

Thousand Cankers Disease, *Geosmithia morbida*



Clockwise from top left: early flagging symptoms on *Juglans nigra*. *Juglans nigra* showing more advanced dieback. Bark removed showing walnut twig beetle galleries and coalescing cankers. *Juglans nigra* branch with walnut twig beetle entrance and exit holes.



Clockwise from top left: adult walnut twig beetle, *Pityophthorus juglandis*, in gallery on black walnut. *Pityophthorus juglandis* adult. *Pityophthorus juglandis*, walnut twig beetle larva in gallery. Adult walnut twig beetles with penny for scale. *For more information visit www.npdn.org/first_detector*