

Interactive 3D PDF

for

Three-dimensional reconstruction of a whole insect reveals its phloem sap-sucking mechanism at nano-resolution

Xin-Qiu Wang#, Jian-Sheng Guo#, Dan-Ting Li, Yang Yu, Jaco Hagoort, Bernard Moussian, Chuan-Xi Zhang*

Instructions on the use of this interactive 3D PDF

3D interaction is available on MS Windows or Mac OS systems, using Adobe Acrobat or Adobe Acrobat Reader.

- ★ Click on the object to activate the interaction with the object.
- ★ Click on the view buttons in the left panel to display preset views.
- ★ Click on the structures in the 3D model to show the names.
- ★ Click on the buttons in the lower panel to show, hide or make selected structures transparent.

show

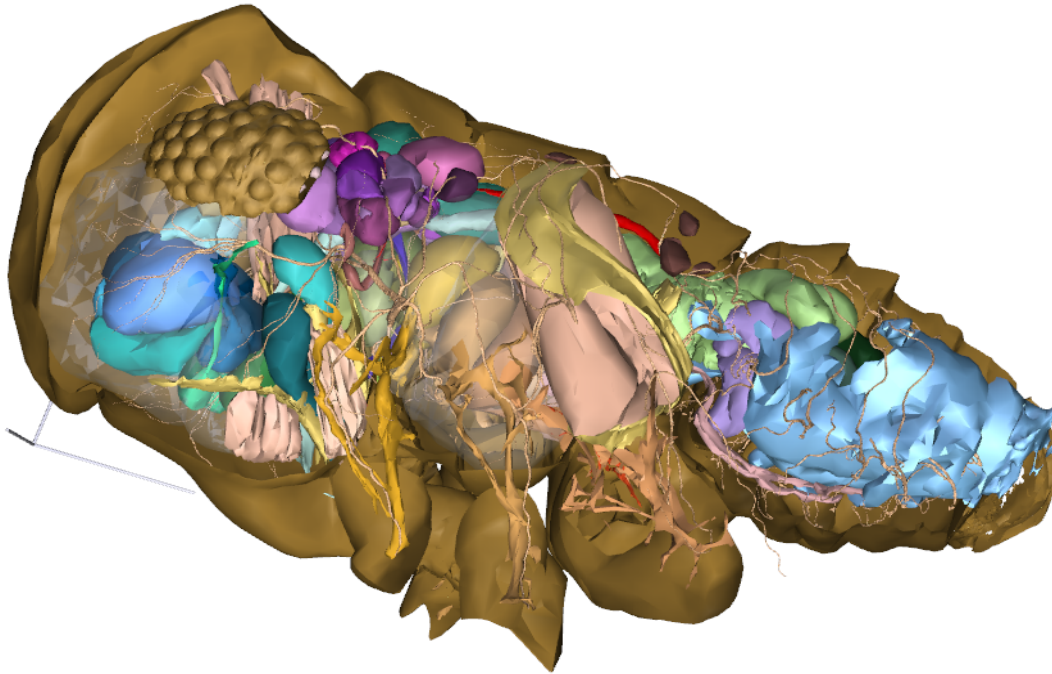
transparent

hide

Interaction tools in 3D toolbar enable rotation and resizing of the 3D object.

- ★ Rotate: Hold left mouse button and move mouse.
- ★ Zoom: Scroll mouse wheel.
- ★ Pan: Hold left and right mouse buttons and move mouse.

Internal structure of the brown planthopper, *Nilaparvata lugens*



Lateral view

Central nervous system

Cephalic endoskeleton and muscles

Mouthpart

Alimentary canal

Salivary gland

Tracheal system

Symbionts

Four-way tracheal ring

**click on the object to active it*