice the long, thin legs



Mainly black or DARK brown



G. Hamer



P. Porter



M. Merchant



Thin, straight mouthparts



Kissing bug

Non-kissing bug

Nymphs

- Might be found in groups
- Useless wing nubs
- Appear 'fuzzy'
- Tear-drop shaped
- Less prominent striping than adults
- Smaller than a grain of rice when first hatched



Summary of hot tips

🔥 Time of day?

- Daylight – probably not a kissing bug
- Evening/night – more likely a kissing bug

🔥 Shape

- Stout, broad shoulders, spikey back, and/or wide legs – probably not a kissing bug
- Rectangular with ‘conenose’ and skinny legs – more likely a kissing bug

🔥 Coloration

- Anything *not* black or very dark brown, or with round spots or striped legs – probably not a kissing bug
- Black or very dark brown, with maybe a stripe or a few stripes around its abdomen – more likely a kissing bug

🔥 Mouthparts

- Curved and thick – definitely not a kissing bug
- Thin and straight – more likely a kissing bug

