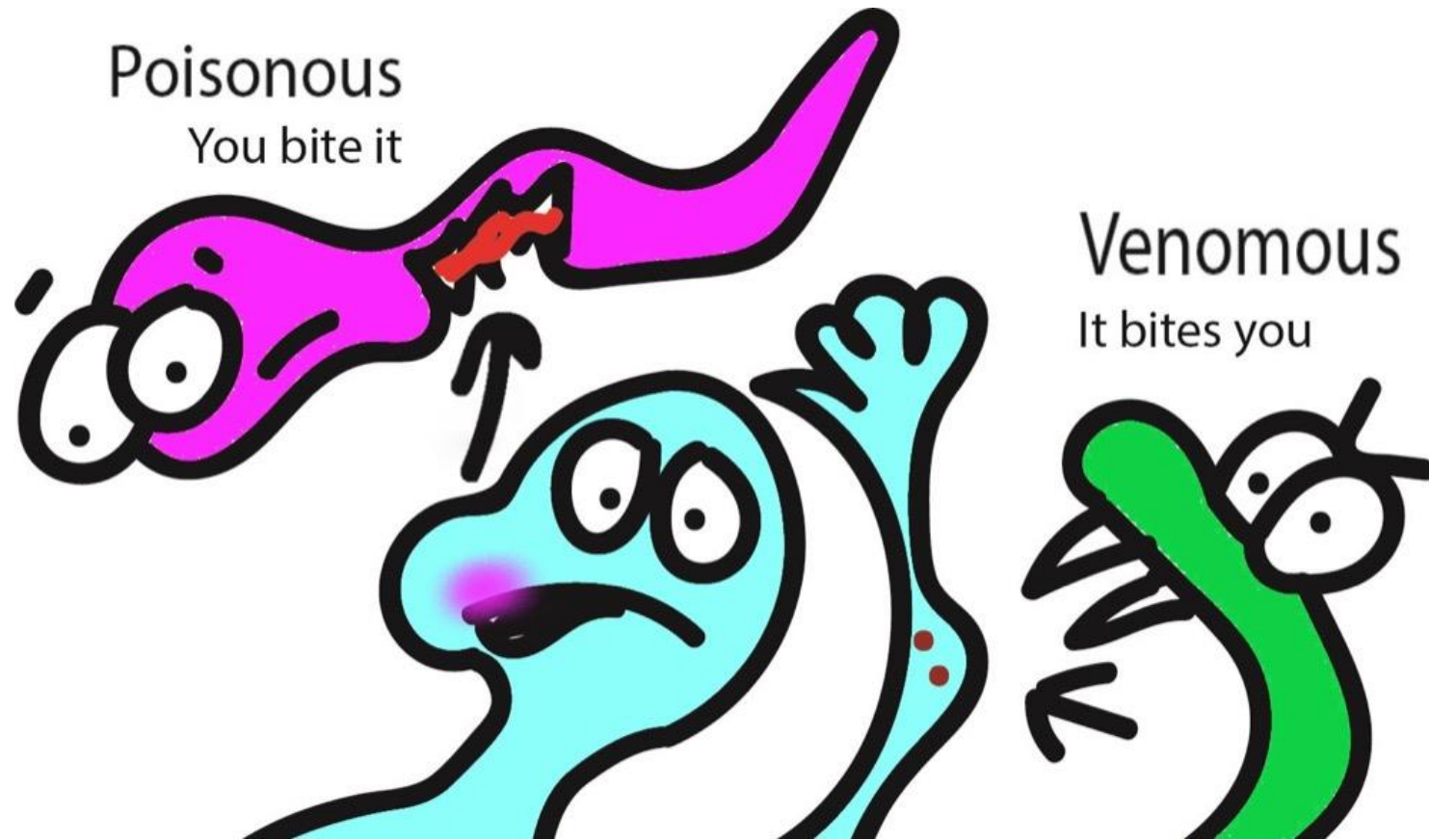




Bites and Stings.....

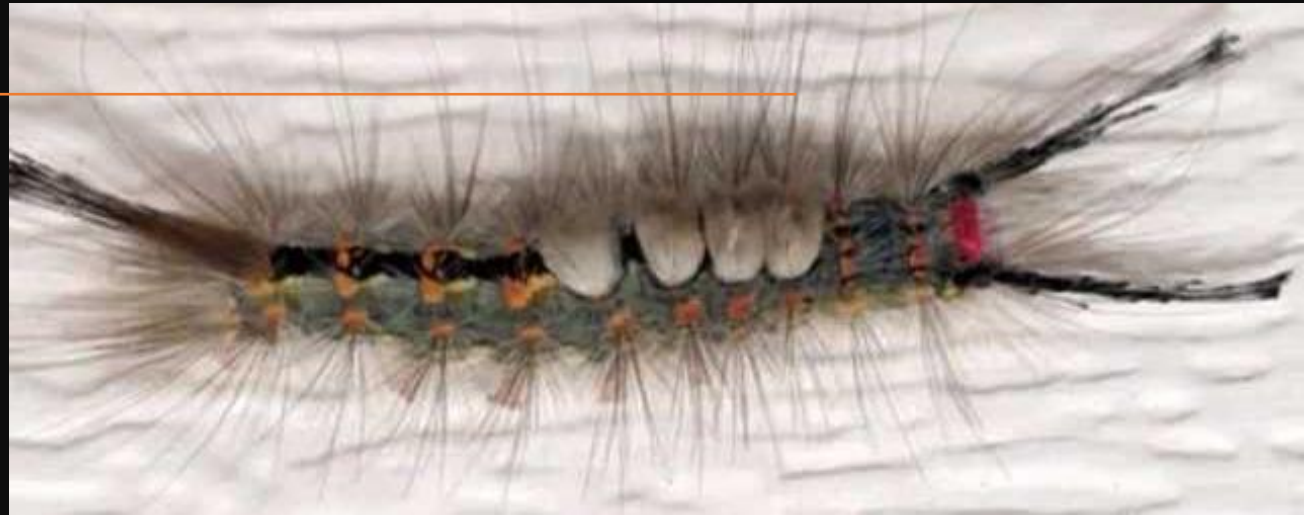
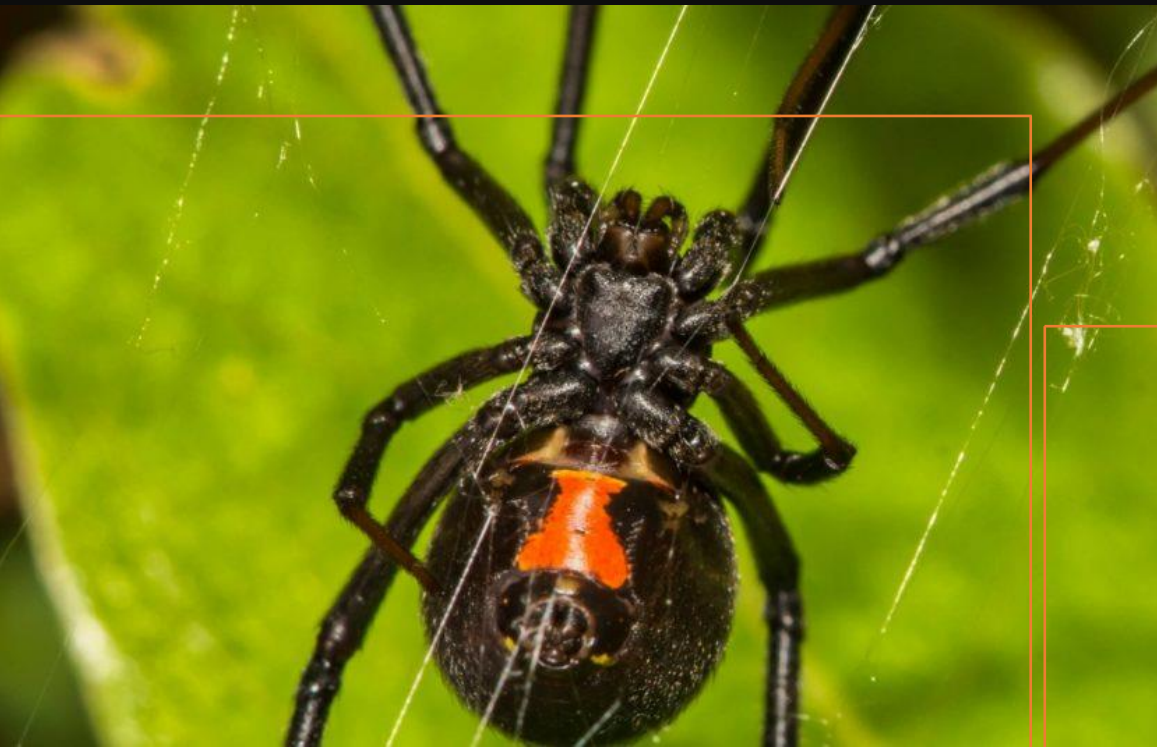
Some of the creatures that can and do bite in Florida



the term *venomous* is applied to organisms that bite (or sting) to inject their toxins, whereas the term *poisonous* applies to organisms that unload toxins when you eat them.



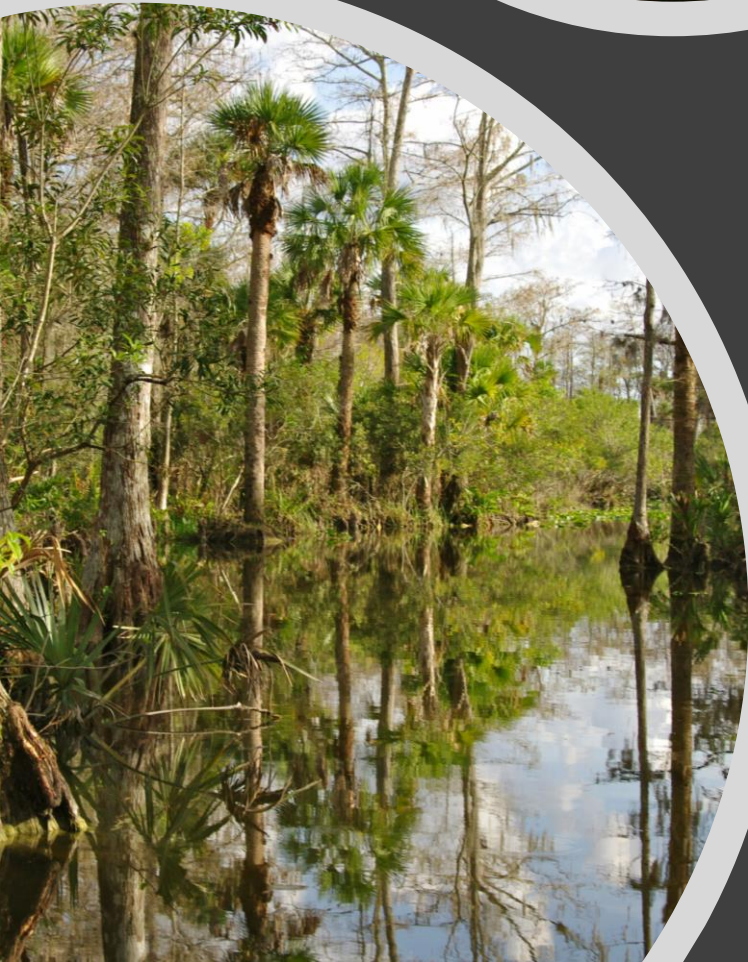
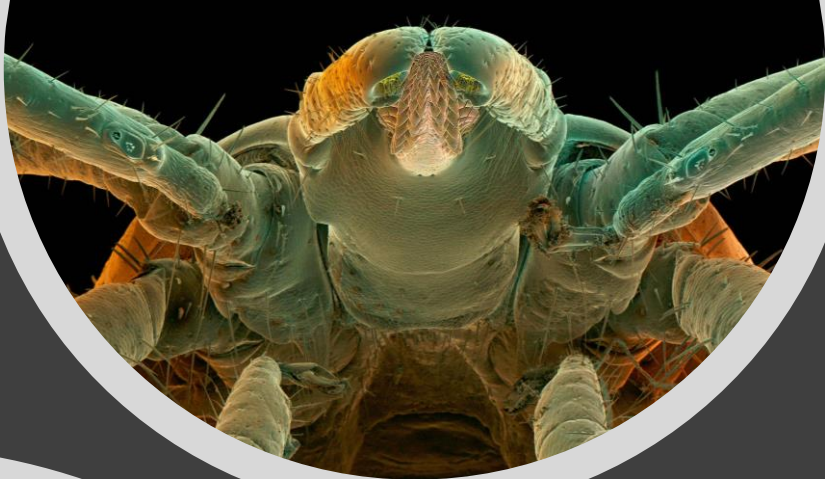
in your backyard
... there are predators





in our waters.....





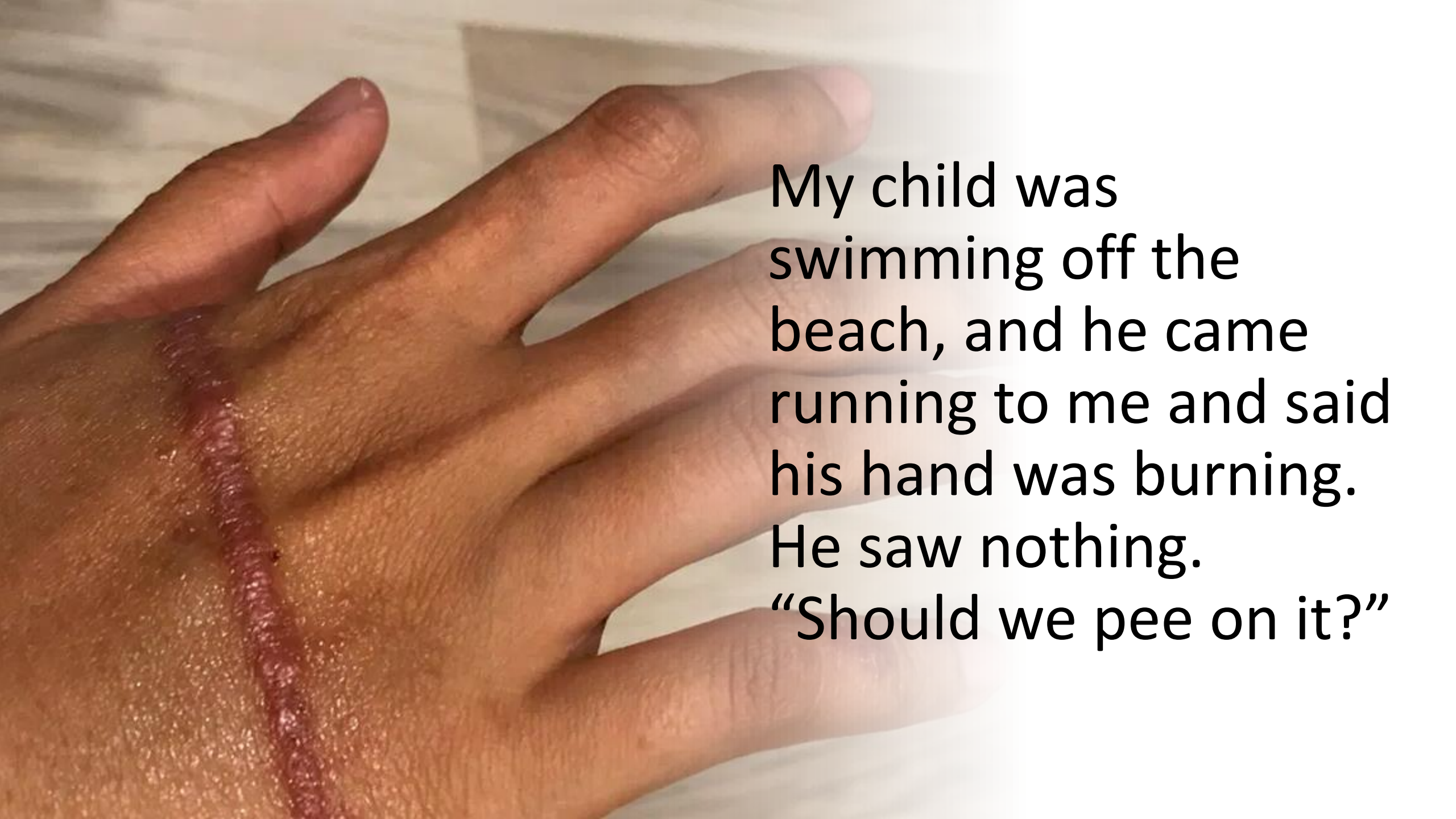
in the glades and
woods







My neighbor's dog just bit my 2-year-old on the face. The dog is up to date on vaccines and has not bitten anyone before today. What do I do?

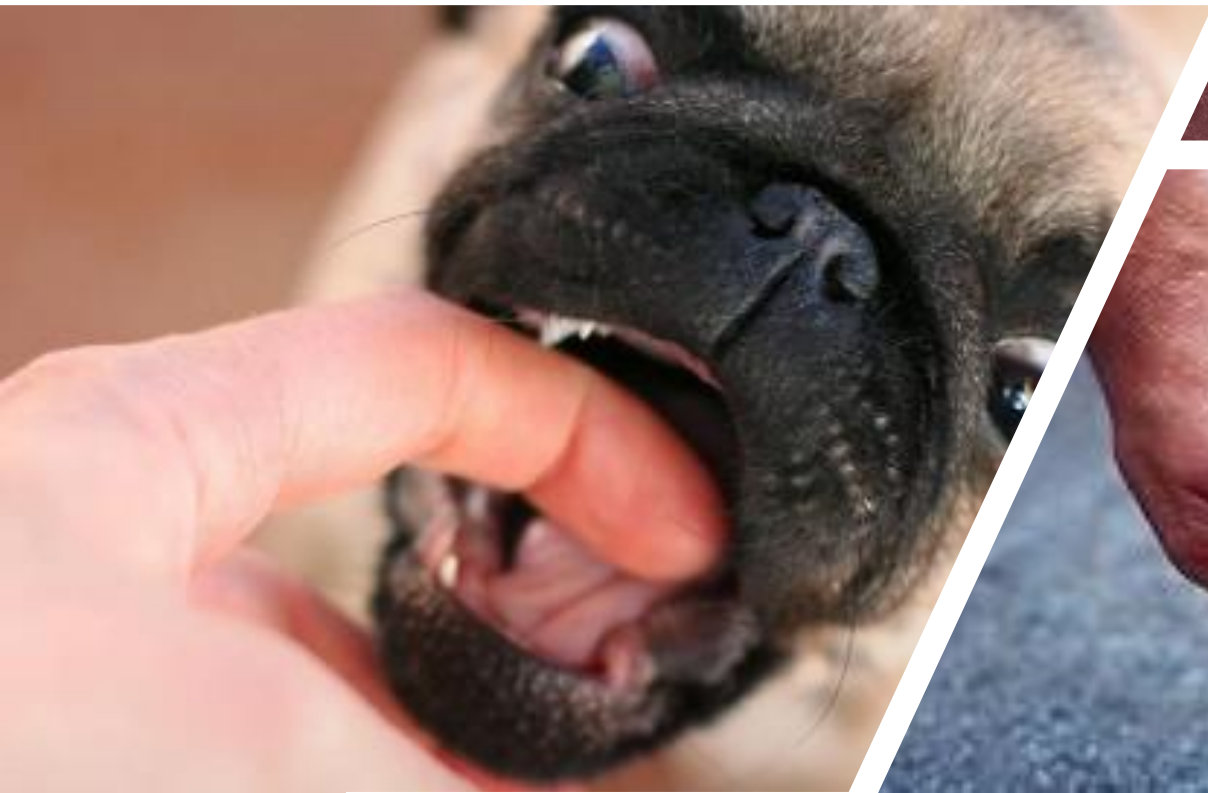


My child was
swimming off the
beach, and he came
running to me and said
his hand was burning.
He saw nothing.
“Should we pee on it?”



My 16-year-old went hiking and was bitten by a snake.....now what?



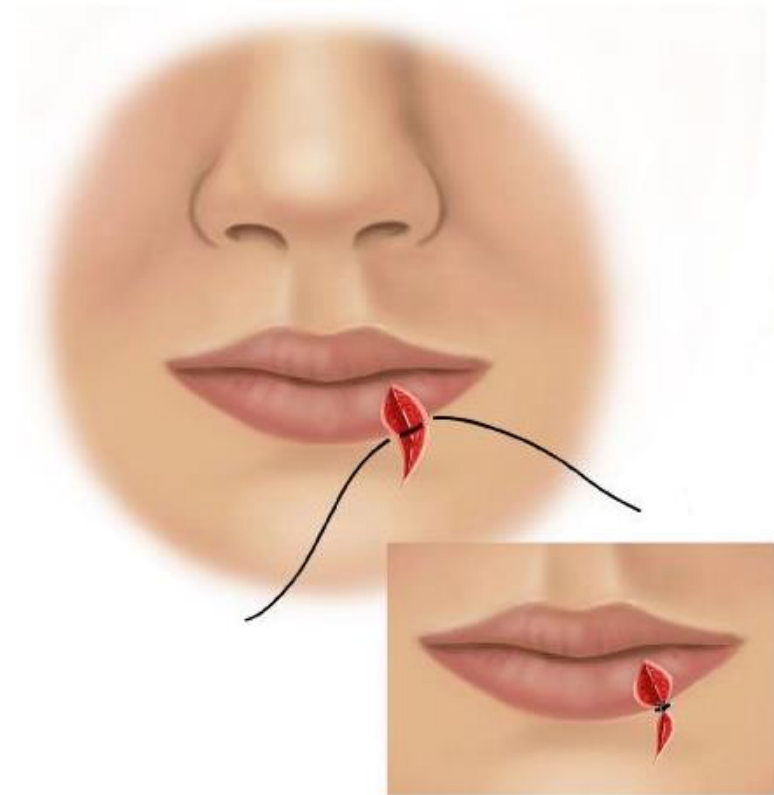




- Dog bites account for up to 90% of all animal bites
- 4.5 million dog bites occur each year in the U.S.
- Roughly 50% of dog bites introduce bacteria, including *staphylococcus*, *streptococcus* and *pasteurella*, as well as *capnocytophaga*.

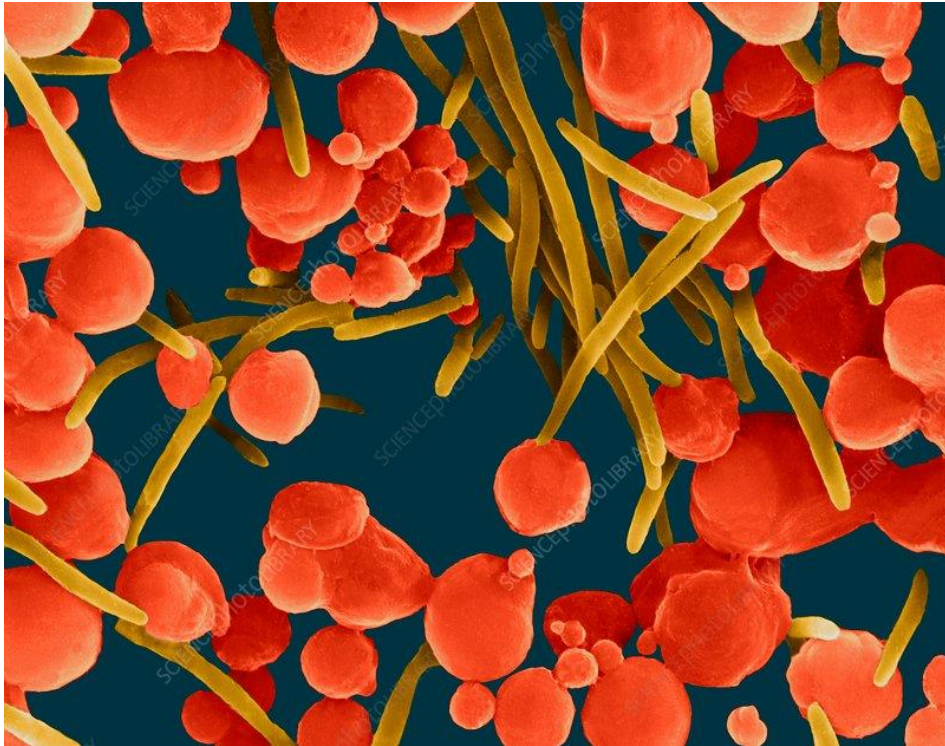


Lip laceration through the vermillion border



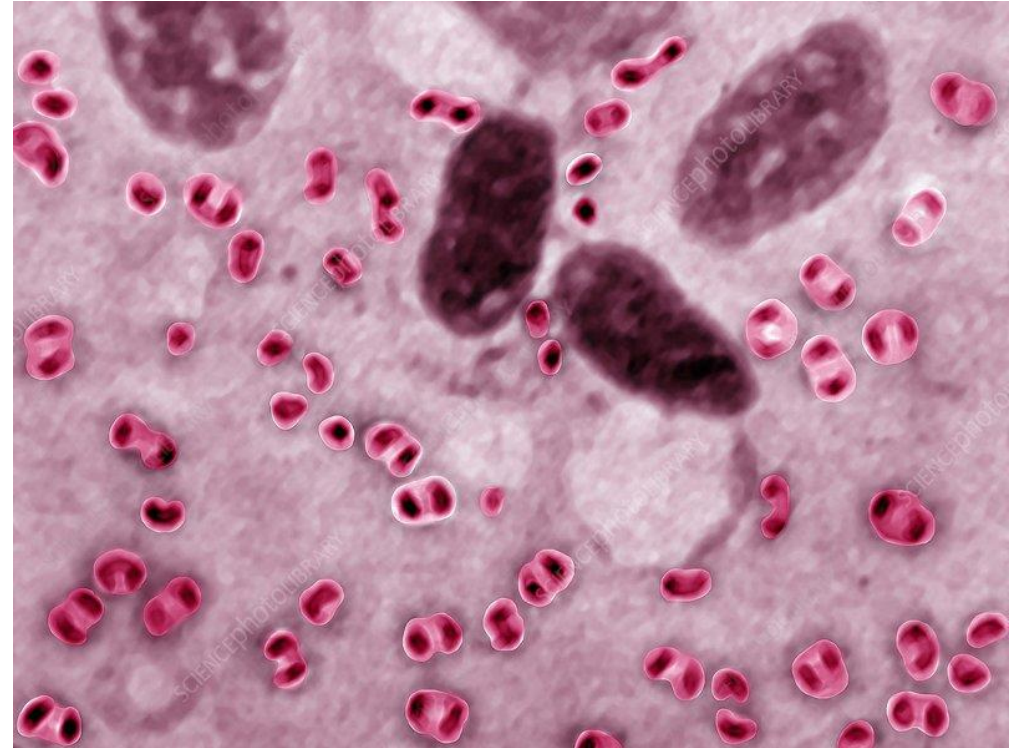
The edges of the vermillion border must be precisely aligned to achieve an optimal cosmetic outcome for lacerations that cross the vermillion border. To accomplish this, the first suture placed should bring the edges of the vermillion border together.

Capnocytophaga canimorsus is a fastidious, slow-growing, Gram-negative rod of the genus *Capnocytophaga*. It is in the normal gingival flora of canine and feline species, but can cause illness in humans. Transmission may occur through bites, licks, or even close proximity with animals.



Growing with streptococcus

Pasteurella is a genus of Gram-negative, facultative anaerobes. **Pasteurella** species are nonmotile and pleomorphic, and often exhibit bipolar staining ("safety pin" appearance)



Dog bite injuries are classified as contaminated wounds and contain a mixture of aerobic and anaerobic pathogens from the skin of the victim and from the mouth of the canine.

Management of dog bite wounds is somewhat controversial.

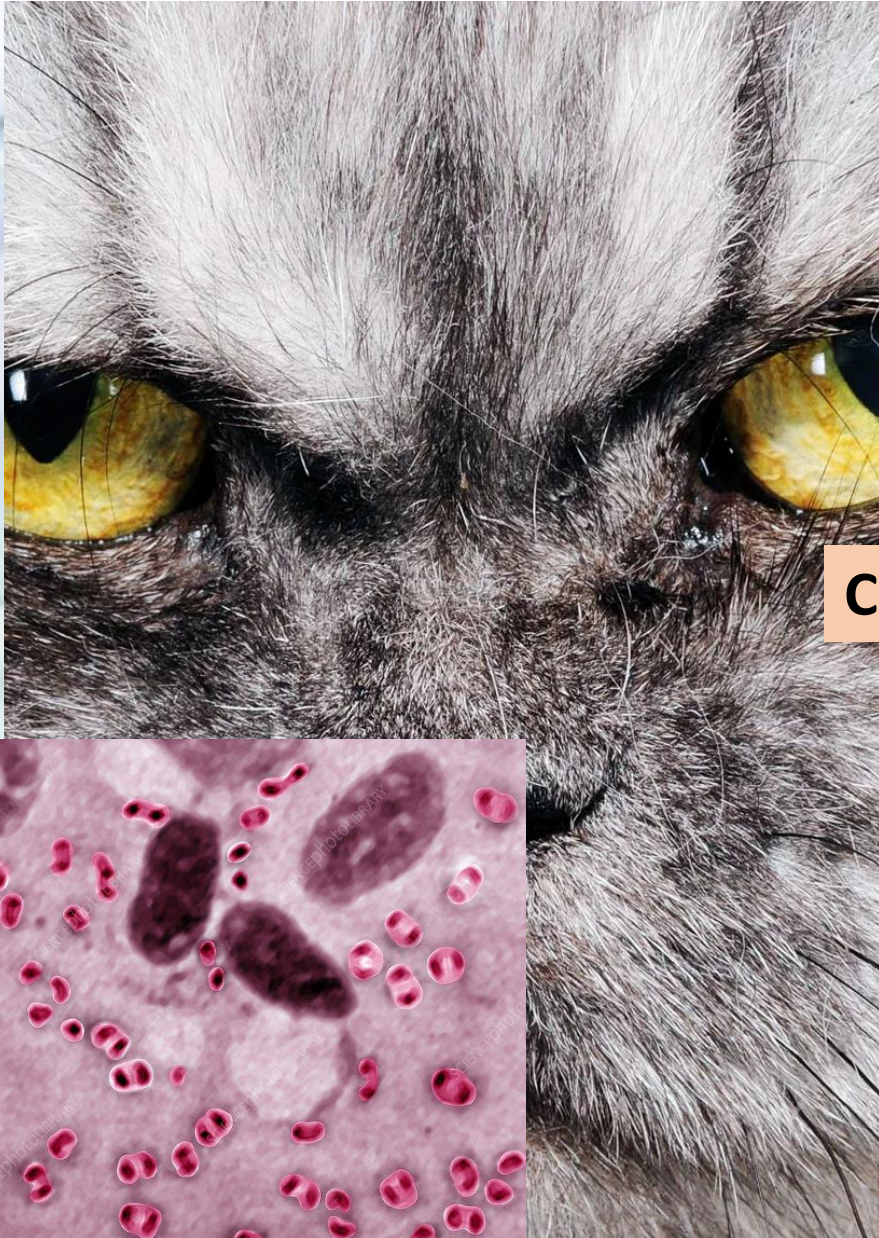
- Wu, Peter S. MD; et al; Primary Repair of Facial Dog Bite Injuries in Children, Pediatric Emergency Care, 2011



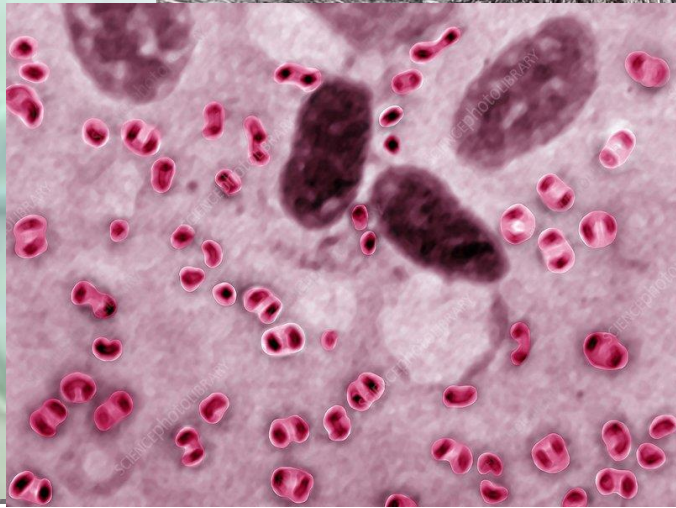


That said....

Facial wounds are almost always closed
even though this is a contaminated wound because delay worsens the **cosmetics** significantly



Cat scratch disease: Bartonella





New Smyrna: Shark bite capital of the world

**312
confirmed
attacks
From
1882- 2019**

Shark Plaque:

**Vibrio vulnificus
Pseudomonas
Staph**



VibriosisVibrio Vulnificus





'Flesh-Eating' Bacteria Cases Surge in Florida

By Dr. Nimrah Sattar - September 20, 2021



envenomations



- **Snakes**
- **Jellyfish**
- **Caterpillars**



“DEADLY BOX JELLYFISH RETURN TO COCOA BEACH”

the term **venomous** is applied to organisms that bite (or sting) to inject their toxins, whereas the term **poisonous** applies to organisms that unload toxins when you eat them. **This means that very few snakes are truly poisonous.**

One exception is the **garter snake** which is small and harmless in terms of its bite but is **toxic to eat** because its body absorbs and stores the toxins of its prey (newts and salamanders).



Snakes..... yikes!

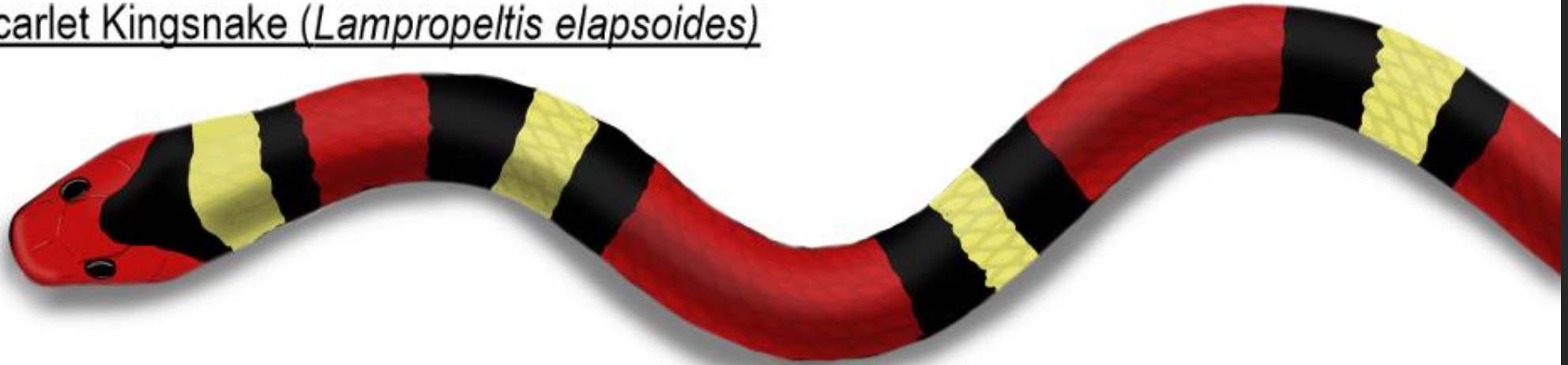
- Coral snake
- Copperhead
- Water moccasin (Cotton mouth)
- Rattlesnakes
 - Diamond back
 - Timber
 - Pygmy



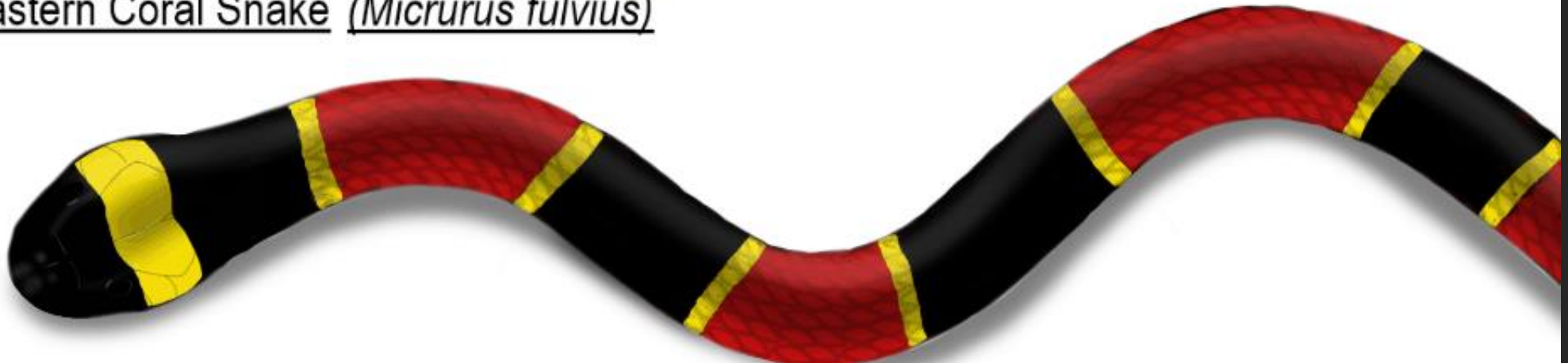


**if red touches yellow it can kill a fellow
If red touches black, it is a friend of Jack**

Scarlet Kingsnake (*Lampropeltis elapsoides*)



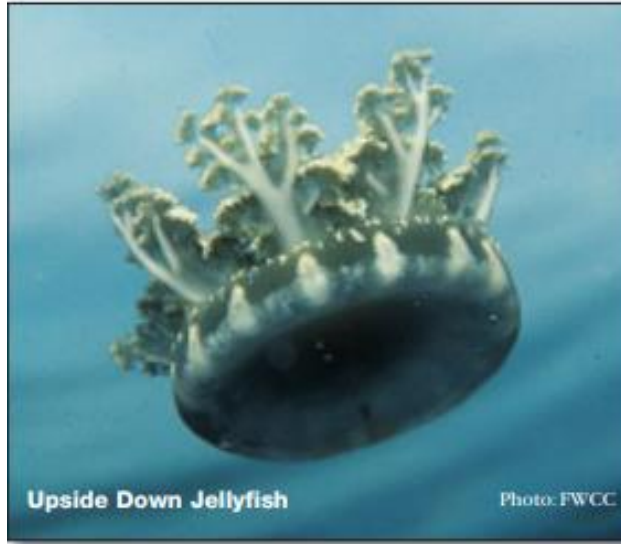
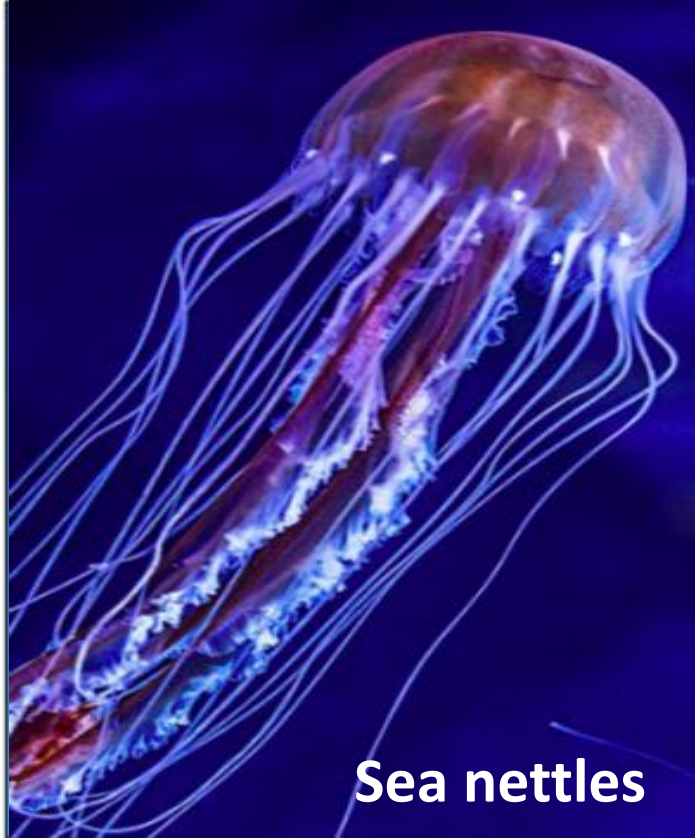
Eastern Coral Snake (*Micrurus fulvius*)



RX OF VENOMOUS PIT VIPER BITE

- **Crofab until normalized coags and resolution of systemic effects**
 - CroFab[®] Crotalidae Polyvalent Immune Fab (Ovine) is a sheep-derived antivenin indicated for the management of adult and pediatric patients with North American crotalid envenomation. The term crotalid is used to describe the Crotalinae subfamily of venomous snakes which includes rattlesnakes, copperheads and cottonmouths/water moccasins.
- **Supportive care**
- **Wound care**
 - Bacterial infection is possible. There are a mix of bacterial in the snake mouth: Gram negatives and gram positives: *Cipro, Zosyn, Clinda, Flagyl all reported being used*

FLORIDA VENOMOUS JELLYFISH



The BOX jellyfish

Chandler peed on Monica

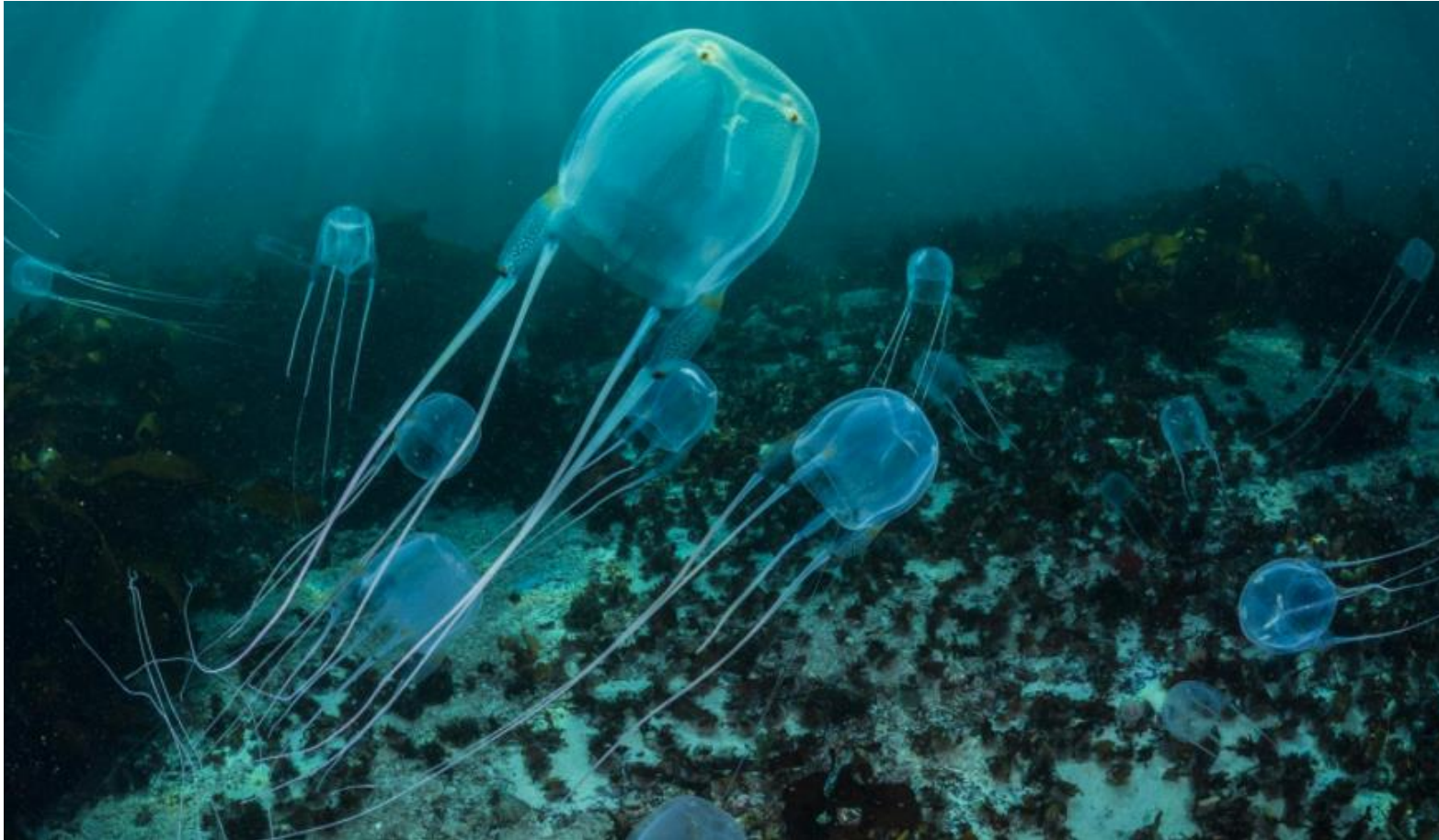
Friends 1997, season 4 episode 1



Vinegar.. maybe, Pee.. No



The real deal box jellyfish: Australia's sea wasp



7 Florida venomous caterpillars

..... really?..... YES



Saddleback caterpillar



Tussock moth caterpillar



The Hag caterpillar



Lo moth caterpillar



Buck moth caterpillar



Spiny oak-slug caterpillar

THE BAD GUY

Puss caterpillars are some of the most venomous insects in the United States. They tend to make two seasonal visits to **Florida** and other surrounding states, ***one in the spring and one during the fall.***

This insect has a sharp, poisonous spine that is hidden by its seemingly innocent fur.



The puss caterpillar venomous spines.....





- Venom is not well characterized
- Local reactions always
- Systemic reactions possible
 - Fever
 - Hemolysis
 - Allergy/anaphylaxis
- Treatment
 - **REMOVE THE SPINES: TAPE**
 - Ice
 - Steroids?
 - Emergency medical care for systemic reactions

OTHER BUGS

- **Fire ants**
- **Bees and wasps**
- **Scorpions**
- **Brown recluse spider:
not native to Florida**
- **Black widow**



THE BLACK WIDOW

- The most powerful neurotoxins present in **black widow venom** is alpha Latrotoxin
- These spiders like dark, undisturbed areas.
- Black widow spiders won't come after you. But if they feel threatened, they will bite.
- There is an antivenin for serious cases, but it's rarely needed. Narcotics and muscle relaxants usually suffice.



**The
deadliest
creature
on earth**



WORLD'S DEADLIEST ANIMAL

Number of people
killed by animals per year



475,000
Human



50,000
Snake



25,000
Dog



1,000
Crocodile

500

Hippopotamus



100

Elephant



100
Lion



10
Wolf

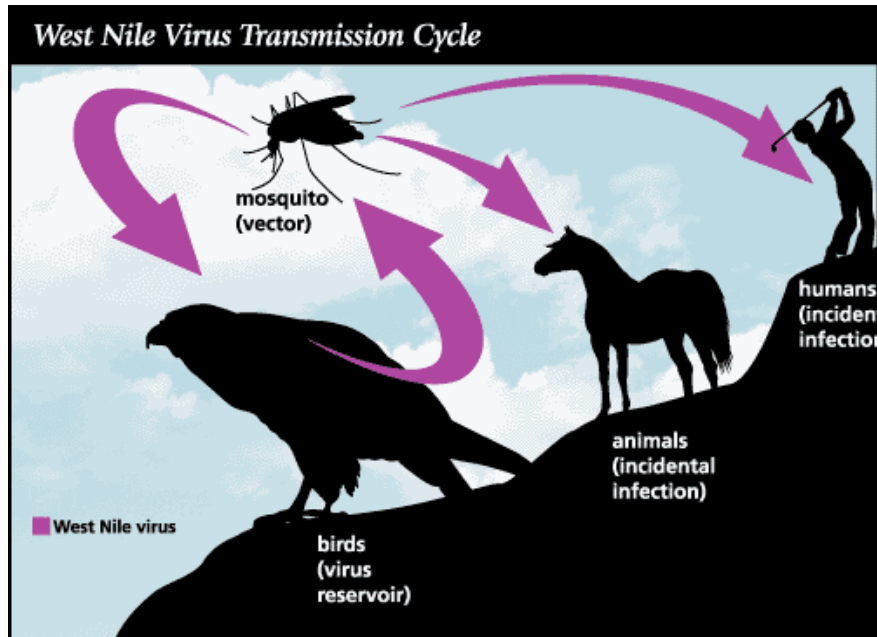
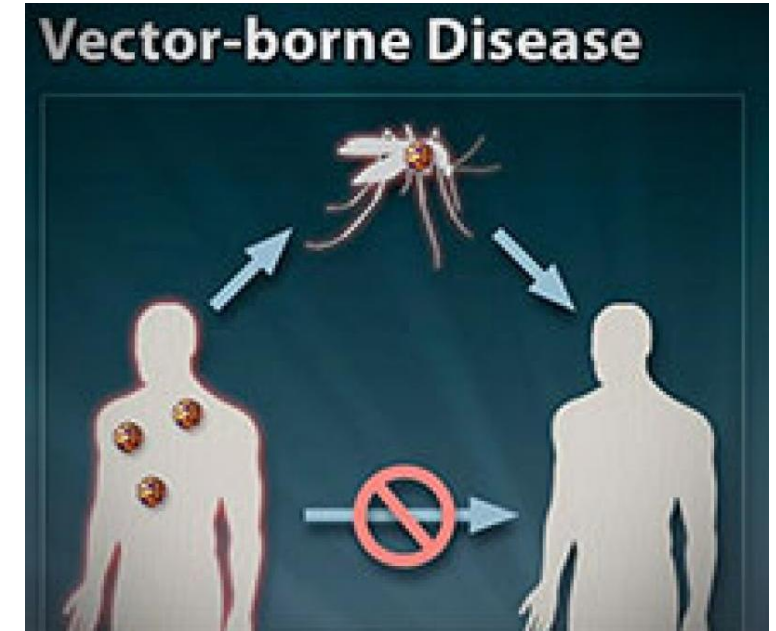
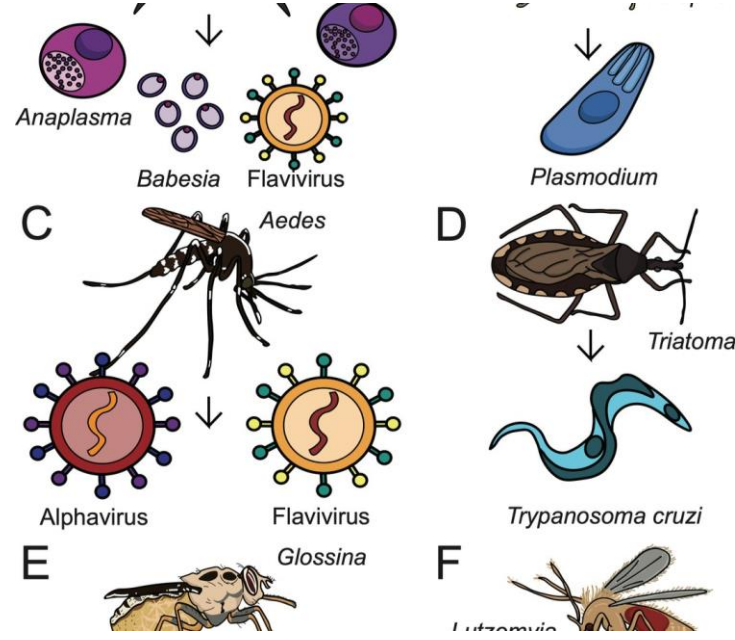
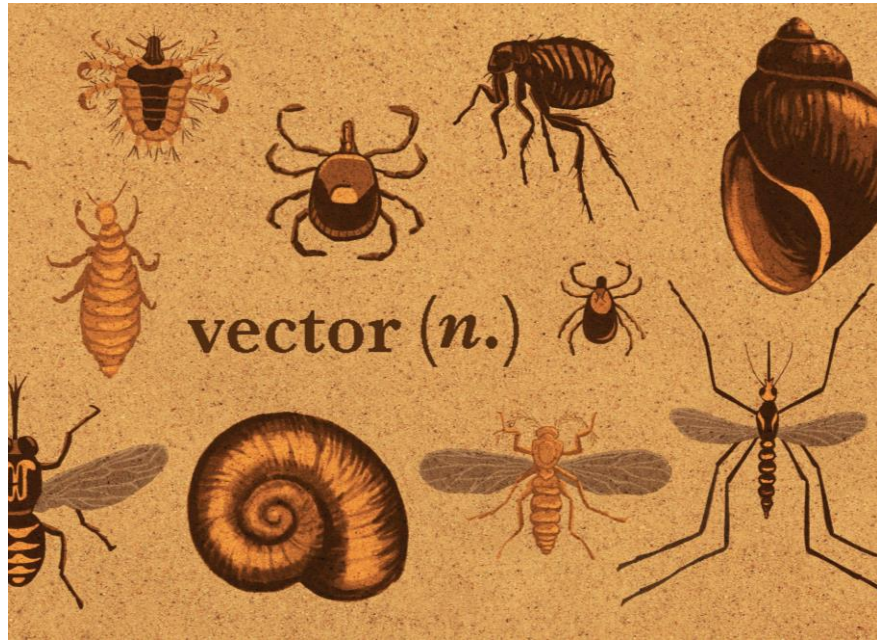


10
Shark

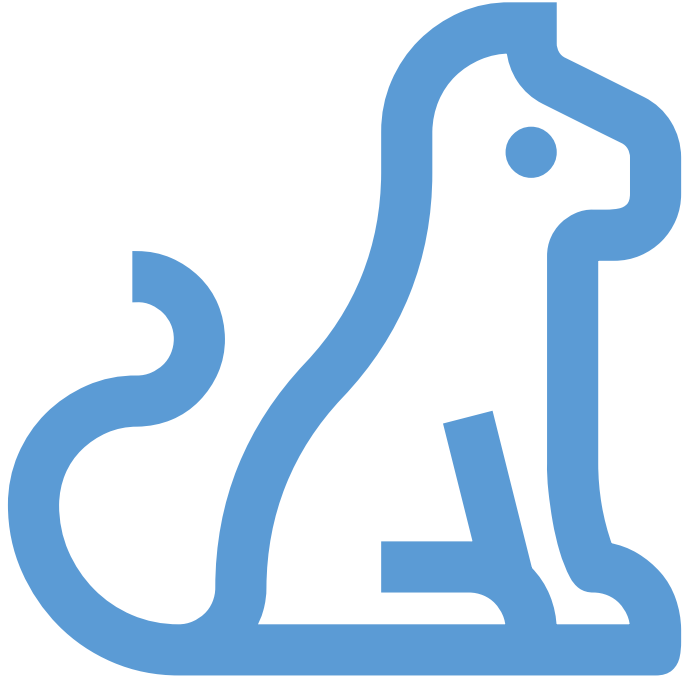


~1 million

Mosquito



vectors



A vector is an organism (most often an arthropod) that transmits an infectious pathogen from an infected human or animal host to an uninfected human.

Malaria
Zika
Dengue
Eastern Equine
West Nile
Chikungunya

Disease	Pathogen	Primary vector(s)	Primary non-human reservoir (competent) hosts
		mosquito	Non-human hosts of minor concern
		<i>Anopheles gambiae</i> and <i>Aedes albopictus</i> mosquitoes	Non-human hosts of minor concern
		<i>Anopheles gambiae</i> and <i>A. albopictus</i> mosquitoes	Non-human primates
		<i>Anopheles gambiae</i> and <i>A. albopictus</i> mosquitoes	Non-human hosts of minor concern
		<i>Anopheles gambiae</i> and <i>A. albopictus</i> mosquitoes	Non-human hosts of minor concern
		mosquito genera	Non-human hosts of minor concern
			Non-human hosts of minor concern
		(black fly)	None
		bug	Mammals
			Rodents, dogs, other mammals
		quitoes	Pigs, birds
		(tsetse fly)	Wild and domestic animals
			White-footed mouse and other small mammals, birds
			Small rodents
		quitoes	Birds

Information sourced from the US Centers for Disease Control and Prevention and World Health Organization.

Nearly 700 million people get a
mosquito-borne illness each
year resulting in greater than
one million deaths.

Caraballo, H., and King, K., Emergency Department Management of Mosquito-Borne Illness: Malaria, Dengue and West Nile, *Emergency Medicine Practice* 16 (5) (2014)



Today....Malaria kills
1,100 people everyday.

- Common
- Treatable if you think of the diagnosis; can be fatal if you do not.

Calibrating the problem: **THINK** malaria

• Average number of **USA** cases per year:

- **Malaria**

1,500

- **West Nile**

2,750

- **Western Equine Encephalitis**

- **Eastern Equine Encephalitis (neuroinvasive)**

8

- **St. Louis Encephalitis**

7

- **LaCrosse Encephalitis (neuroinvasive)**

72

- **Yellow Fever**

- **Japanese encephalitis**

<1

- **Dengue**

300

- **Chikungunya**

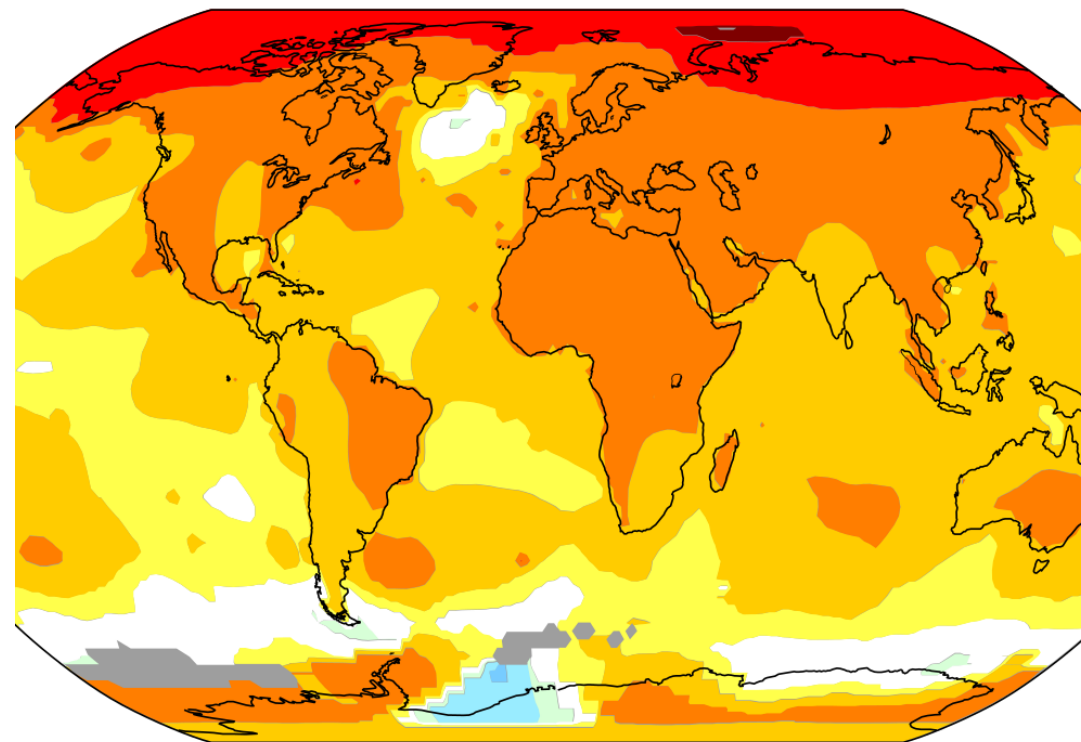
28

- **Zika Virus**

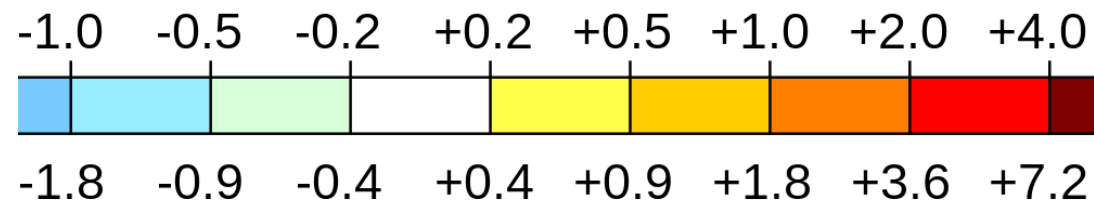
Variable

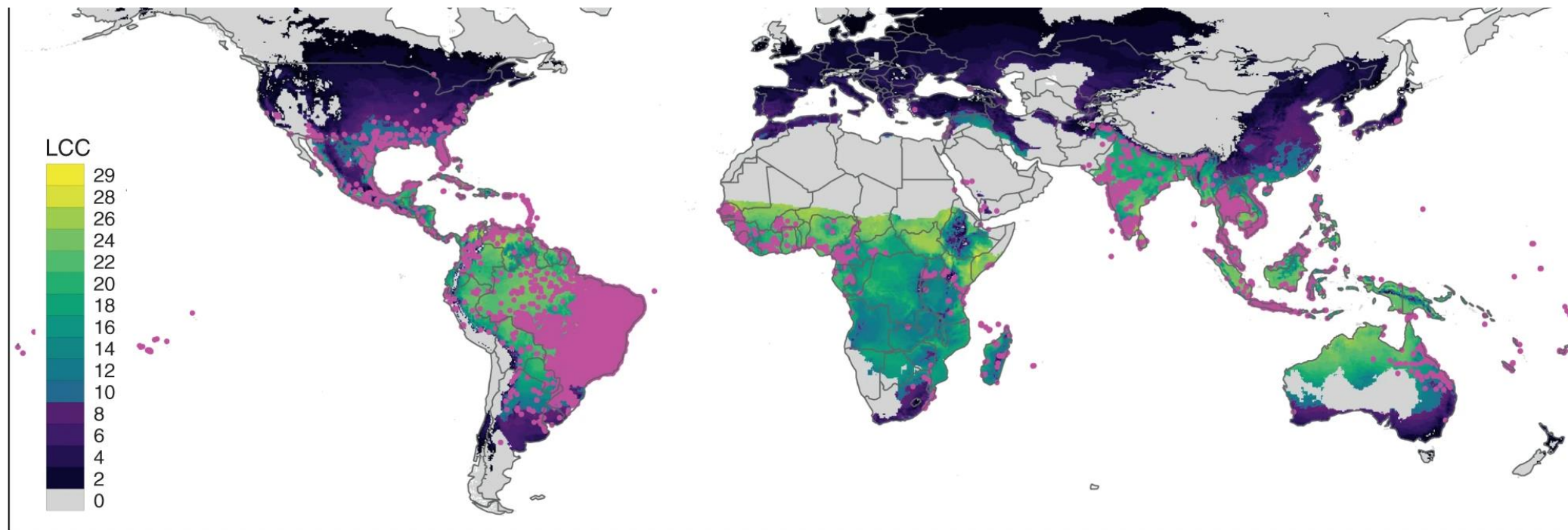


Temperature change in the last 50 years



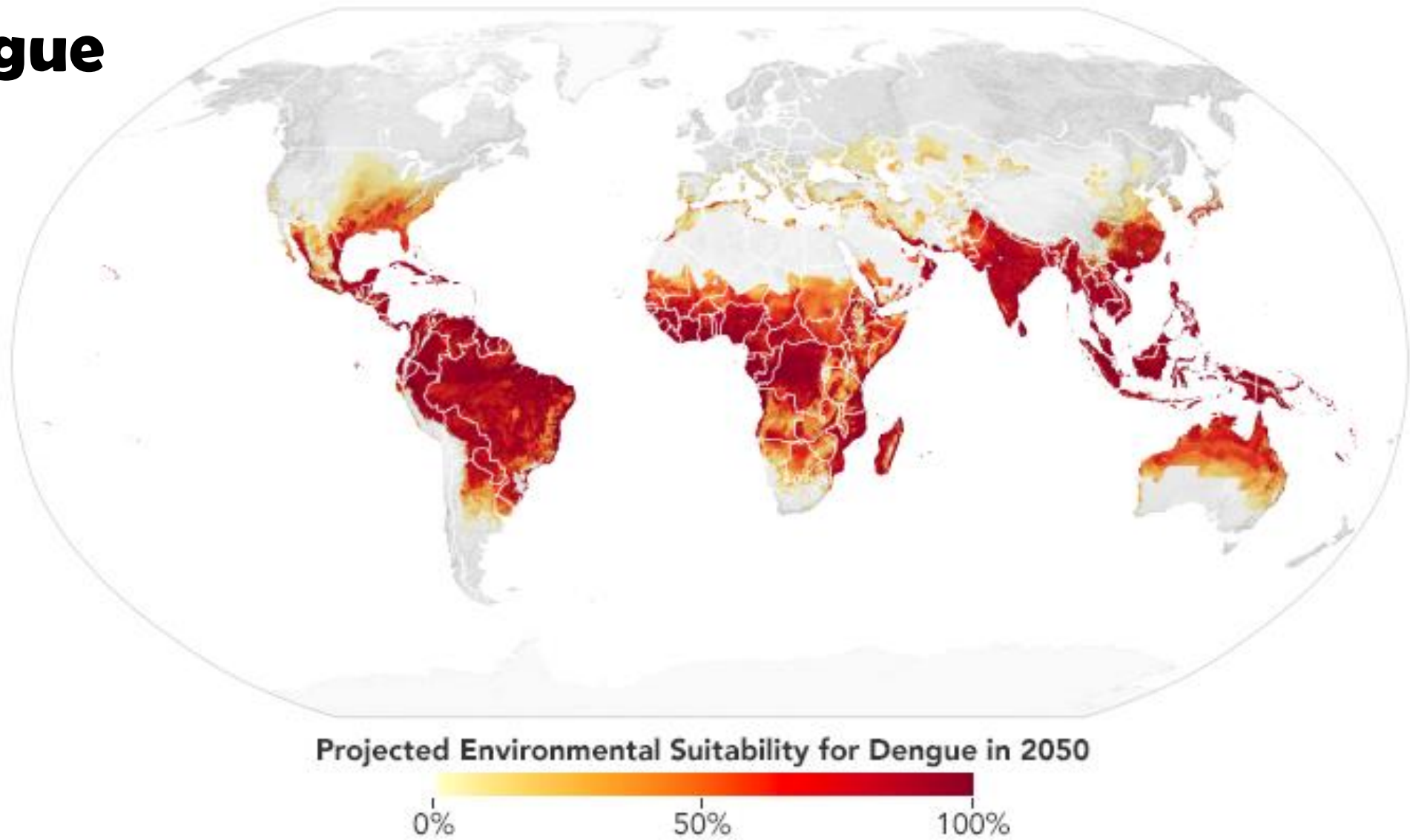
2011-2021 average vs 1956-1976 baseline





A. aegypti

Dengue



THINK mosquito-borne infections

- **Kids with meningoencephalitis**
- **Travel history in kids**
 - With fevers
 - With rashes and who look sick
 - With rashes and joint or muscle pain
 - Who have been in areas where malaria is prevalent




Aedes albopictus: Asian Tiger Mosquito



Only the female bites for blood, which she needs to mature her eggs.



Worldwide distribution of *Aedes albopictus* in 2007
original distribution ■
areas where it has been introduced in the last 30 years ■



**Give
anticipatory
guidance:**
Manage
mosquitoes

WAYS KEEP MOSQUITOES OUT

conditioning

and door screens

gaps in your septic tank

or vents with thin wire mesh

jects holding standing
(planters, vases)

pray in dark spaces
der patio furniture

in areas such as









**New
strategies**



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&

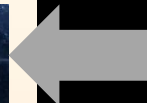
10
Wolf



10
Shark



~1 million
Mosquito



THANK YOU

