



Our Mosquito Project Takes Flight



Environmentally
Friendly



Non-Biting



Safe



Exploring innovative tools
to protect our residents

Learn more:

keysmosquitoproject.com

OUTFRONT

48897B

FKMCD-Oxitec Public Educational Webinar #11

Roundtable Discussion: Controlling *Aedes aegypti*, the Vector of
Dengue, Zika, Heartworm and Other Diseases

23 February 2021



OXITEC

Introductions – Panelists With You Today



Andrea Leal
Executive Director
FKMCD



Mark Whiteside, M.D., M.P.H.
Medical Director, Florida Department
of Health, Monroe County



Douglas Mader, MS, DVM
Veterinary Specialist & Fellow,
Royal Society of Medicine



Mrs. Adriane N. Rogers
Executive Director, Pasco County
Mosquito Control District



Rajeev
Vaidyanathan
Director of U.S.
Operations
Oxitec



Nathan Rose
Head of Regulatory
Affairs
Oxitec



Meredith Fensom
Head of Public
Affairs
Oxitec



FKMCD and Oxitec are hosting a series of public educational webinars to share information with residents of the Florida Keys and provide forums to answer questions.

- Webinars are open to everyone.
- Webinars are recorded and made available for everyone after the event.
- All questions relating to the webinar topic(s) will be answered (some in batches if questions are similar).
- If time runs out, we will accept questions in writing via florida@oxitec.com.
- Questions and answers will be published in writing after the event with external or related online resources/references.

Upcoming:

Community Partnerships: The Role Communities Play in our Pilot Project – coming in March!



Welcome to Webinar #11!

Today's Agenda:

- Brief Presentation
- Roundtable Discussion
- Your Questions Answered

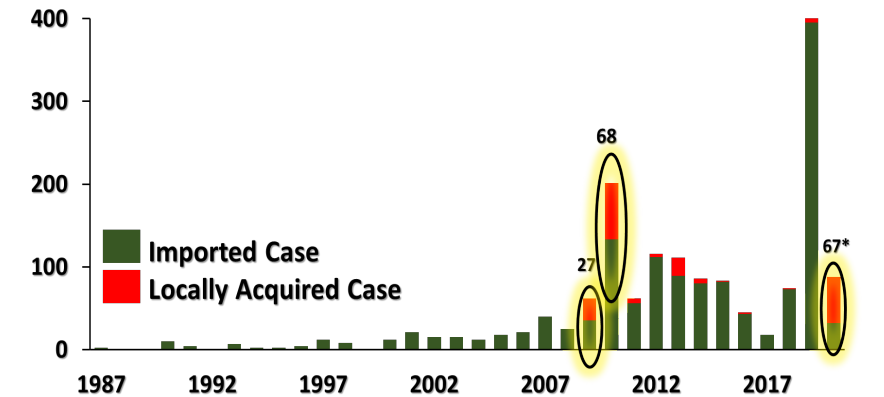
Documentation, resources, references, and other information are available at keysmosquitoproject.com

Why now, Why the Florida Keys? – Health and the Environment



- Dengue is an ongoing challenge with over 65 confirmed locally-acquired cases in Monroe County in 2020
- The threat of other diseases such as Zika, chikungunya and yellow fever persists
- Insecticide resistance in local mosquitoes
- Need more tools in our toolbox

Dengue Cases in Florida Since 1987



*As of 10/27/2020



- Environmental impact is a major consideration, including for human health
- Using species-specific tools minimizes harmful impacts
- Nine national and state agencies concluded Oxitec male mosquitoes pose no risk to human or environmental health

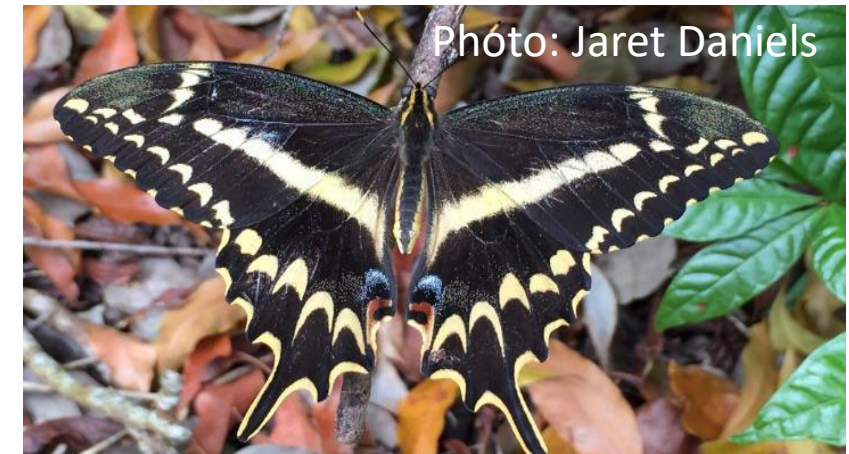
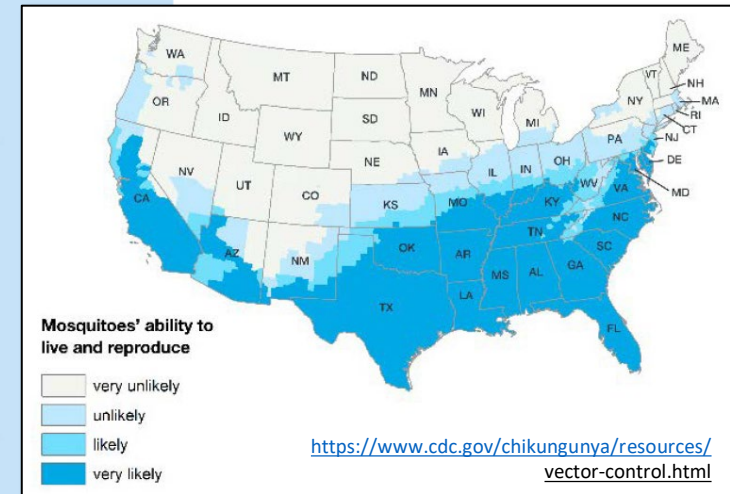
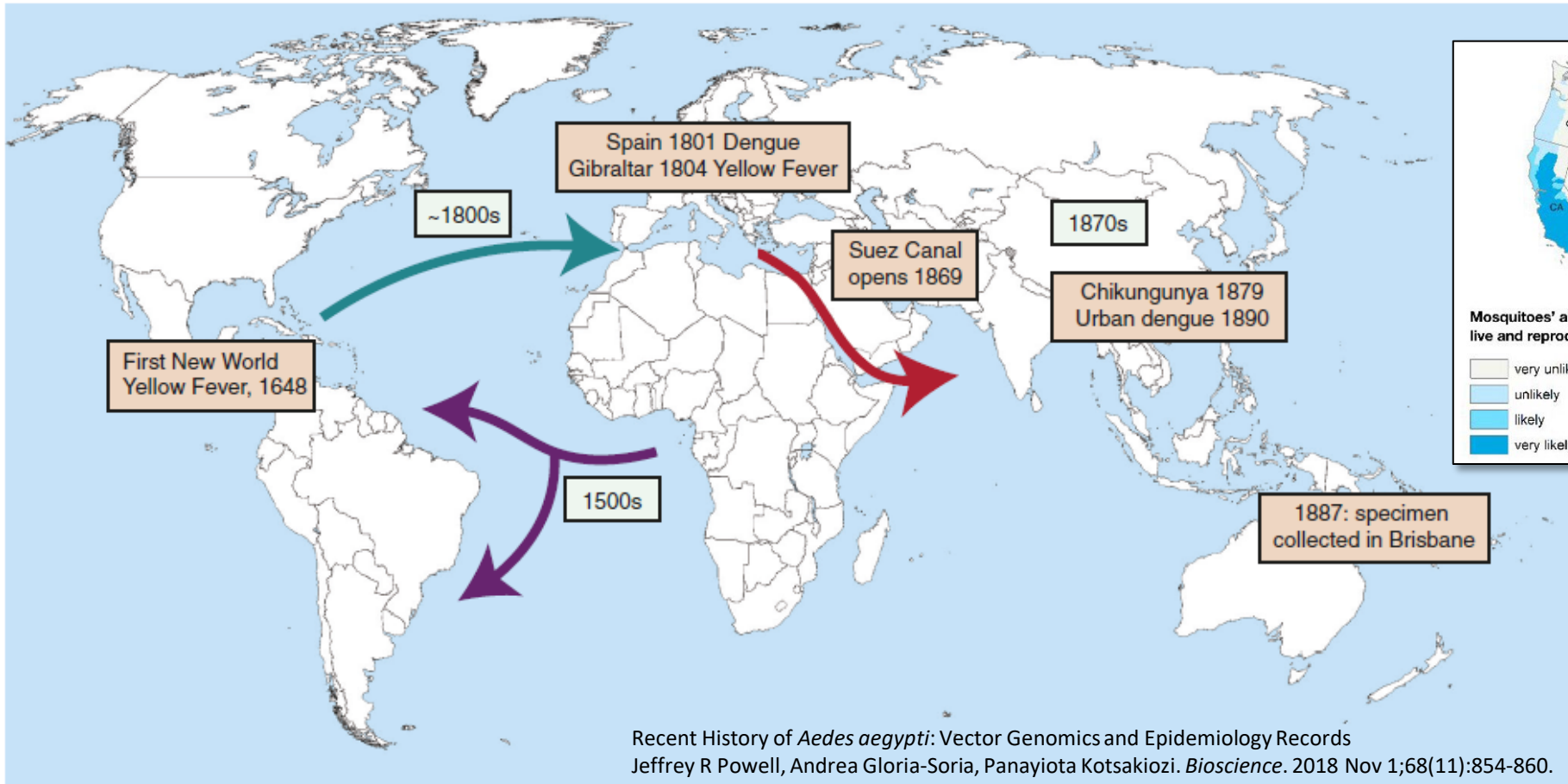


Photo: Jaret Daniels

Endangered Schaus' swallowtail butterfly lives near the recent dengue outbreak

The *Aedes aegypti* Mosquito: an Invasive Species in Florida

***Aedes aegypti* is not native to the Americas.** It was most likely transported from Africa by Portuguese ships sometime in the 16th century, **bringing viral diseases with it.**



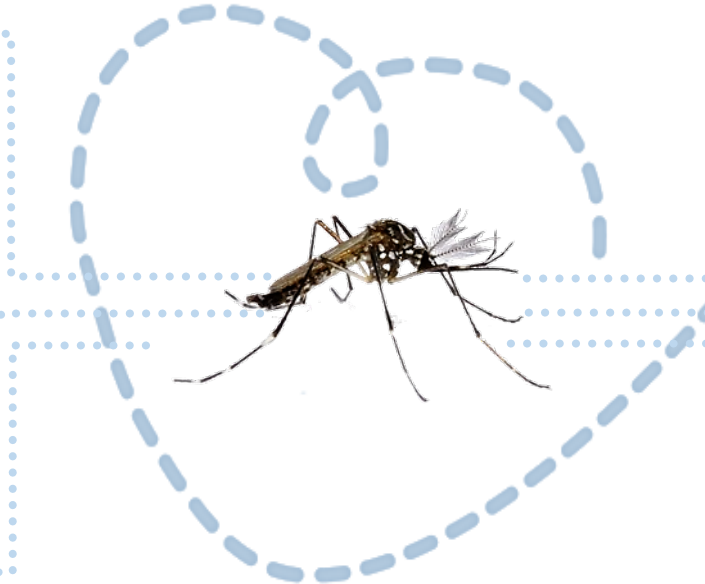
Aedes aegypti in Florida and surrounding U.S. states today.

OXITEC'S *Aedes Aegypti*

✓ TARGETED
SUPPRESSION

✓ SAFE, NON-
TOXIC, NON-
ALLERGENIC

✓ PROVEN
EFFECTIVENESS



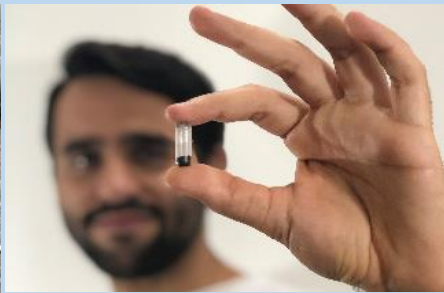
MALE-ONLY
RELEASES
(male mosquitoes
do not bite)

TRACEABLE IN
THE FIELD

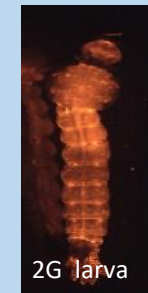
SELF-LIMITING IN
THE ENVIRONMENT



- No females produced
- Low-tech, egg-based devices enabled



- Easy track-and-trace in the field
- Non-toxic, non-allergenic

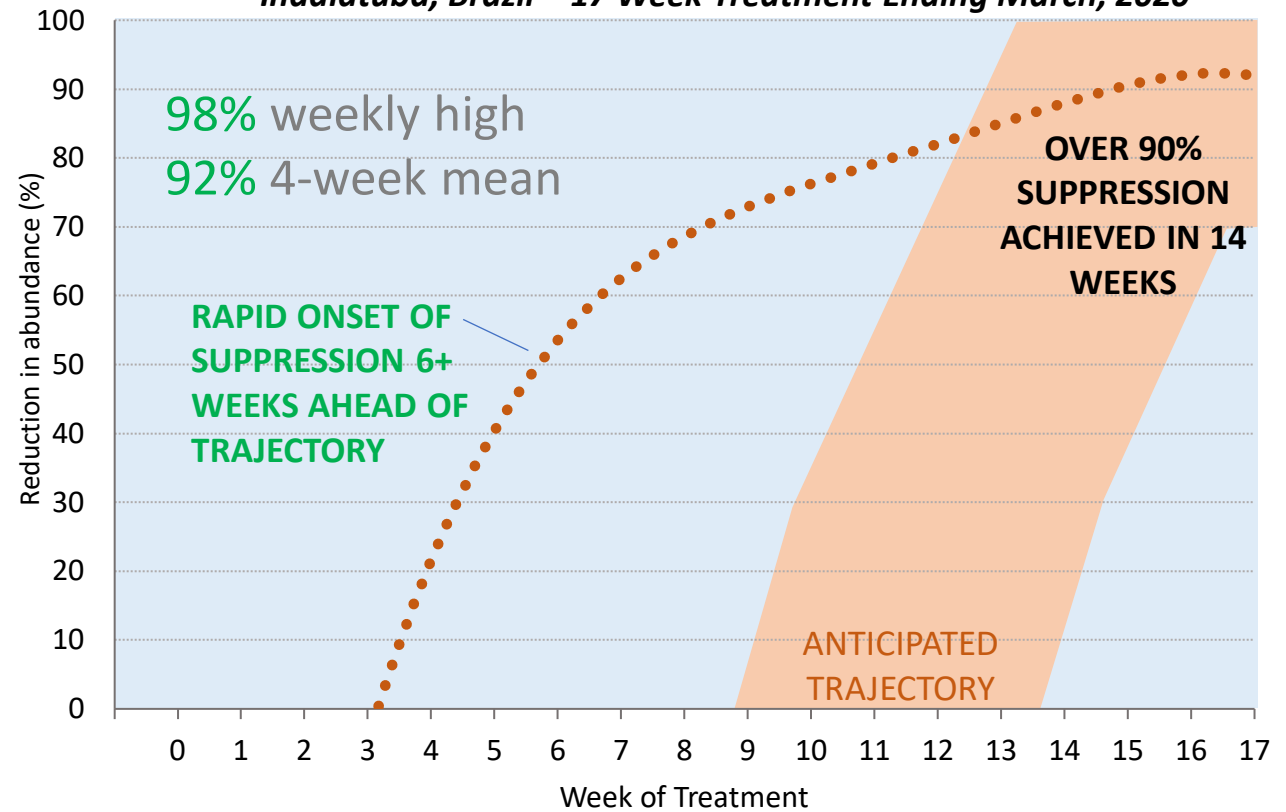


Results:

- ✓ Safe – no unintended impacts
- ✓ Males only – no female release
- ✓ Fully self-limiting – no persistence
- ✓ Significant suppression (see graph)
- ✓ 90% reduction in operations
- ✓ 94%+ public acceptance



Pilot Project #1 for Mini-Capsule Product – 1,000 Person Area
Indaiatuba, Brazil – 17 Week Treatment Ending March, 2020



6

Weeks

Faster to Suppression
than OX513A

90%

More Efficient
Production &
Deployment



No.

Oxitec mosquitoes do not bite.

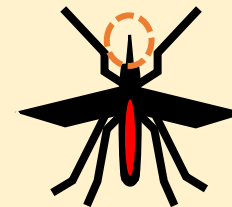
Only female mosquitoes bite

There will be no Oxitec female mosquitoes

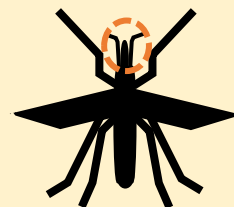
Oxitec male mosquitoes are safe and non-toxic

MALE MOSQUITOES CANNOT BITE

FEMALE:
Biting
mouthparts

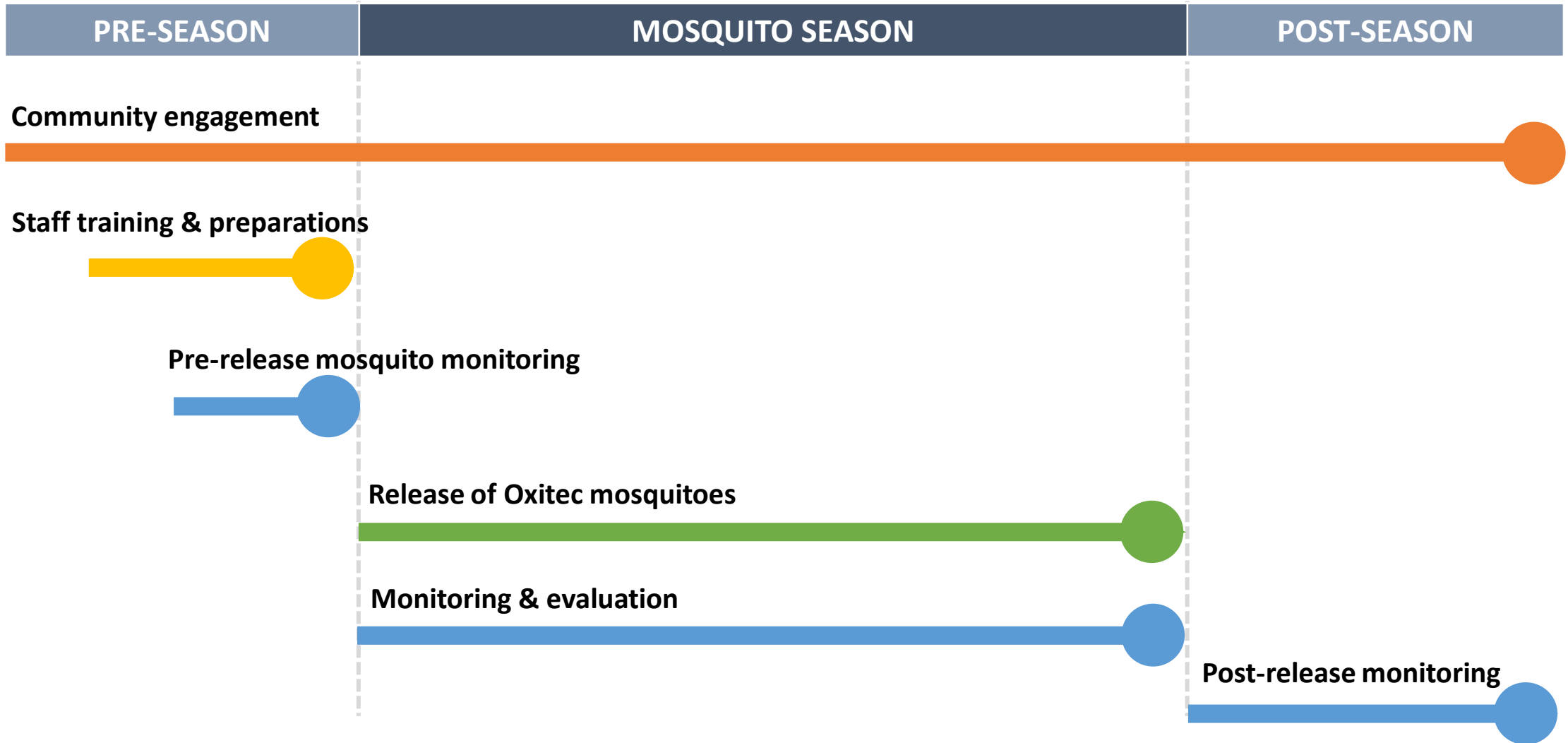


MALE:
Non-biting
mouthparts



The mouthparts of males mean they are physically unable to bite people

Florida Keys Pilot Project Timeline - 2021



Recent Community Engagement



Beginning in spring 2021, the Florida Keys Mosquito Control District (FKMCD) and Oxitec will evaluate the effectiveness of Oxitec mosquitoes to control the invasive, disease-spreading *Aedes aegypti* mosquito in the Florida Keys.

- Oxitec mosquitoes are safe and self-limiting.
- Like all male mosquitoes, Oxitec's male mosquitoes do not bite. Female mosquitoes bite and spread disease.
- The *Aedes aegypti* mosquito is the known vector of diseases including Dengue and Zika and is becoming more resistant to traditional pesticides.

Please visit keysmosquitoproject.com for additional resources.



PLEASE TURN OVER TO LEARN MORE! →



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43 views • 2 weeks ago



FKMCD - #Oxitec Public Educational Webinar #9:...
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OXITEC

HOME

ABOUT US

OUR SOLUTION

EVENTS

RESOURCES

SPEAKERS BUREAU

JOIN THE PROJECT

SURVEY

- ✓ Request a box
- ✓ Request a trap
- ✓ Sign up for updates
- ✓ Volunteer as a Project Ambassador

JOIN THE PROJECT!

Roundtable Discussion



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Any and all questions on this evening's topics are welcome!

(If we run out of time tonight, email florida@oxitec.com and we will attempt to answer your question if it isn't included in the growing FAQ or post-event summary we publish online at oxitec.com/florida and keysmosquitoproject.com)

Mosquitoes, Heartworms & Your Pet



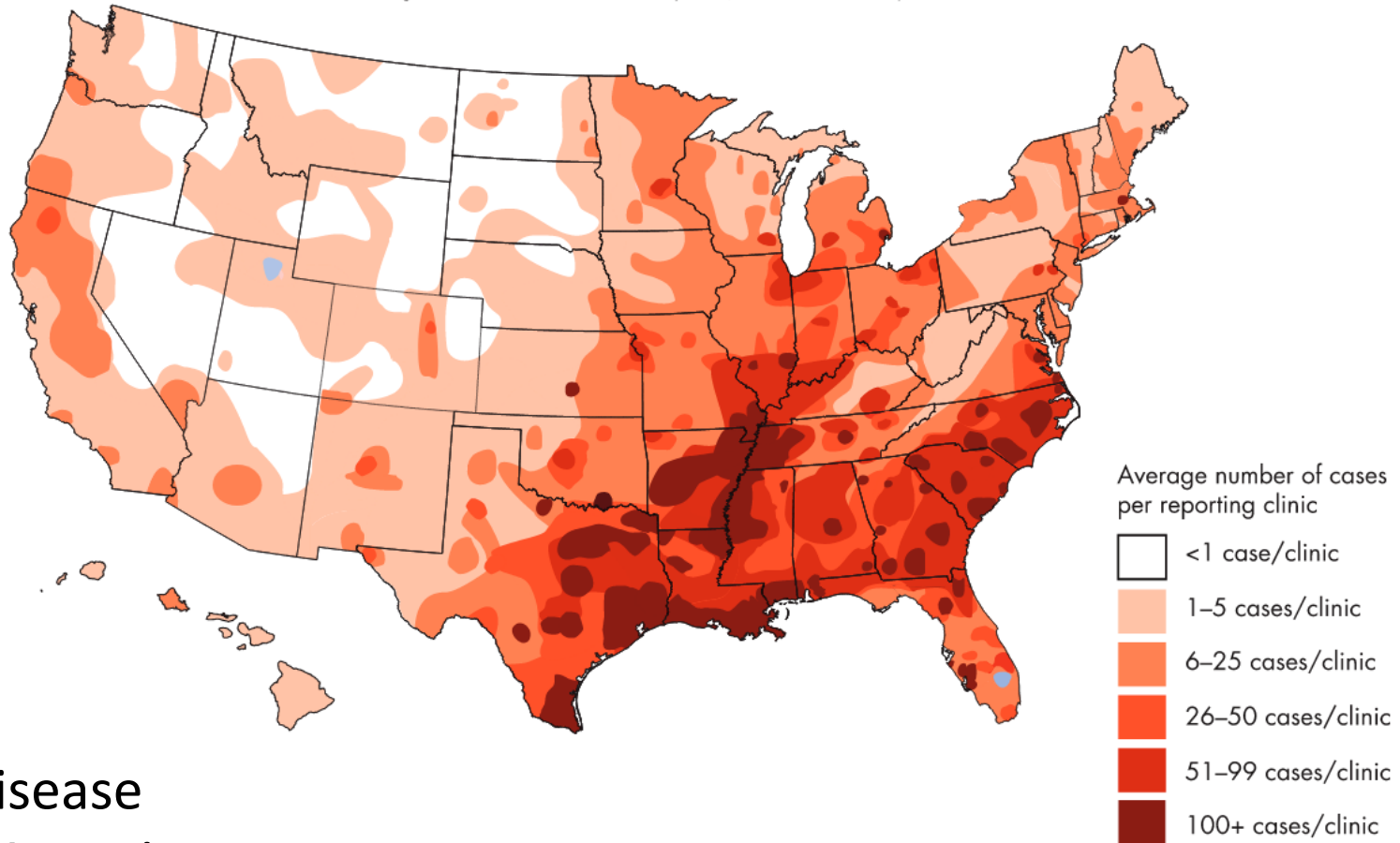
Douglas Mader, MS, DVM
DABVP (Canine/Feline)
DABVP (Reptile/Amphibian)
DECZM (Herpetology)
Fellow, Royal Society of Medicine



2019 HEARTWORM INCIDENCE



© American Heartworm Society The severity of heartworm incidence as shown in this map is based on the average number of cases per reporting clinic. Some remote regions of the United States lack veterinary clinics, therefore we have no reported cases from these areas.

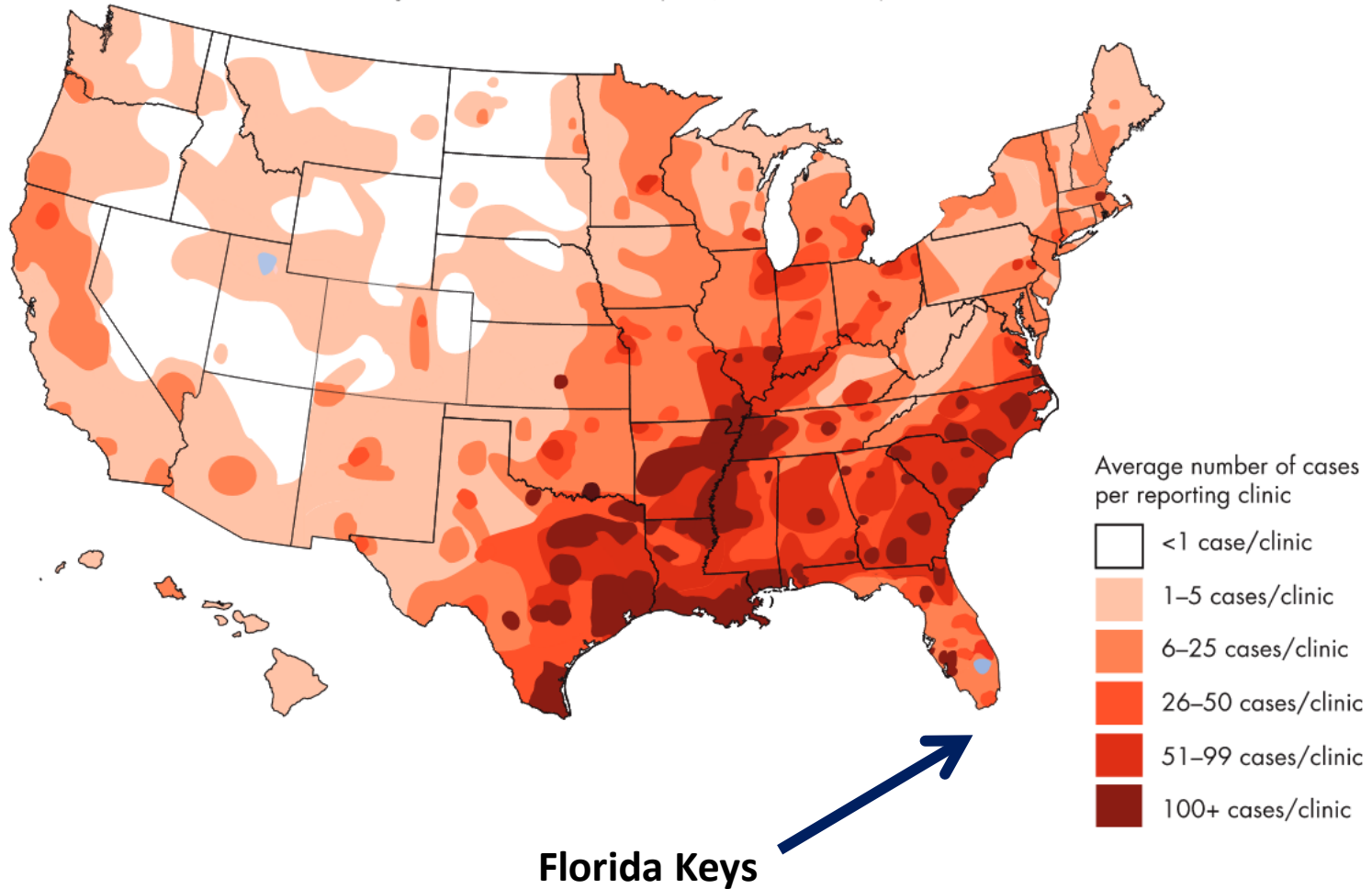


Heartworm Disease
is carried by Mosquitoes

2019 HEARTWORM INCIDENCE

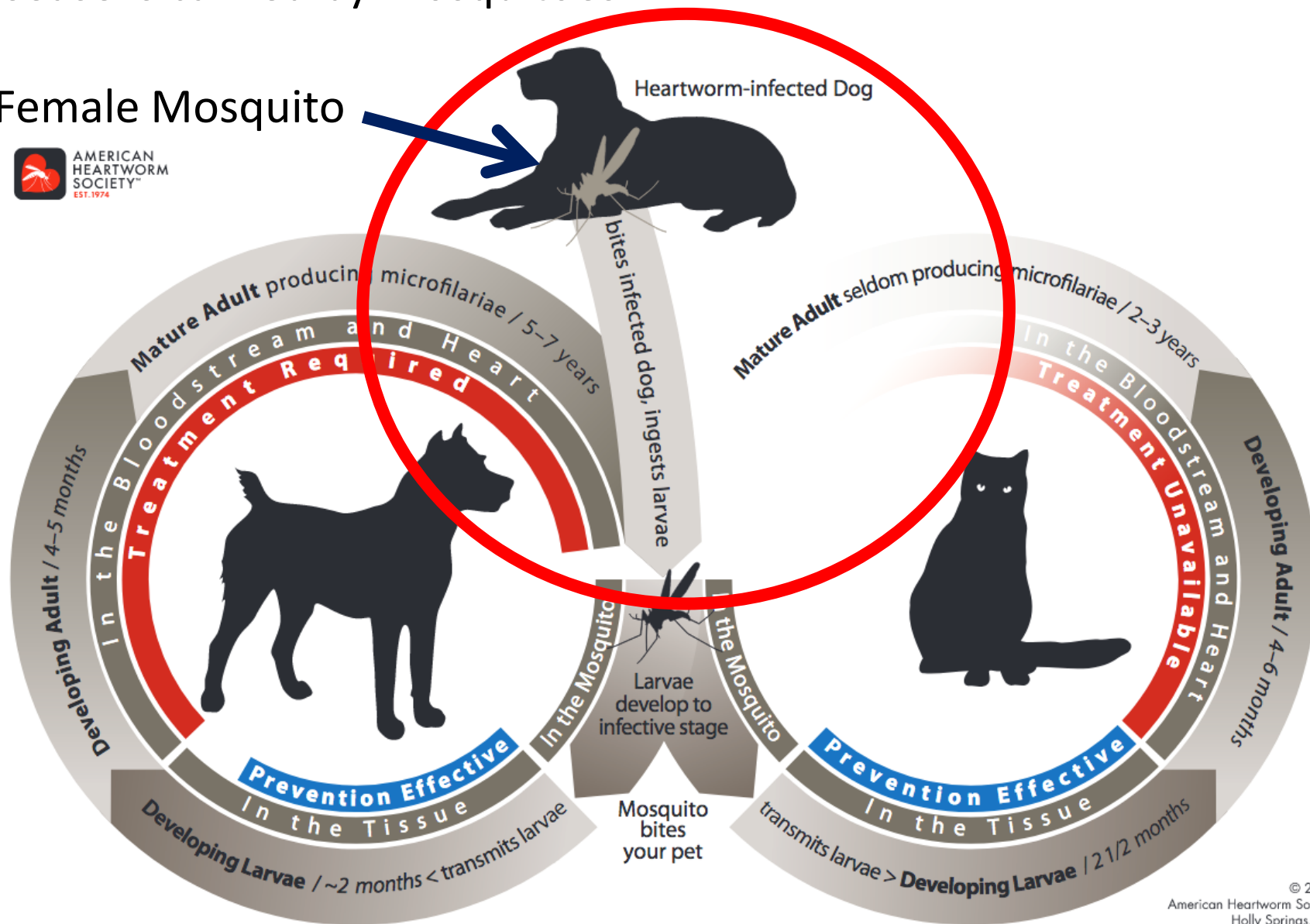


© American Heartworm Society The severity of heartworm incidence as shown in this map is based on the average number of cases per reporting clinic. Some remote regions of the United States lack veterinary clinics, therefore we have no reported cases from these areas.



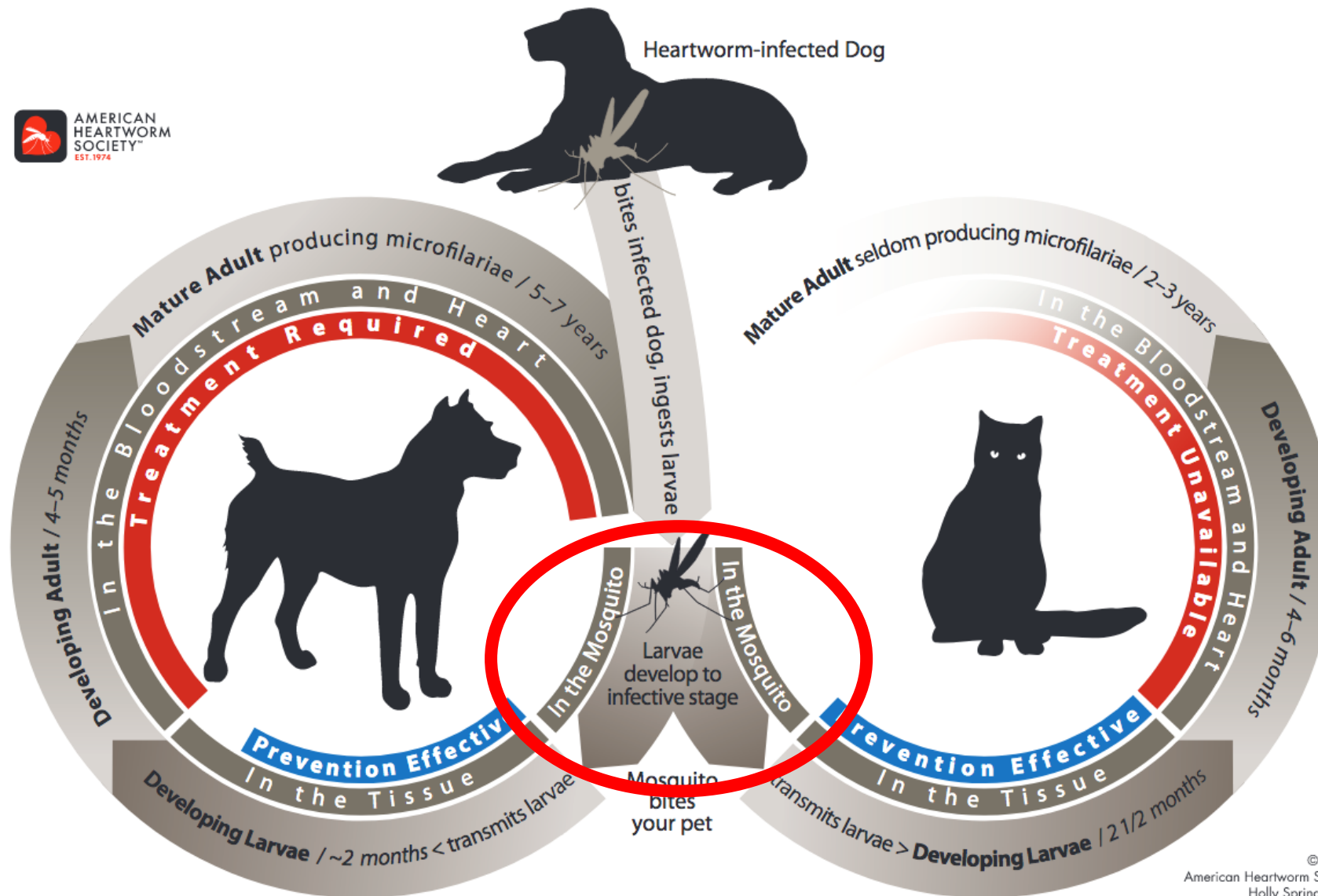
Heartworm Disease is carried by Mosquitoes

Female Mosquito



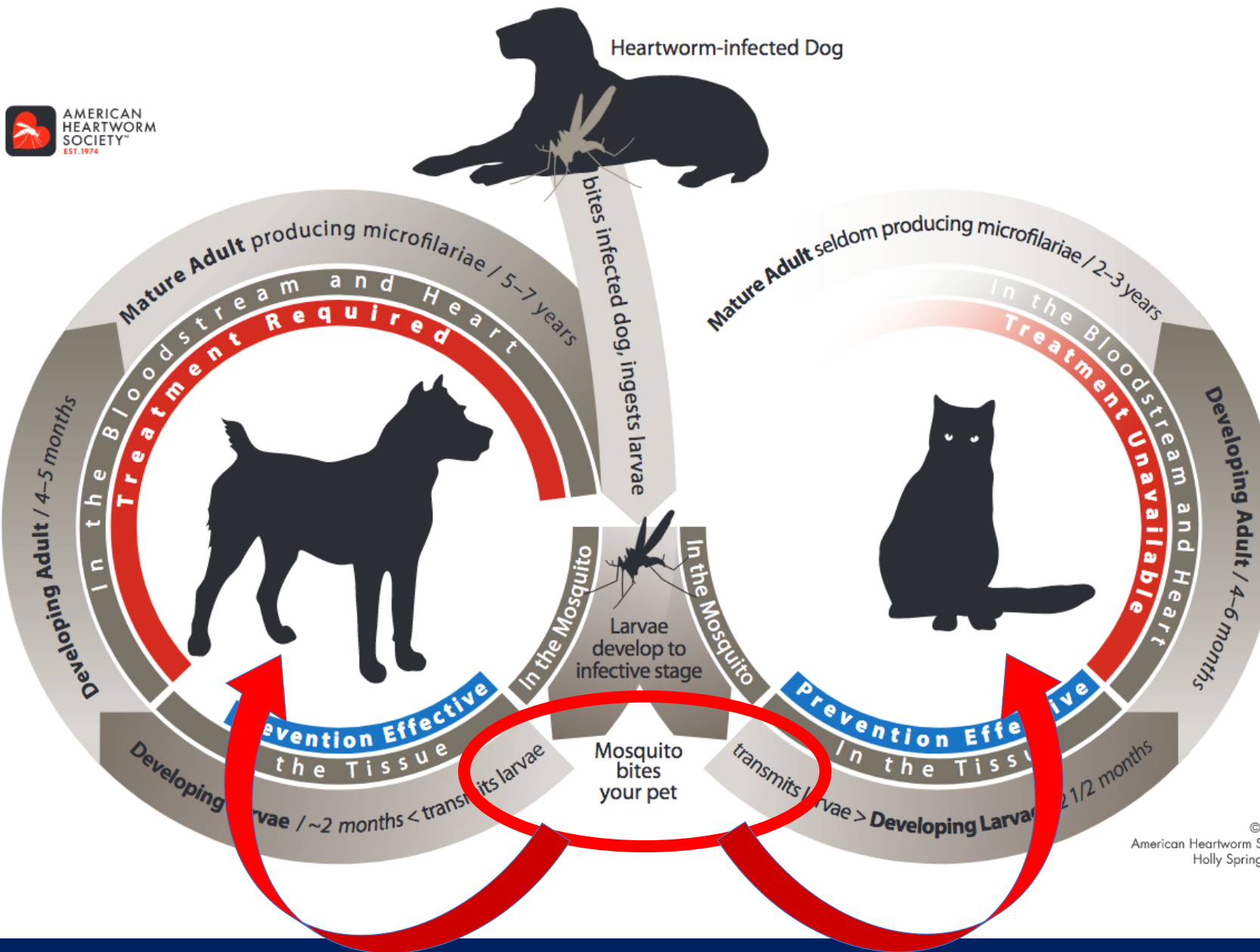
© 2020
American Heartworm Society
Holly Springs, NC

Heartworm Disease is carried by Mosquitoes



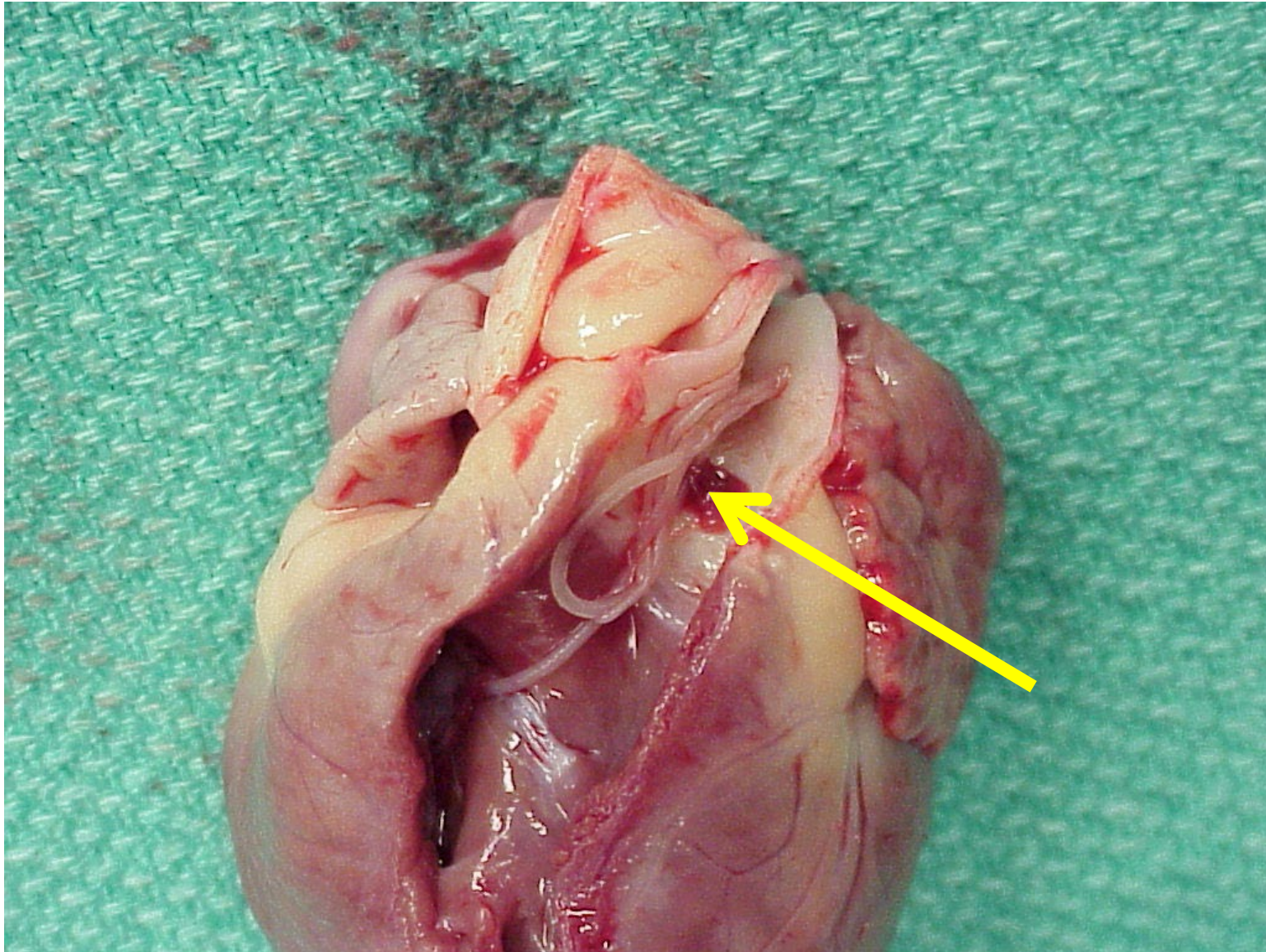
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American Heartworm Society
Holly Springs, NC

Heartworm Disease is carried by Mosquitoes



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Holly Springs, NC

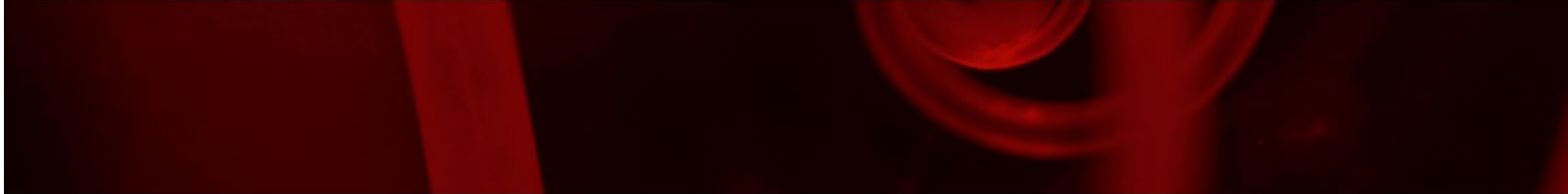
Heartworm Disease is carried by Mosquitoes



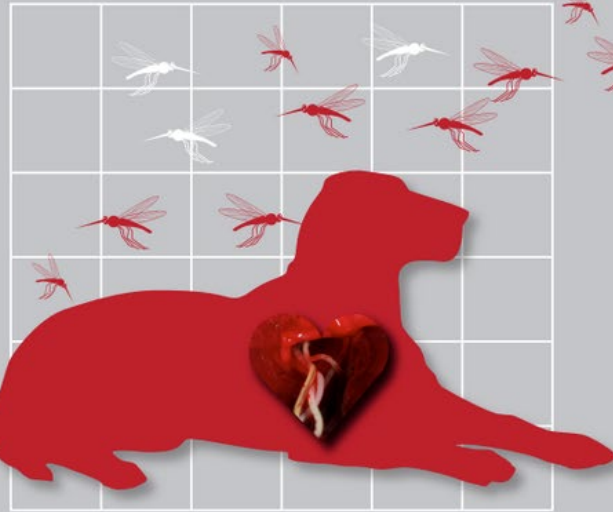
Heartworm Disease is carried by Mosquitoes



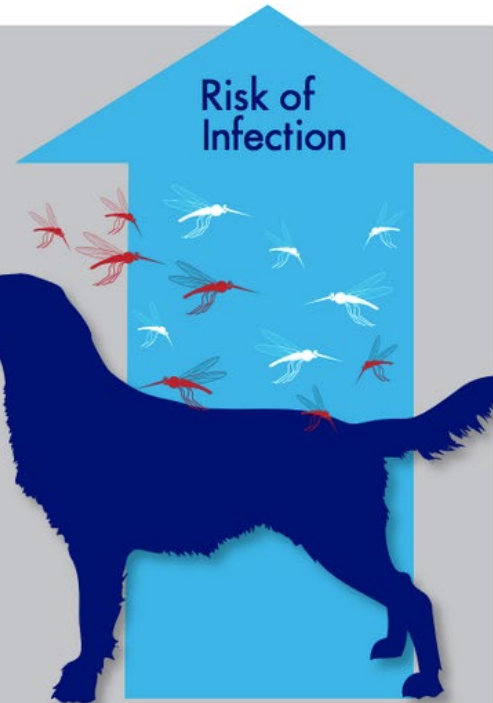
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An average of **7 in 10** mosquitoes in a heartworm-positive dog's kennel carry heartworm.

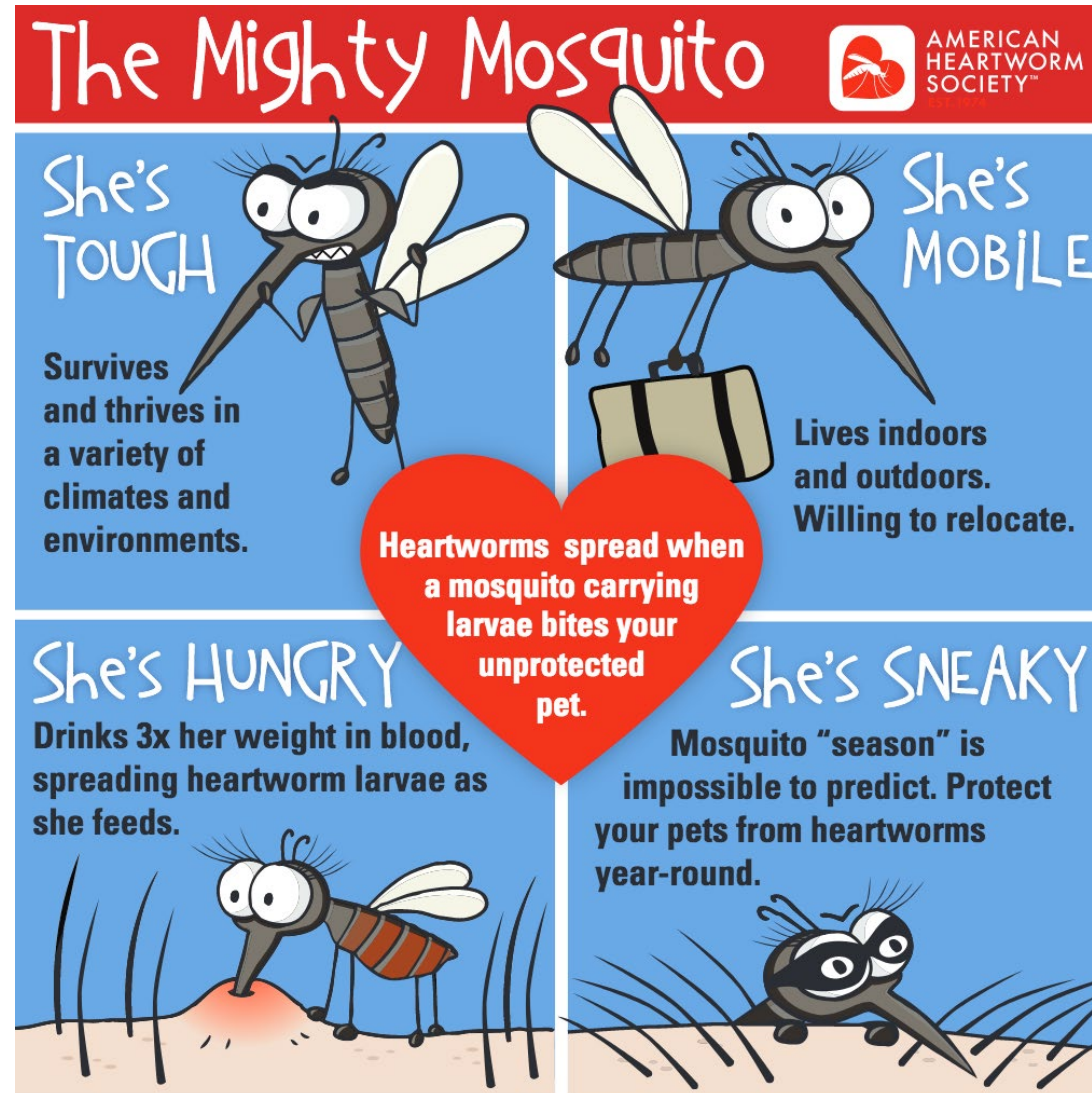


A heartworm-positive dog in the neighborhood **substantially increases the risk** of infection to healthy dogs.



Prevalence of *Dirofilaria immitis* in Mosquitoes from Northeast Arkansas, the United States, Tanya McKay, T. Bianco, L. Rhodes and S. Barnett. 2013 Entomological Society of America.

Heartworm Disease is carried by Mosquitoes



Possible ?/Expensive to treat!



Easier to PREVENT!