

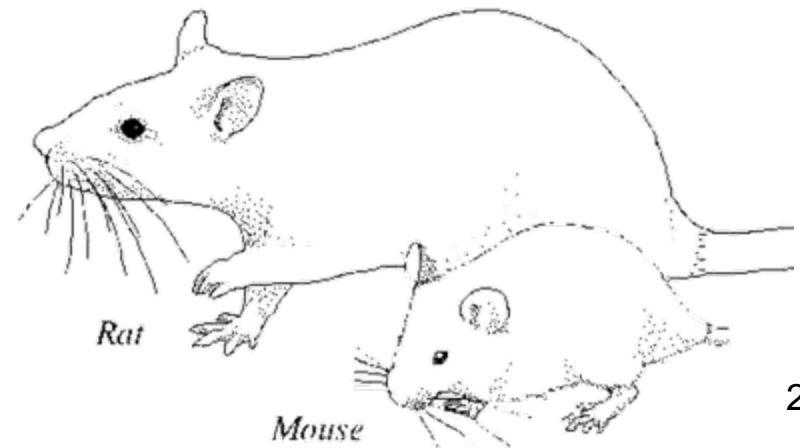
Rodents

A microscopic image of a rodent's body, showing the segmented structure of its abdomen and the detailed anatomy of its legs and feet. The image is rendered in a warm, orange-brown color palette.

Outline

- What rodents are
- What they eat
- Where they live
- How to think like a rodent
- Prevention and control

Also known as...
ratónes y ratas



Rodents are health hazards

- Carry infectious diseases
- May cause asthma attacks
- Bite
- Damage food and property
- Can attract other pests
- Are repulsive



What is a rodent?

A few types of rodents

-  Rats
-  Mice
-  Squirrels
-  Chipmunks
-  Woodchucks

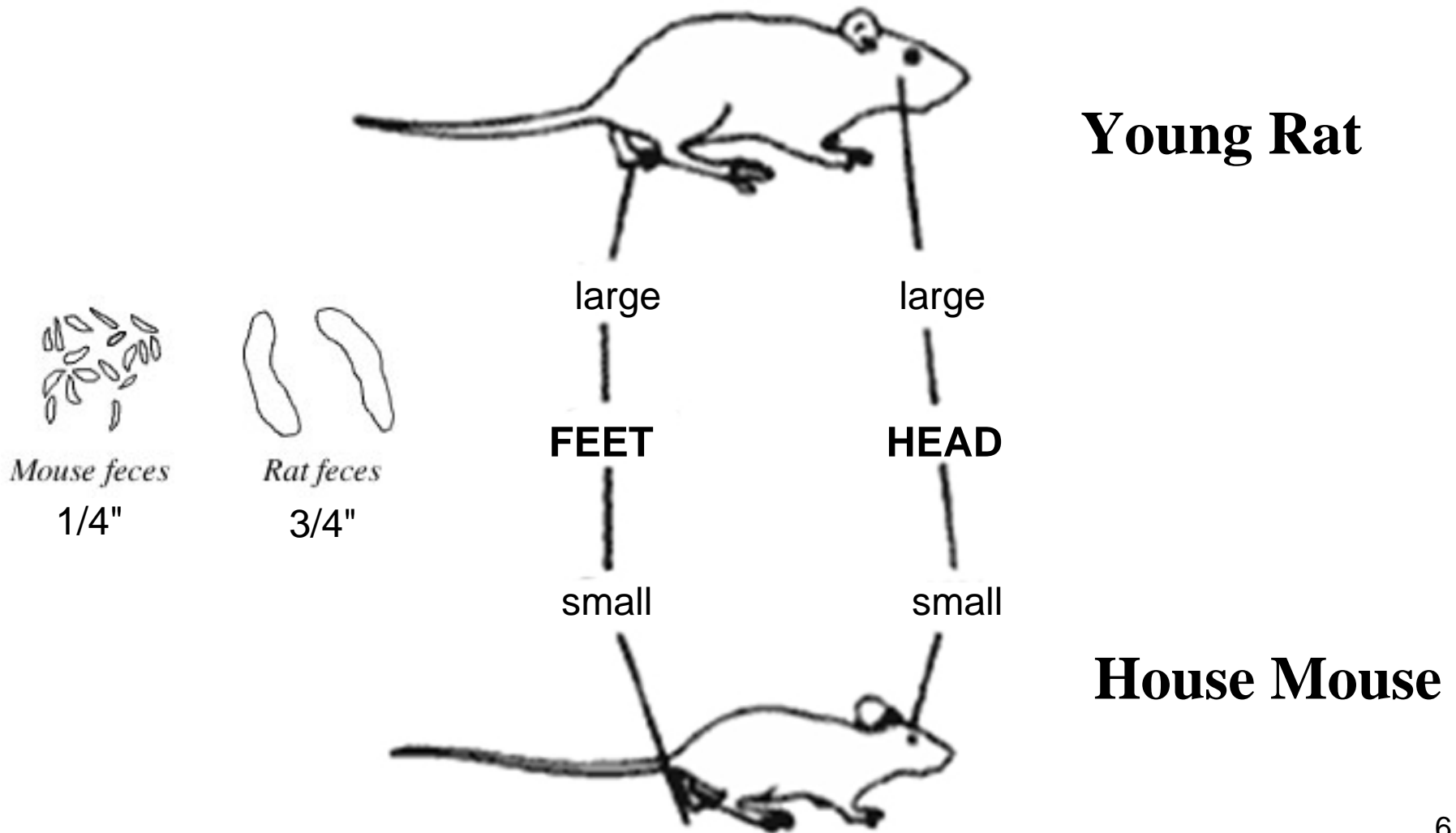
What is a rodent?

Rodents are gnawing animals.
They

- gnaw to wear down their teeth and get where they want to go (can cut anything softer than steel);
- are most active at night;
- make lots of babies fast;
- travel the same paths nightly, staying close to walls.



Rodent identification



Rats

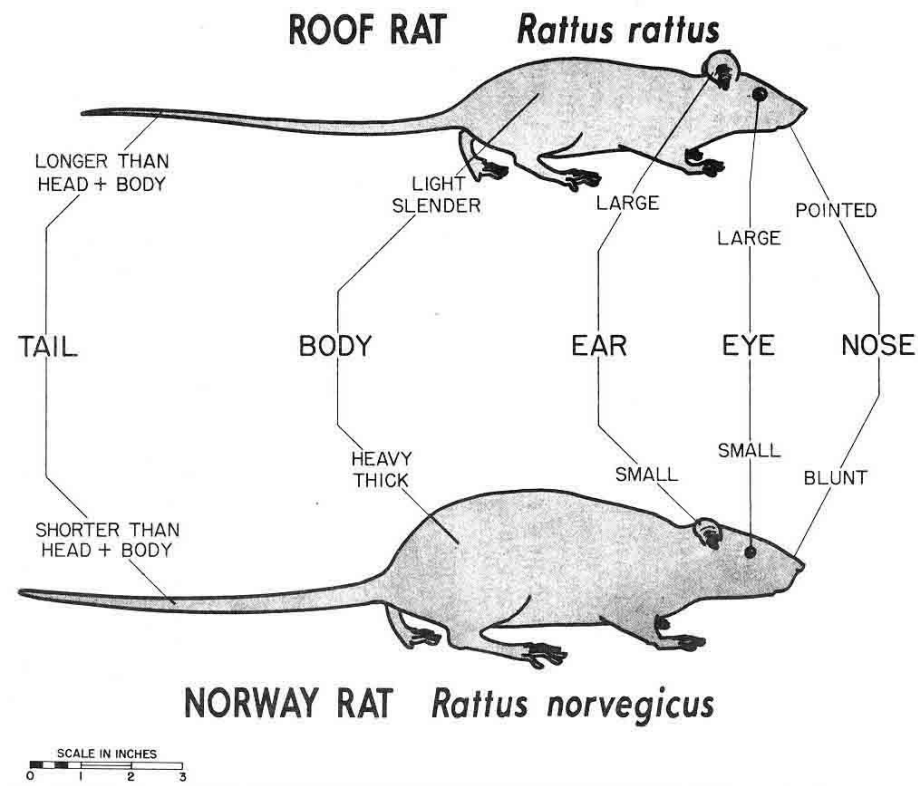
- Will travel 150 feet from their nest
- Usually live outside and come inside for food and water



Norway rat burrow

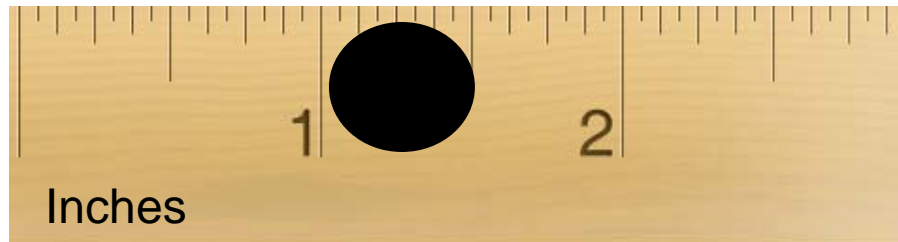
Rodent identification

- Roof rats nest up high.
 - Occur in southern states and along the west coast.
- Norway rats burrow in the ground.
 - Occur throughout the U.S.



Rats

- Need ½-inch opening to enter



- Are very smart, cautious, and afraid of new things
- Need water every day

Mice

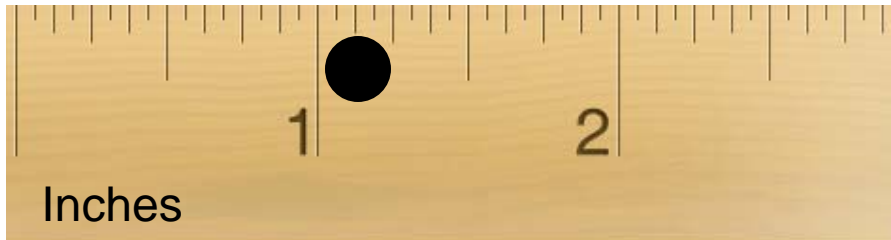
- Breed rapidly
 - A single pair can become an infestation quickly!
 - Take action when evidence of ONE mouse is seen or heard.
- Don't travel far—just 10 feet from their nest



One day old mouse pups

Mice

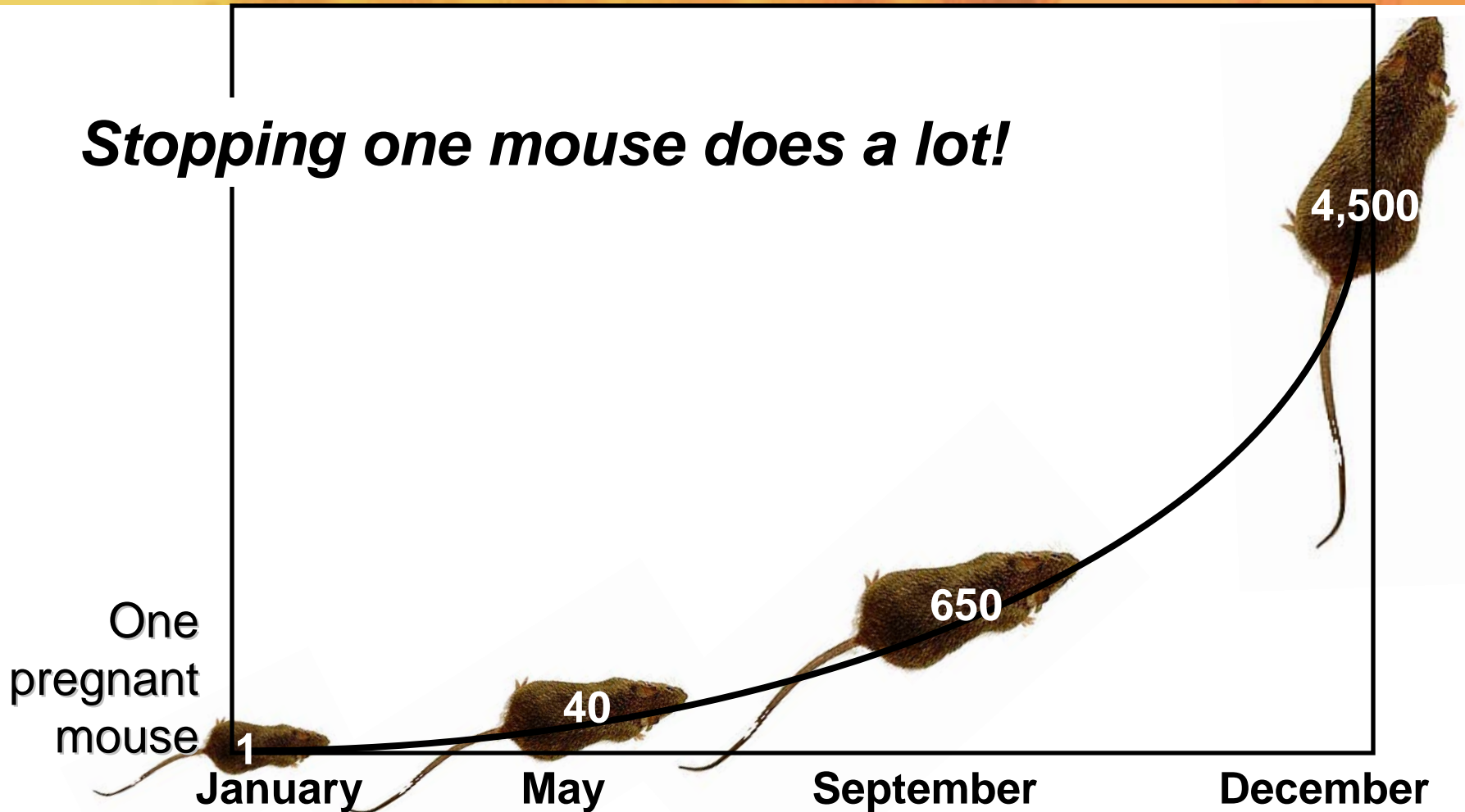
- Mice need a $\frac{1}{4}$ inch opening to enter



- Mice are curious
- Don't need to drink water daily

One mouse, one year...

Stopping one mouse does a lot!



Signs of rodents

- Sightings
- Noise
- Gnaw marks
- Nests
- Rat burrows
- Droppings
- Holes and rub marks
- Indicator pests

Droppings and urine stains



Rodent urine stain in drop ceiling



Mouse droppings by a power strip

Holes and rub marks



Indicator Pests

Found near
dead animals
or trash



Blow Fly



Hide Beetle

Found near
grain or bait
stored in walls



Indian Meal Moth



Grain Beetle

What rodents eat and drink

Rodents eat

- Human and animal food available in the area

Rodents drink

- Rats drink water
- Mice can get the water they need from their food

Where rodents live

- Rats: Outside, but will come in if the place is hospitable.
- Mice: Nest in walls, stored fabric, cars, boxes, or the ceiling.



Rat burrow by a wall



Mouse nest in a hat

Got rodents? Now what?

- There is not a single answer.
- First find out:
 - Rat or mouse?
 - How many?
 - Where?
- Then use solutions that provide:
 - Most effective prevention and control
 - Compatibility with people, pets, and other control measures

Write in the IPM log

- Find out:
 - Rat or mouse?
 - How many?
 - Where?
- Record:
 - Date
 - Detailed observations
 - Action taken



Prevention and control: Dumpsters

- Dumpsters should be
 - free of holes
 - covered
 - placed on cement
- Screen drain holes
- Empty dumpsters regularly; they should never overflow



Prevention and control: Sanitation

Eliminate harborage, food, and water



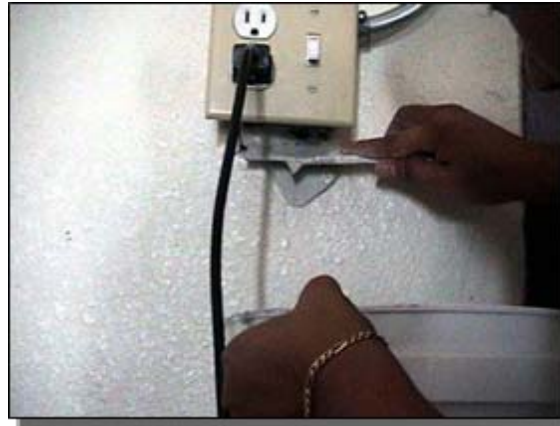
Clutter in a corner

Prevention and control: Exclusion

For a hole, crack, or gap...



Stuff it



Seal it



Check it often

Prevention and control: Traps

- Effective and reusable
- More ARE better
- Check often
- **Placement is key**



Trap jumped from the wall when it snapped.

Trap placement is key

Place the trap against the wall where rodents travel. (The edge of the trap must touch the wall.)



Trap set correctly so it snaps towards the wall

How to trap rodents

Bait with what they're eating or using to nest.

Mice

1. Bait & set many traps
- 6 traps for each mouse
- At least 3' apart
- Set immediately

Rats

1. Place many traps
2. Bait and leave UNSET until rats are readily feeding
3. Bait and set all traps

Prevention and control: Targeted chemical use

- The label is the law.
- All rodenticide labels require tamper-resistant stations.
- Read the label on both the station and the bait.
- The bait station should be secured, locked, and labeled.
- If the rodents are inside, consider using traps.



An opened bait station

A review of effective IPM tools



Sanitation

Exclusion

Traps

Rodenticides

How to eliminate a burrow

- Do not use loose rodenticide bait indoors. Rodents may carry the bait and put it where kids can get at it.
- If using loose bait outdoors, prevent rats from kicking out the bait:
 1. Use treated loose seed bait.
 2. Open the packets.
 3. Use a funnel to pour seeds into the burrow beyond the opening.
 4. A week after baiting, burrows that show no sign of fresh activity can be filled in.

➤ DO NOT:

Stuff packets into holes

Fill in burrows until rats are gone





Questions?