
Figures and figure supplements

Brood care in a 100-million-year-old scale insect

Bo Wang, et al.

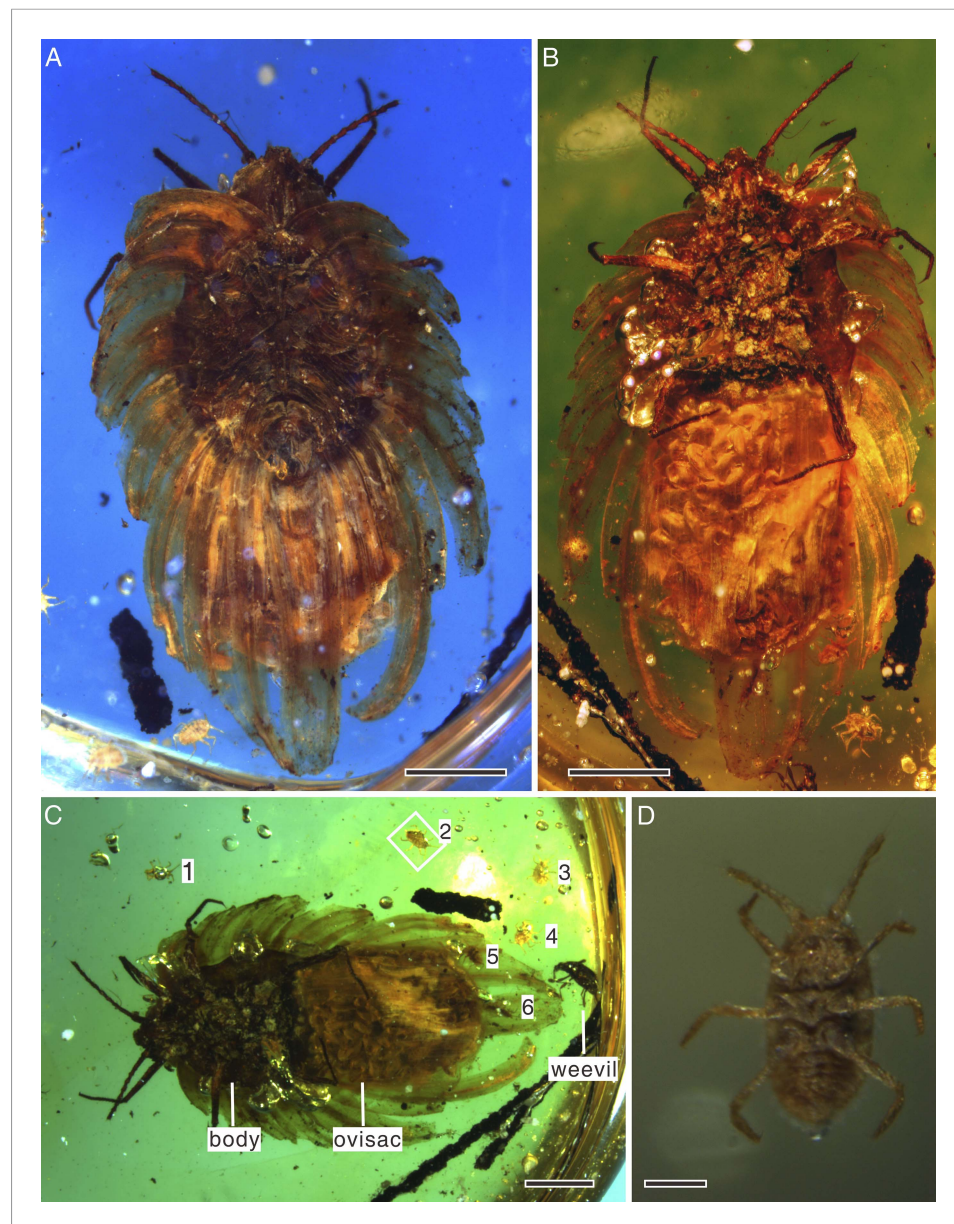


Figure 1. *Wathondara kotejai* gen. et sp. nov. Simon, Szwedo and Xia from mid-Cretaceous Burmese amber. (A) Habitus in dorsal view, stacked image with a blue filter. (B) Habitus in ventral view, stacked image with a green filter. (C) Habitus in ventral view, stacked image with a green filter. Note the weevil under the adult. The numbers 1–6 represent six first-instar nymphs. (D) Enlargement of a nymph in (C). Scale bars of (A, B and C) represent 1 mm; scale bar of (D) represents 0.1 mm.

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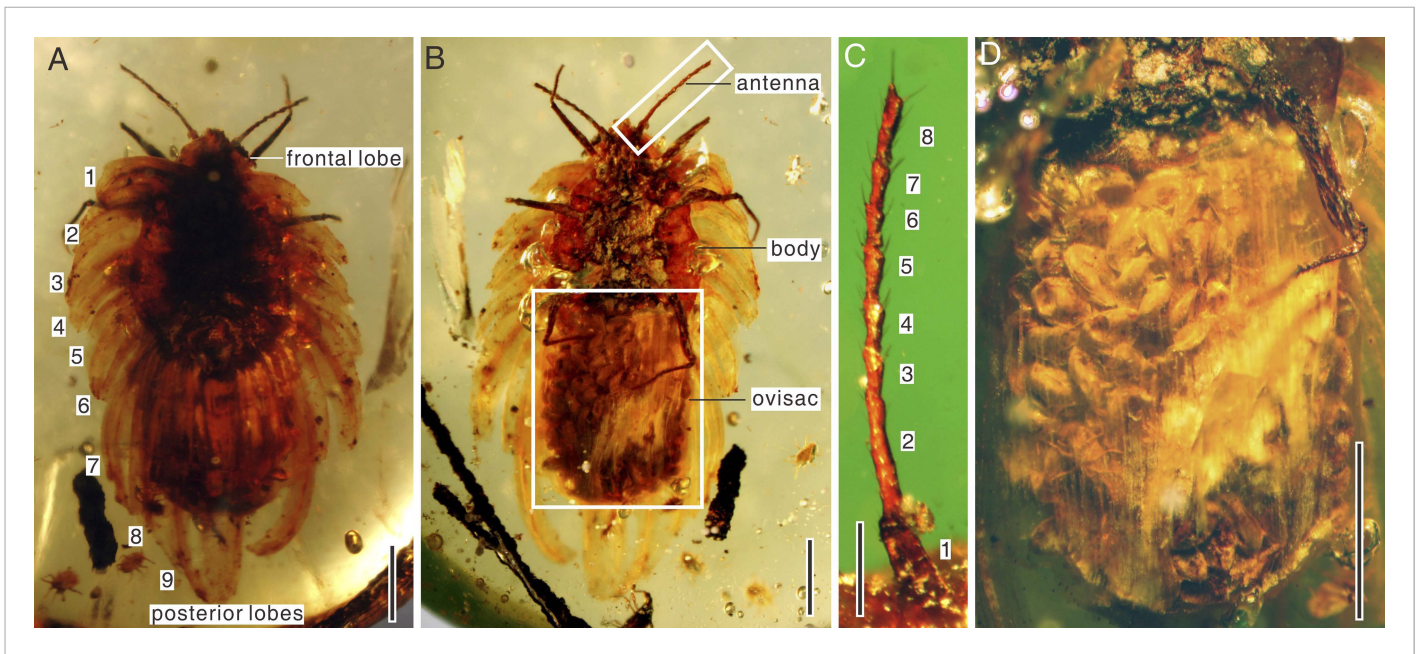


Figure 2. *Wathondara kotejai* gen. et sp. nov. Simon, Szwedo and Xia from mid-Cretaceous Burmese amber. (A) Habitus in dorsal view. The numbers 1–9 indicate nine marginal wax lobes. (B) Habitus in ventral view. (C) Enlargement of the antenna in (B). (D) Enlargement of the ovisac in (B). Scale bars of (A, B, and D) represent 1 mm; scale bar of (C) represents 0.25 mm.

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Figure 3. Drawing of brooding *Wathondara kotejai* gen. et sp. nov. Simon, Szwedo and Xia in ventral view. The ovisac and wax covering are made nearly transparent by preservation in amber.

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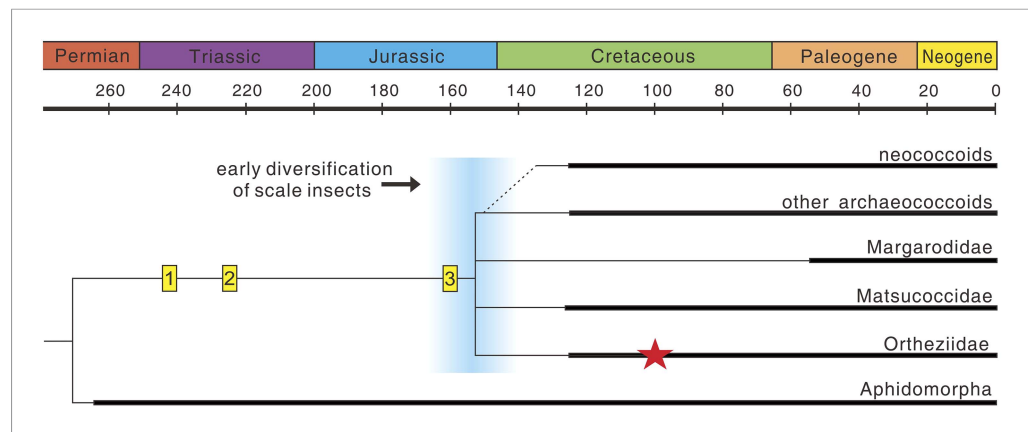


Figure 4. The evolution of scale insects. Hypothetical phylogeny based on *Hodgson and Hardy (2013)* and *Vea and Grimaldi (2015)* (extinct families omitted). Matsucoccidae, Ortheziidae, Margarodidae are commonly considered as the most primitive families (*Vea and Grimaldi, 2015*), but their phylogenetic relationships are still unresolved (e.g., *Gullan and Cook, 2007; Hodgson and Hardy, 2013*). Thick lines indicate the known extent of the fossil record. (1) Undescribed scale marks on plants from the Middle Triassic Dont Formation of Italy (T Wappler, personal observation, October 2014); (2) scale marks on plants from the Late Triassic Molteno Formation of South Africa (*Labandeira, 2006*); (3) putative, undescribed scale insect from the Late Jurassic (*Grimaldi and Engel, 2005*); Red star represents *Wathondara kotejai* from mid-Cretaceous Burmese amber. An early diversification of scale insects probably occurred during the end of the Jurassic or earliest Cretaceous (blue area), and later radiations are probably closely related to the rise of angiosperms and ants (*Grimaldi and Engel, 2005*).

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