Burmite Insects (Cretaceous – 99 mya)

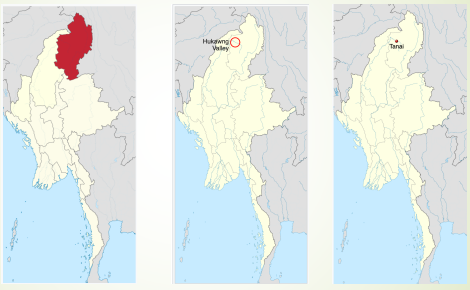
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MYANMAR (Burma): Kachin State

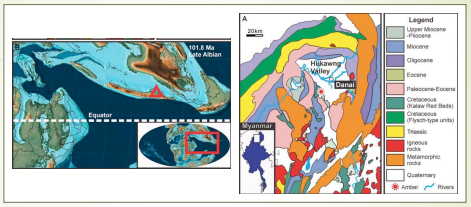
Hukawng Valley (older, now restricted)

Tanai (strip mine)



Source: https://en.wikipedia.org/wiki/Hukawng_Valley

2



Burmite Geology

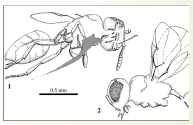
Source: https://www.facebook.com/Burmitefossils/

3

Age

- Greenish-gray shale layers (clay deposits and coal seams)
- Radiometric data places age at 98.79 ± 0.62 Mya
- Multiple deposits (span at least 5 my)
- Hymenoptera family **Serphitidae** (only known from Cretaceous deposits in Canada, Siberia, and Myanmar)





https://www.researchgate.net/publication/269235378_The_extinct_wasp_family_Serphitidae_in_Late_Cretaceous_Vendean_amber_Hymenoptera

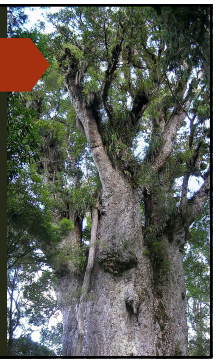
4

Likely source of sap

Agathis sp. (Araucariaceae)
[modern species New Zealand kauri]

Most burmite amber yellow to brown (some red)

Source: https://en.wikipedia.org/wiki/Agathis



5

History

- Mined since Han Dynasty (206 BC – 220 AD)
- Chinese called hu-pe (symbolized courage – thought to be soul of tiger)
- 1613 Portuguese Jesuit priest (Álvaro Semedo) was first to document
- 1917 T.D.A. Cockerell theorized Cretaceous age based on insect inclusions
- Mines closed in 1936; reopened in 1999
- Oldest grass fossil known (topped by ergot like fungus) Source:

https://phys.org/news/2015-02-amber-fossil-links-earliest-grasses.html



6

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Ethical minefield

- Kachin State (conflict between Myanmar army and Kachin Independence army)
- Foreigners not allowed into this area
- Money from sales helps fund arms purchases
- Miners must cover own medical costs for injuries

- Amber will be sold regardless (most smuggled into China)
- *"If we don't get a specimen, it probably becomes cheap jewelry around some young girl's neck."*
- May boast more biodiversity than any other deposit from Mesozoic

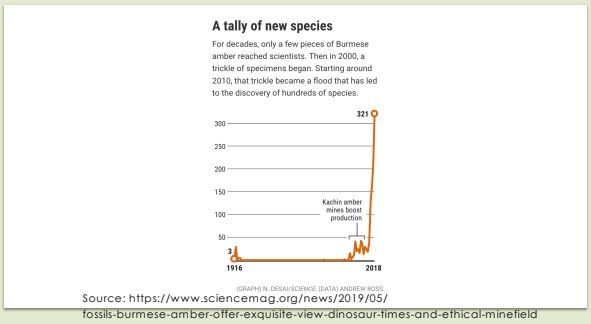
Source: https://www.sciencemag.org/news/2019/05/fossils-burmese-amber-offer-exquisite-view-dinosaur-times-and-ethical-minefield

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https://www.sciencemag.org/news/2019/05/fossils-burmese-amber-offer-exquisite-view-dinosaur-times-and-ethical-minefield

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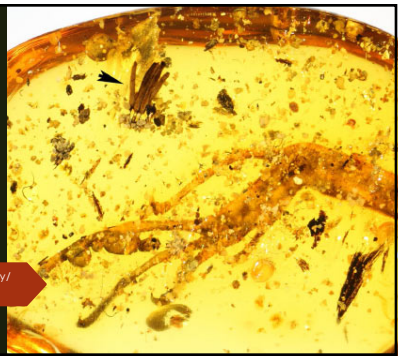
Source: https://www.sciencemag.org/news/2019/05/fossils-burmese-amber-offer-exquisite-view-dinosaur-times-and-ethical-minefield

9

World's oldest slime mold

Fruiting body detached by lizard?

http://www.sci-news.com/paleontology/oldest-slime-mold-08006.html



10



Source: https://www.theguardian.com/science/2016/dec/08/dinosaur-tail-trapped-in-amber-offers-insights-into-feather-evolution#img-1

11

Known arthropod inclusions as of 2018

Class	8
Order	64
Family	467
Genus	656
Species	849

Source: Burmese (Myanmar) amber taxa, on-line checklist v.2018.1
by Andrew Ross
https://www.researchgate.net/publication/325154249

12

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13



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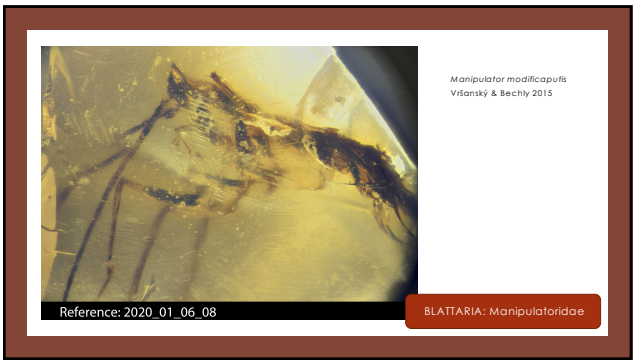


18

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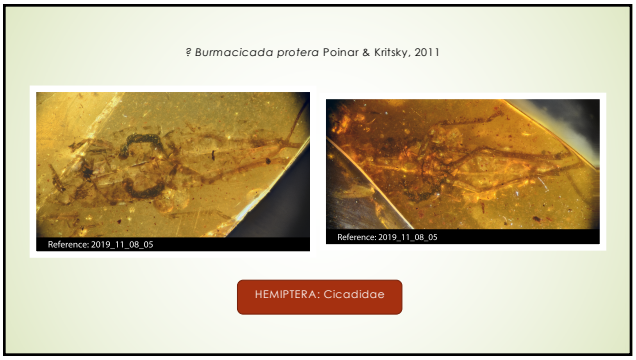
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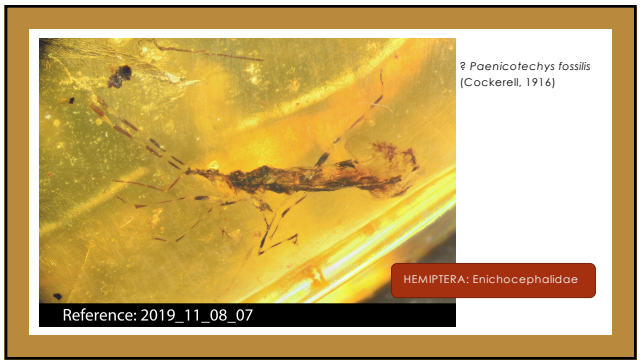
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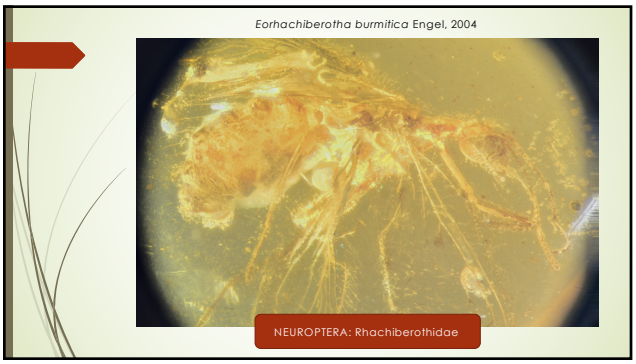


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25



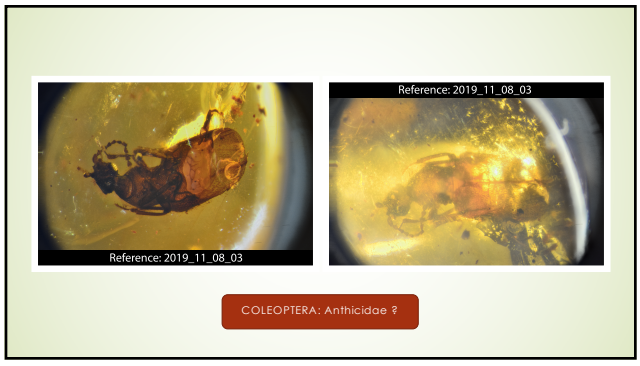
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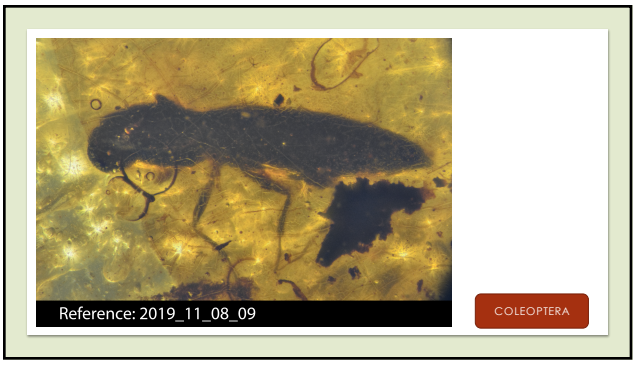
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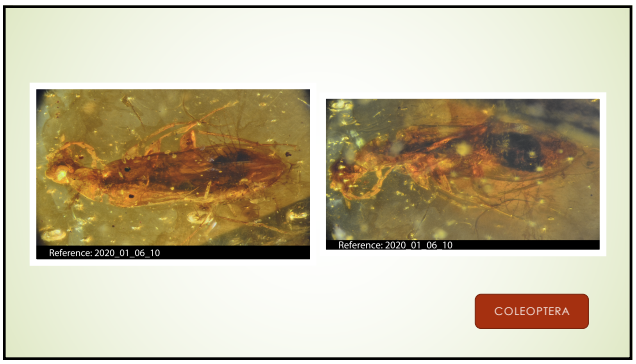


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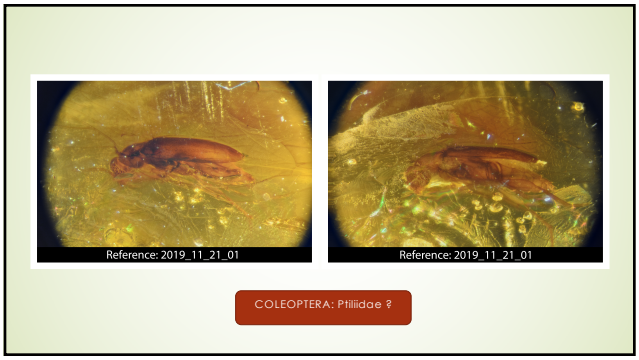
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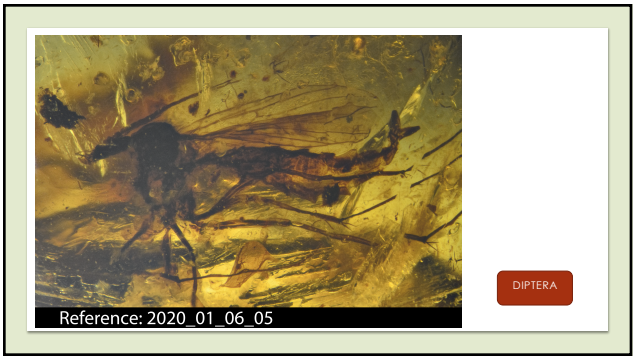
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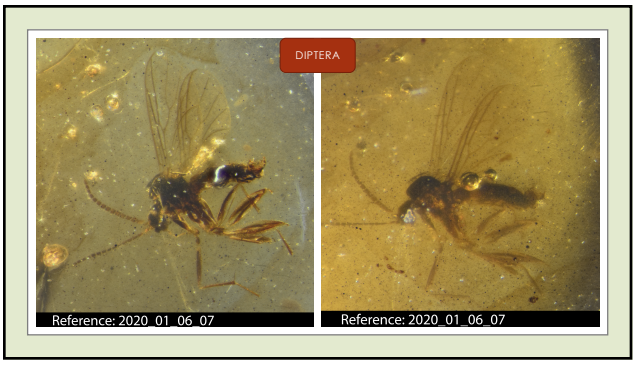
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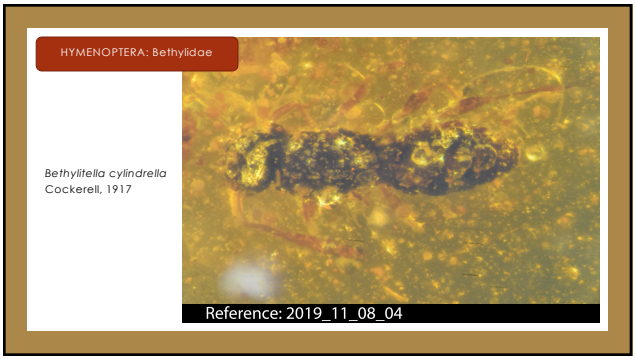
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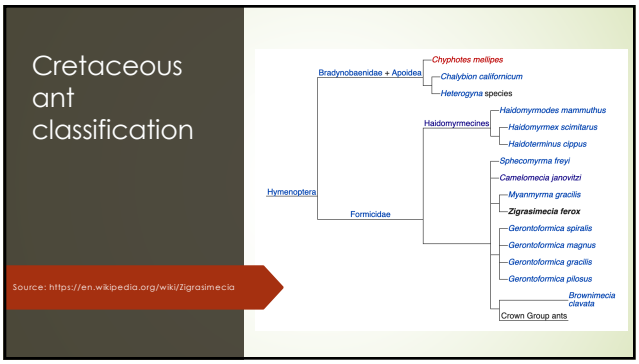
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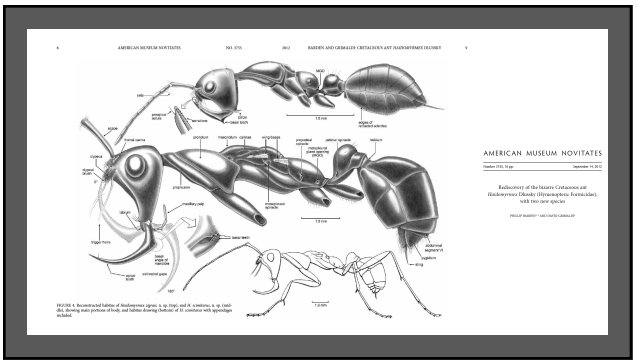
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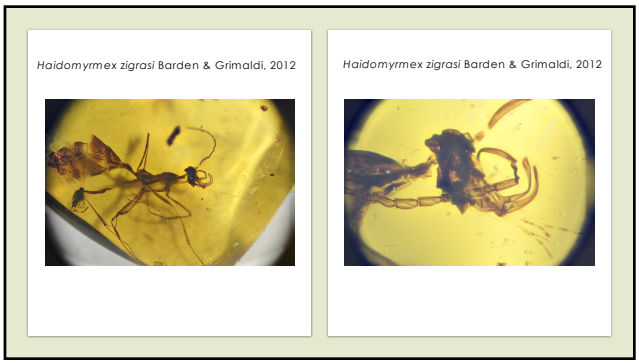


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42

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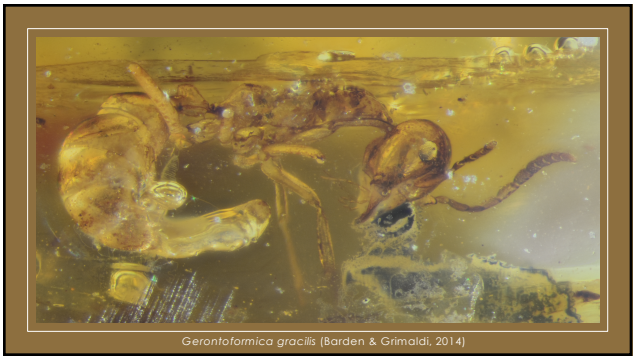
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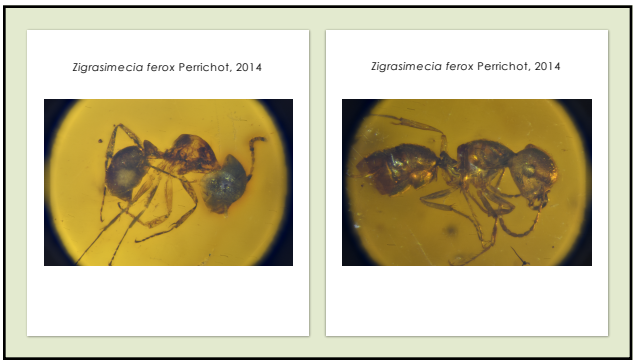


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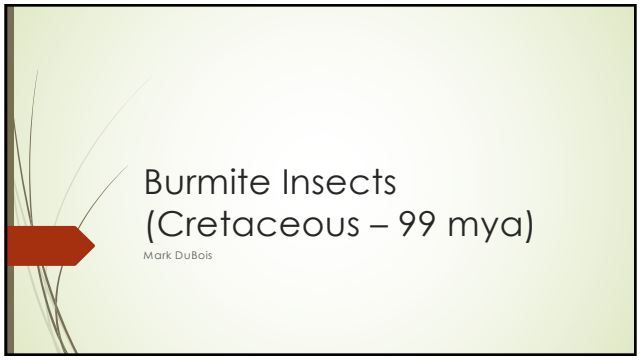
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49



50



51

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