

Presentation Prepared by Kathy Nash MSU-ES Support Services AV Reference Room Manager/Information & Graphics Technician





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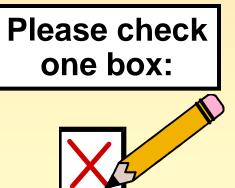
- **Spiney Elm Caterpillar (SEC)**
- Variable Oak Leaf Caterpillar (VOLC)
- Fall Webworm (FW)
- **GM Caterpillar**

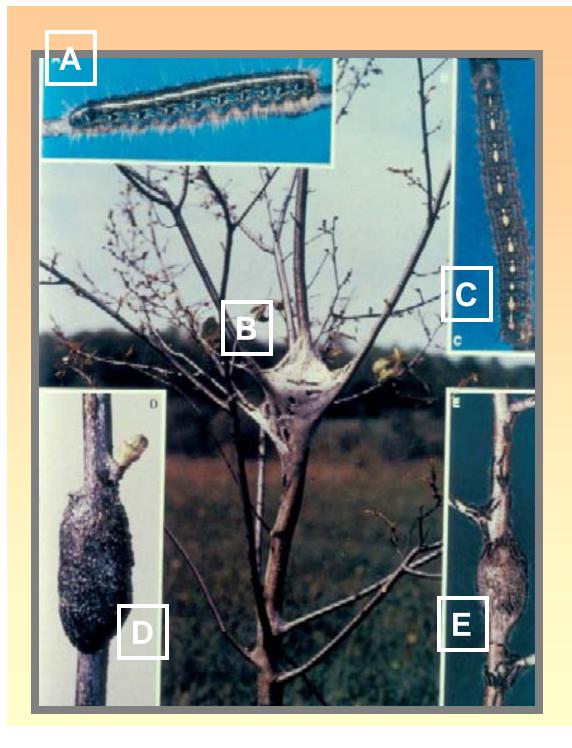






- **GM** Caterpillar
 - Variable Oak Leaf Caterpillar (VOLC)
 - Eastern Tent Caterpillar (ETC)
 - **Spiney Elm Caterpillar (SEC)**

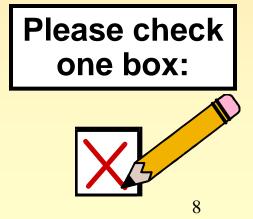


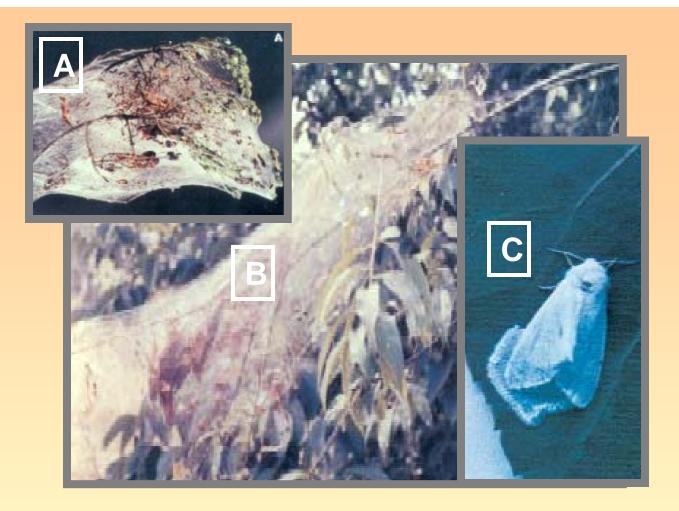


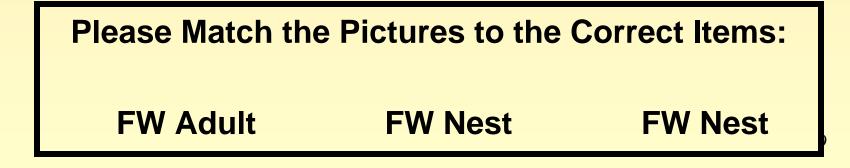
Please Match the Pictures to the Correct Items: **ETC Nest** Egg Mass Caterpillar Caterpillar



- **GM Caterpillar**
- Fall Webworm (FW)
 - **Eastern Tent Caterpillar (ETC)**
- **Spiney Elm Caterpillar (SEC)**

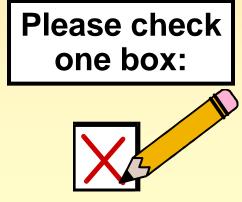






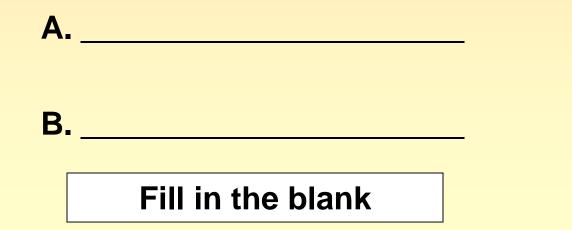


- **Periodic Cicada**
- **Mourning Cloak Butterfly**
- **Tussock Moths**
- **Gypsy Moth (GM)**



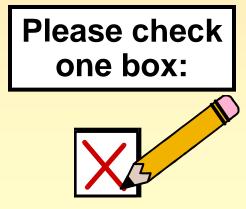


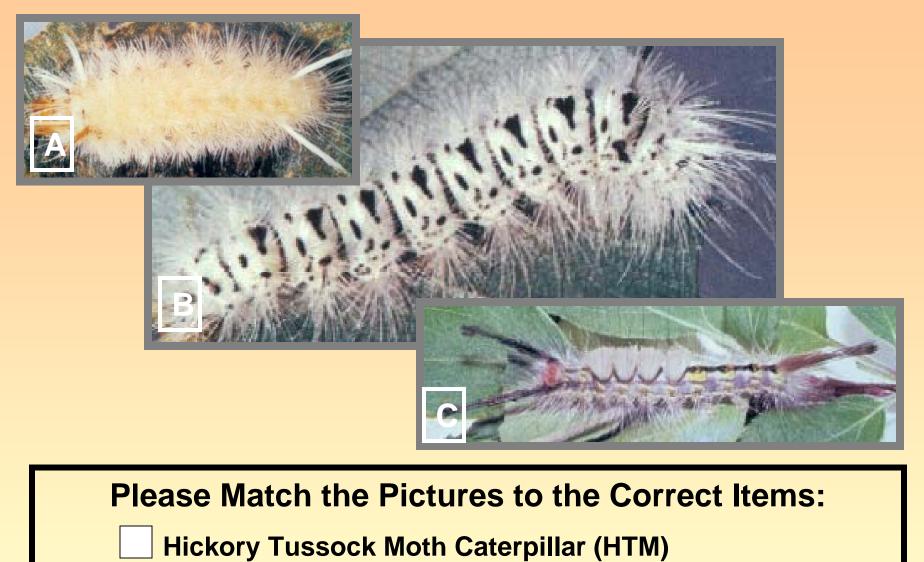
What are the correct names for the above insects:





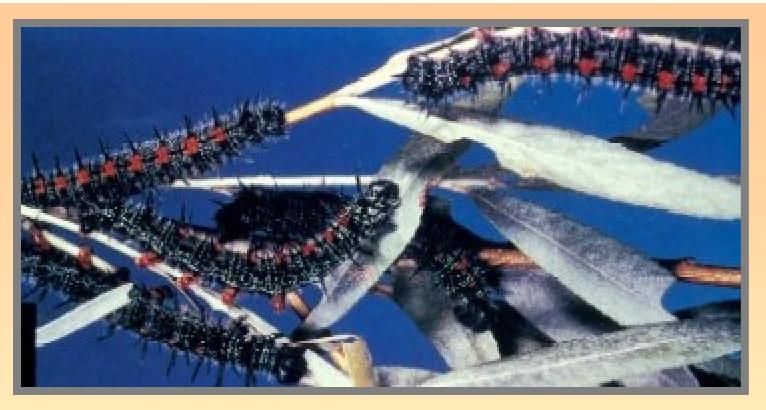
- **Periodic Cicada Caterpillars**
- **Elm Caterpillars**
- **Tussock Moth Caterpillars**
- **Gypsy Moth Caterpillars**



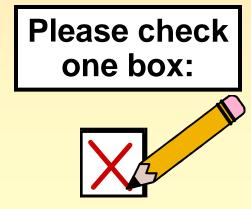


Sycamore Tussock Moth Caterpillar

Western Tussock Moth Caterpillar

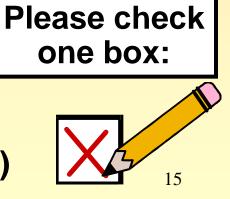


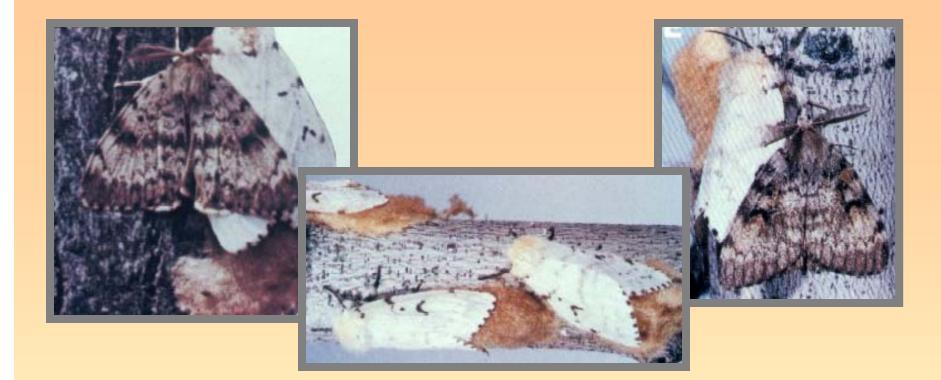
- **Spiney Elm Caterpillars (SEC)**
- Elm Caterpillars
- **Tussock Moth Caterpillars**
- **Gypsy Moth Caterpillars**



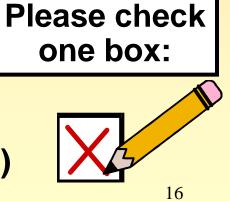


- Tussock Moth
- **Gypsy Moth (GM)**
- Periodic Cicada
 - SEC Adult (Mourning Cloak Butterfly)



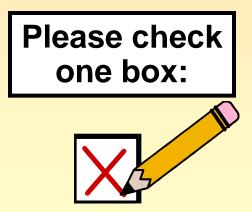


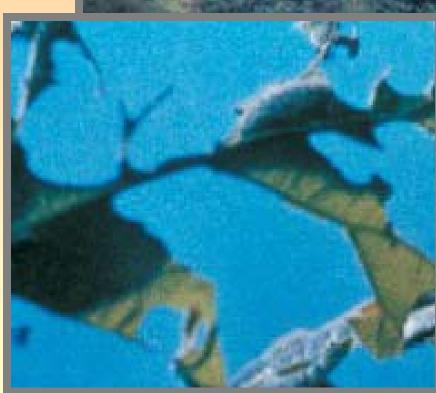
- Tussock Moth
- **Gypsy Moth (GM)**
- **Periodic Cicada**
 - SEC Adult (Mourning Cloak Butterfly)





- **Gypsy Moth (GM) Caterpillar**
- Spiney Elm Caterpillar (SEC)
 - **FW Caterpillar (FW)**
- **Tussock Moth Caterpillar**



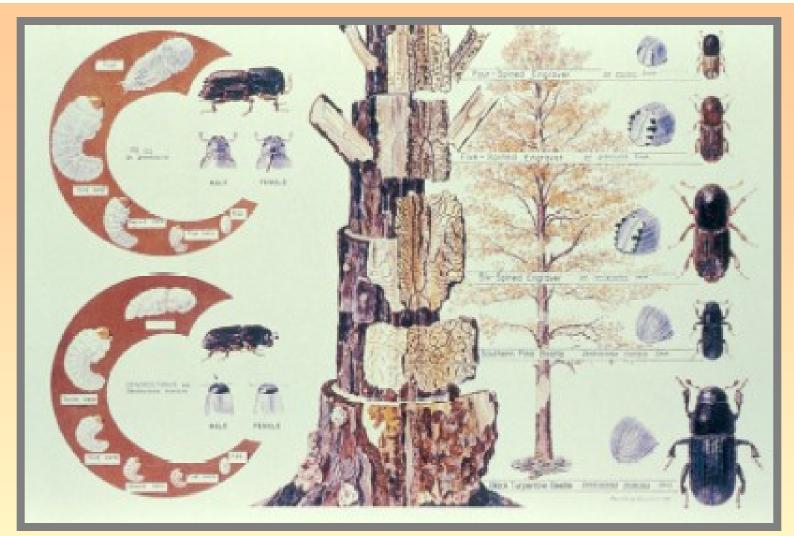




The above pictures are the work of what type of insect: Gypsy Moth (GM) Spiney Elm Caterpillar (SEC) FW Caterpillar (FW)

Tussock Moth Caterpillar

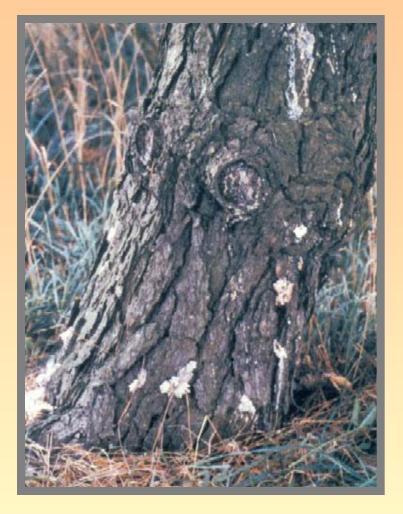




This is a picture of the life cycle of what kind of beetles?



This is a picture of an adult Beetle





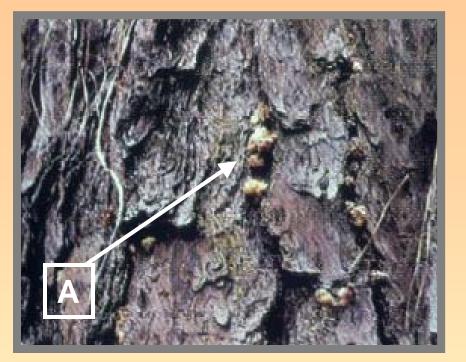
This is an example of a

Fill in the blank

entry into host tree



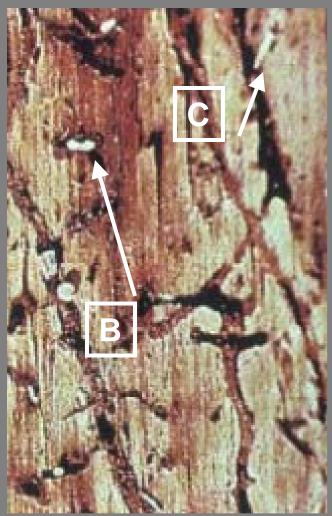
This is a picture of what kind of adult beetle?



Please identify the labeled items in the pictures:



B. _____ C. _____



Fill in the blank

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This is a picture of an adult _____ Beetle.



This is a picture of



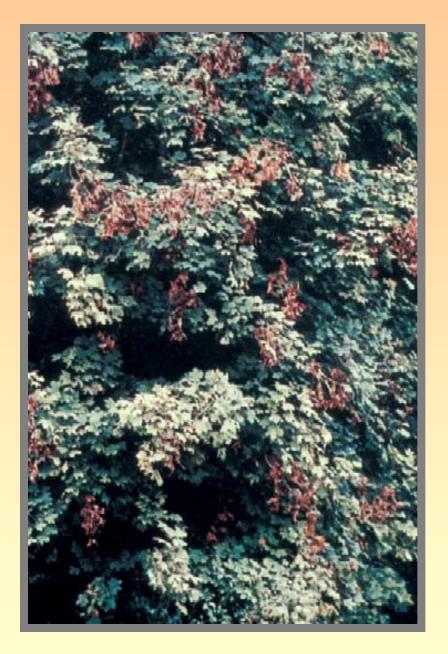
This is a picture of a



- Gypsy Moth (GM)
- **Periodic Cicada**
- White Oak Borer (WOB)
- Tussock Moth

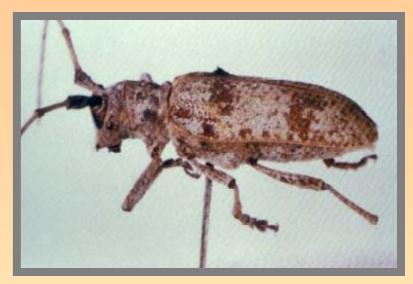






Injury to this Maple has been caused by what insect:





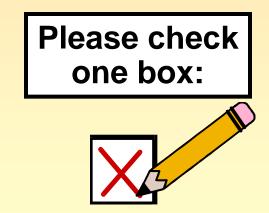


Southern Pine Beetle (SPB)

IPS Beetle



Black Turpentine Beetle

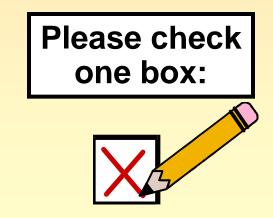


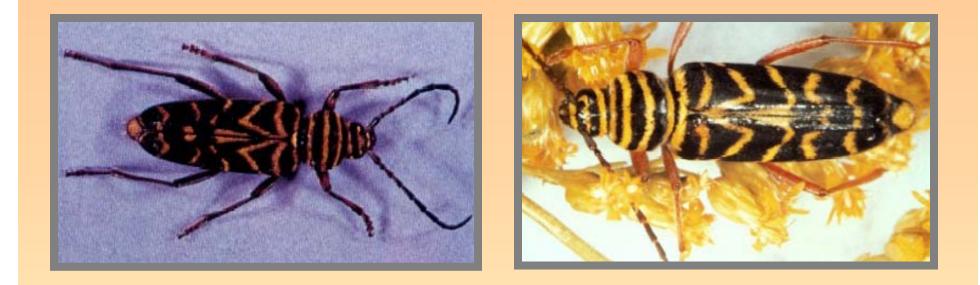




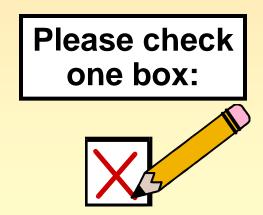
The above injuries are caused by what type of insect:

- - **Southern Pine Beetle (SPB)**
 - **IPS Beetle**
 - White Oak Borer (WOB)
 - **Black Turpentine Beetle**

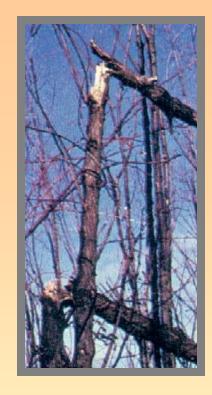




- **Southern Pine Beetle (SPB)**
- **IPS Beetle**
 - White Oak Borer (WOB)
- Locust Borer (LB)



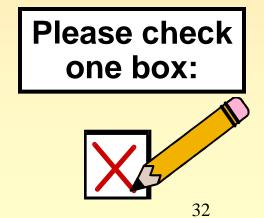




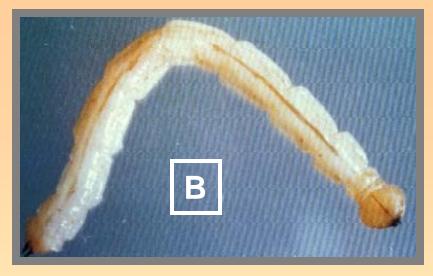


The above injuries are caused by what type of insect:

- **Southern Pine Beetle (SPB)**
- **IPS Beetle**
- White Oak Borer (WOB)
- Locust Borer (LB)



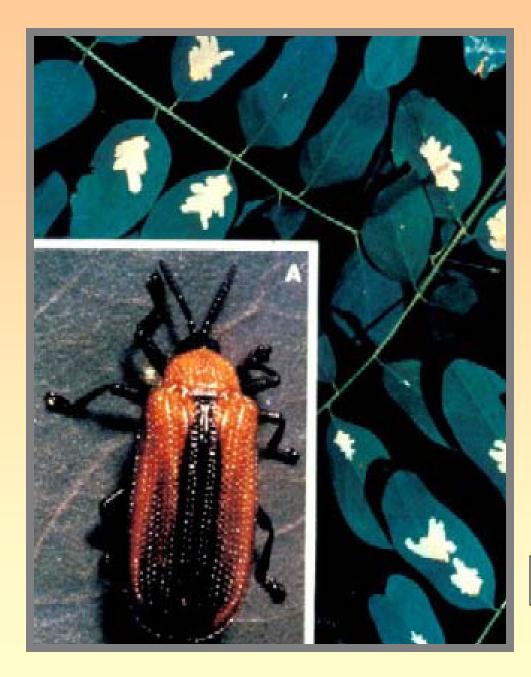






Please identify the pictures:





This is an example of an adult

and leaf injury



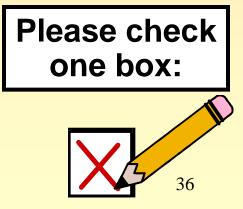
This is an example of an adult







- **Southern Pine Beetle (SPB)**
- **IPS Beetle**
- **Birch Leafminer (BL)**
- Locust Borer (LB)





This is the larvae of what type of insect:
Southern Pine Beetle (SPB)
IPS Beetle
Birch Leafminer (BL)
Locust Borer (LB)



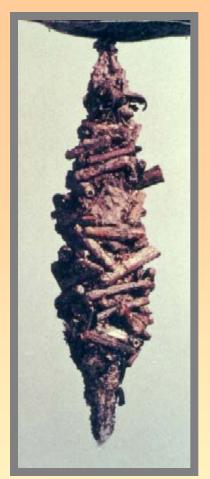
This damage is caused by what type of insect:

- **Southern Pine Beetle (SPB)**
- **IPS Beetle**
- Birch Leafminer (BL)
- **Locust Borer (LB)**





These are examples of:



Please check one box: **Southern Pine Beetle (SPB)**

IPS Beetle

Bagworm Pupal Cases and Pupa

Locust Borer (LB)

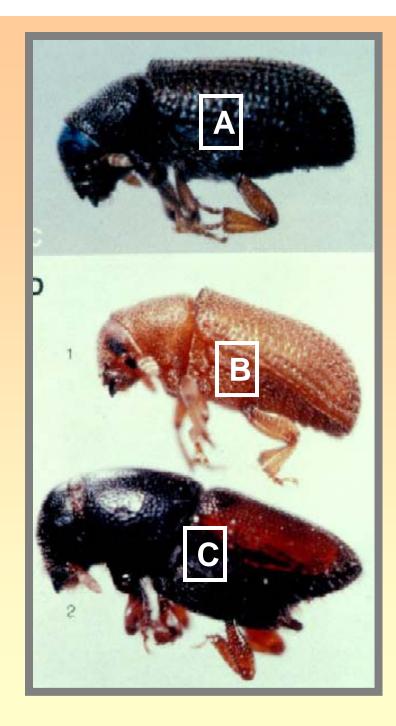




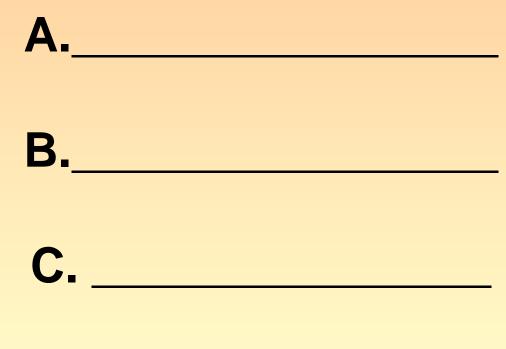
These are examples of:

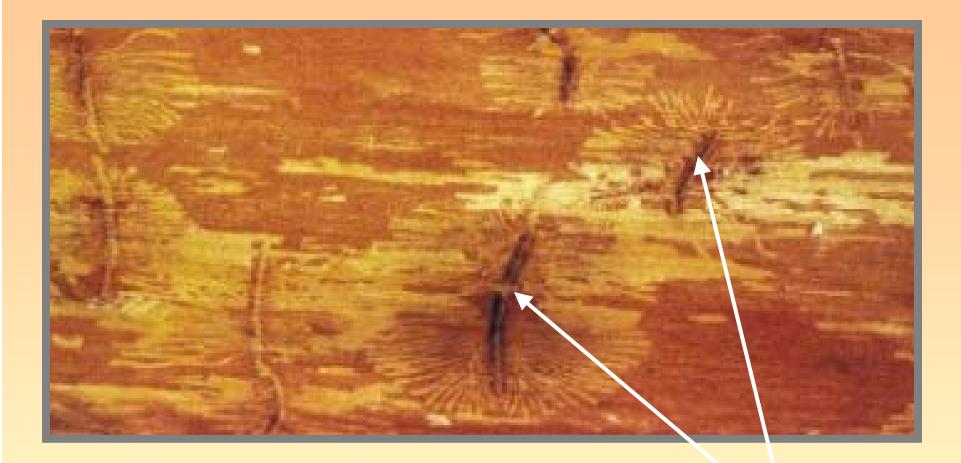
Southern Pine Beetle (SPB)
IPS Beetle
Types of Elm Bark Beetles
Locust Borer (LB)





Please identify these beetles:



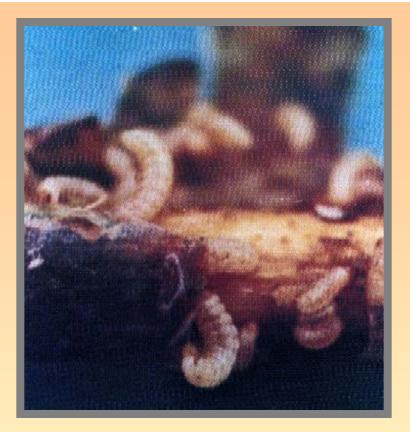


These are brood galleries of:



- **Southern Pine Beetle (SPB)**
 - **IPS Beetle**
 - White Pine Weevil (WPW)
 - Locust Borer (LB)





- **Southern Pine Beetle (SPB)**
 - **IPS Beetle**
 - White Pine Weevil (WPW)
 - Locust Borer (LB)





The above injury/damage is caused by what insect?

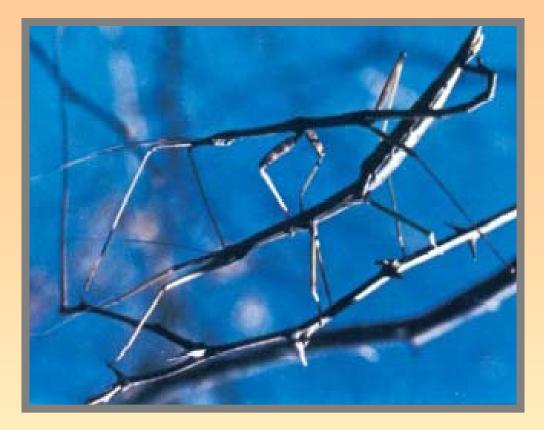
- Southern Pine Beetle (SPB)
- **IPS Beetle**
- White Pine Weevil (WPW)
- Locust Borer (LB)





- Southern Pine Beetle (SPB)
- Pales Weevil (PW)
- White Pine Weevil (WPW)
- Locust Borer (LB)





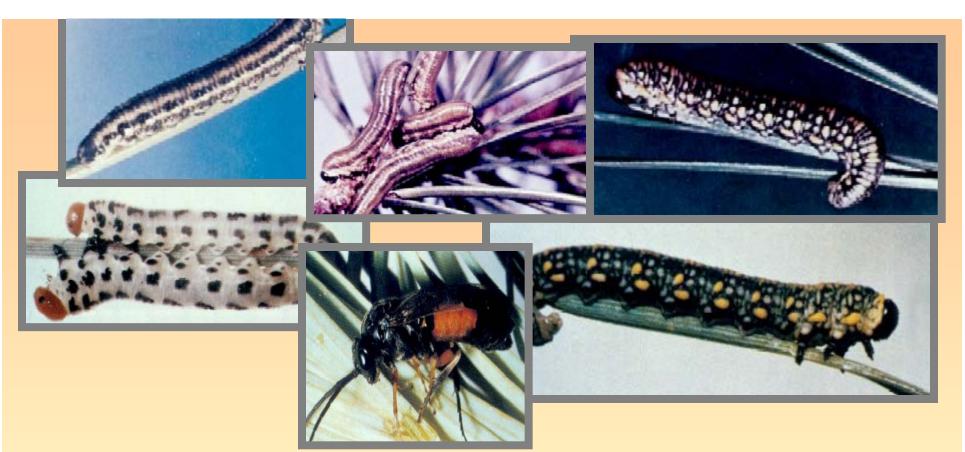
- Slug Oak Sawfly (SOS)
 - Pales Weevil (PW)
- **Texas Leaf Cutting Ant**
- Walking Stick (WS)





- Slug Oak Sawfly (SOS)
 - Adult Larch Sawfly
- **Texas Leaf Cutting Ant**
- Walking Stick (WS)





Slug Oak Sawfly (SOS)
 Adult Larch Sawfly
 Conifer Sawflies (CS)
 Walking Stick (WS)



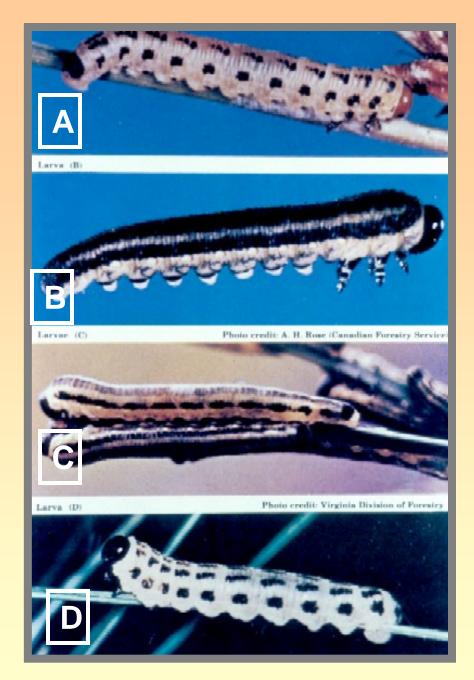


Identify the examples of CS larvae:

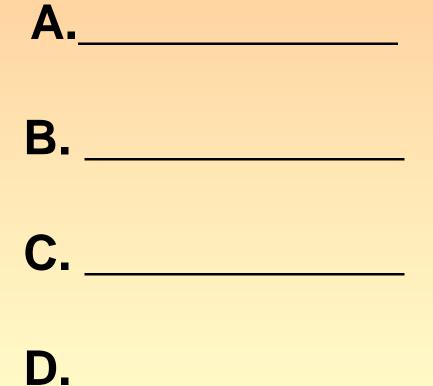
Α._

Β.

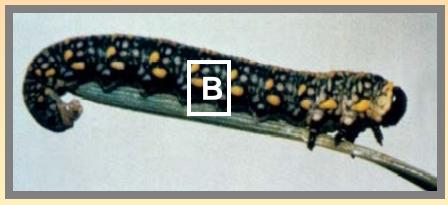
С.____

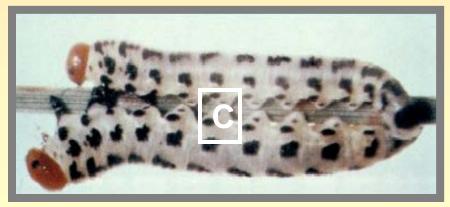


Identify the examples of CS larvae:

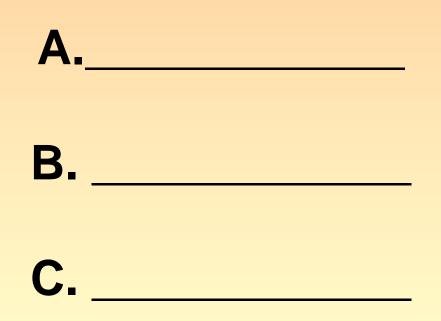








Identify the examples of CS larvae:





The above damage/injury is caused by what type of insect:

- Slug Oak Sawfly (SOS)
 - Adult Larch Sawfly
 - **Texas Leaf Cutting Ant**
 - **Walking Stick (WS)**



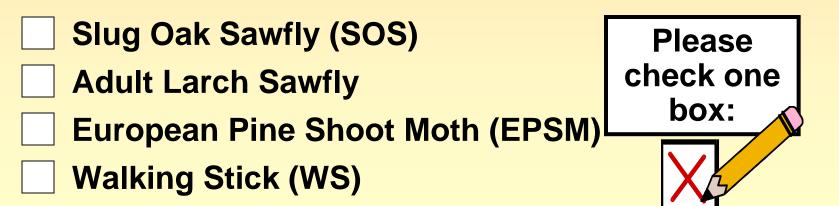


The above damage/injury is caused by what type of insect: (note larvae in circle)

- **Slug Oak Sawfly (SOS)**
- Adult Larch Sawfly
- **Redheaded Pine Sawfly**
- Walking Stick (WS)

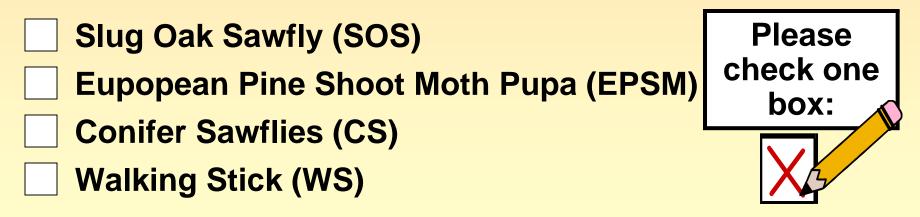




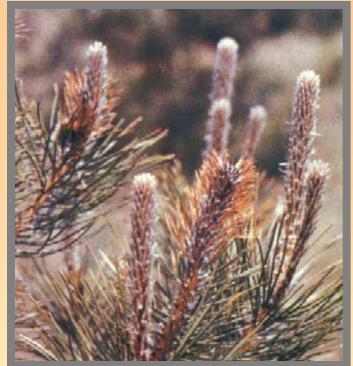


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The above damage/injury is caused by what type of insect:

Slug Oak Sawfly (SOS)

European Pine Shoot Moth (EPSM)

Redheaded Pine Sawfly

Walking Stick (WS)



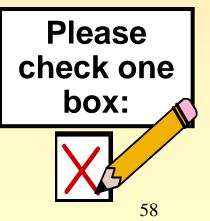


Pitch accumulation where

is feeding

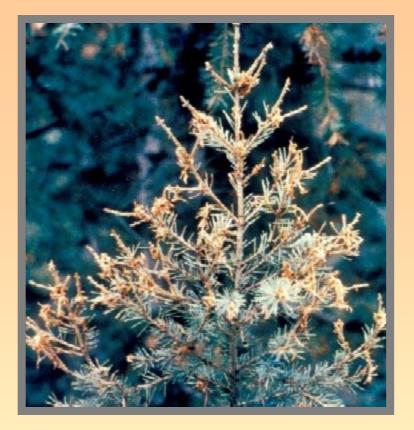


- Slug Oak Sawfly (SOS) **Eupopean Pine Shoot Moth Pupa (EPSM) Spruce Budworm (SB) (adult female)**
 - Walking Stick (WS)





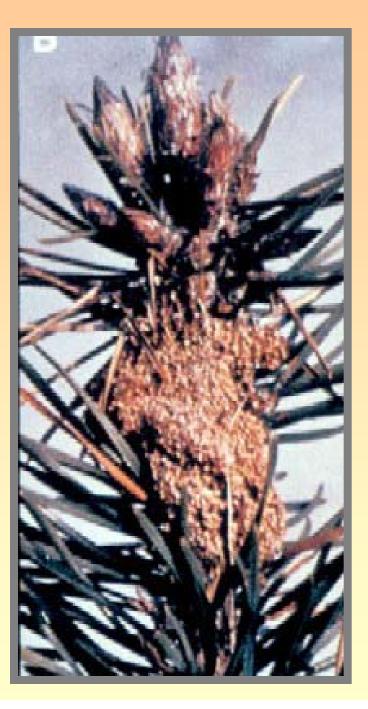
Slug Oak Sawfly (SOS)
 Eupopean Pine Shoot Moth Pupa (EPSM)
 Spruce Budworm (SB) (larvae)
 Walking Stick (WS)



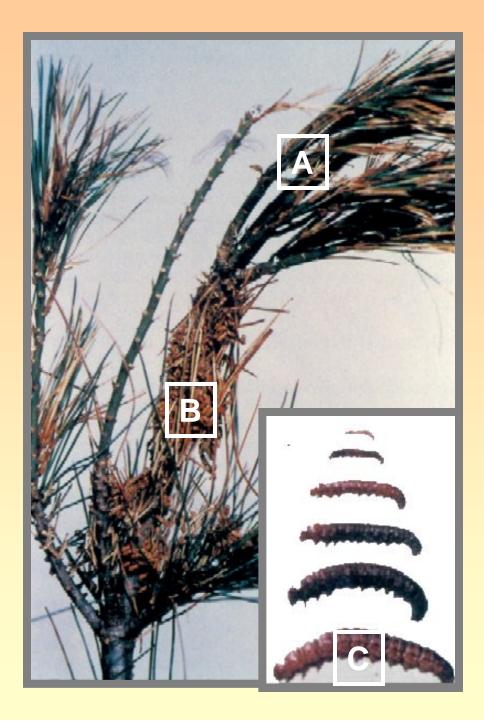
The above damage/injury is caused by what type of insect:

- Slug Oak Sawfly (SOS)
 - Spruce Budworm (SB)
 - **Redheaded Pine Sawfly**
 - Walking Stick (WS)

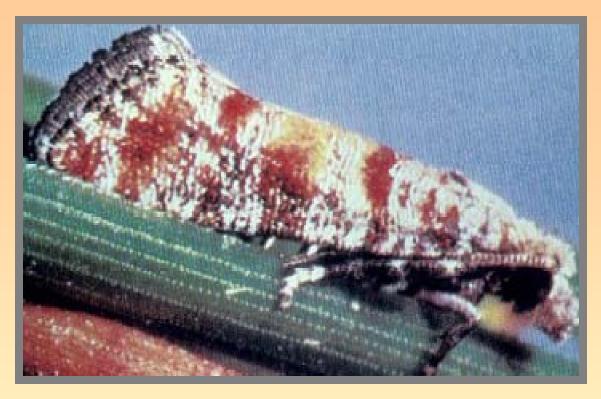




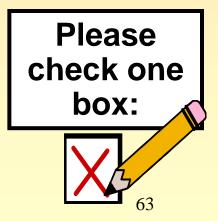
This is the nest of what kind of insect?



The picture to the left shows Pine Webworm (PW) A._____ B._____ C.



- Slug Oak Sawfly (SOS)
 - **Eupopean Pine Shoot Moth Pupa (EPSM)**
 - Spruce Budworm (SB) (larvae)
 - Nantucket Pine Tip Moth (NPTM) adult





The above damage/injury is caused by what type of insect:

- Slug Oak Sawfly (SOS)
- Nantucket Pine Tip Moth (NPTM)
- **Redheaded Pine Sawfly**
- Walking Stick (WS)



