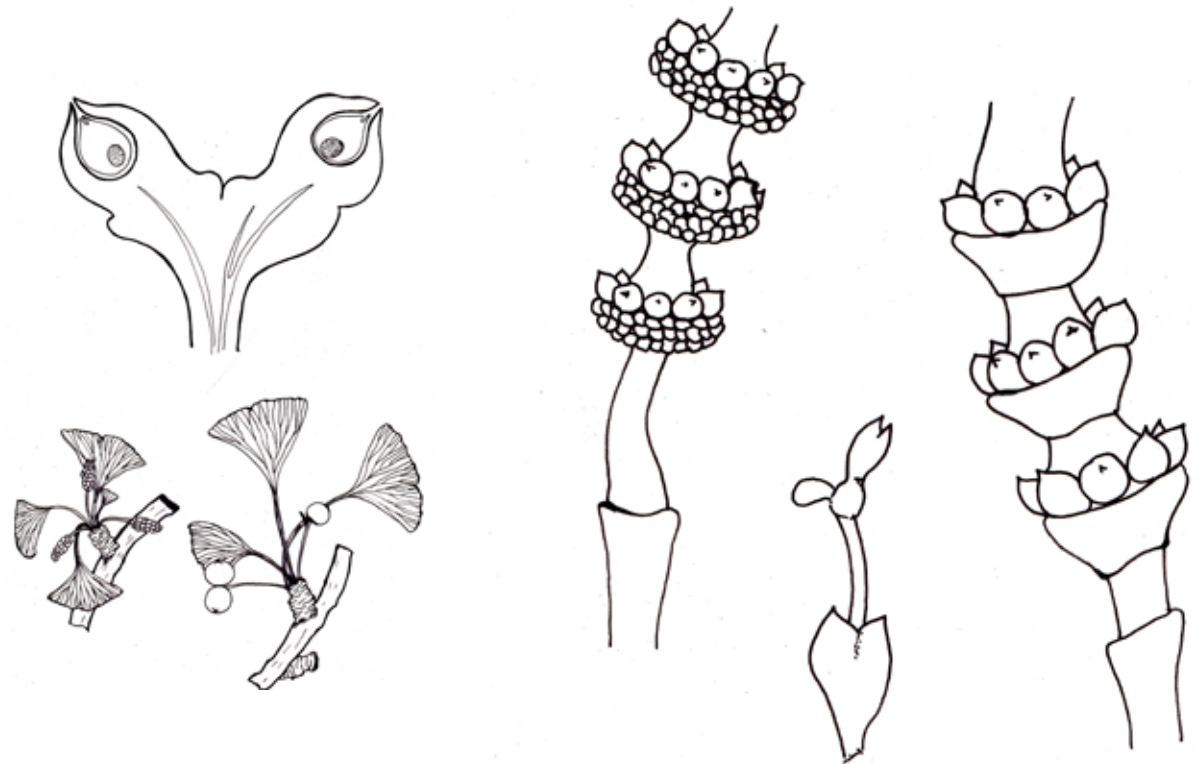


# A Tale of absent Flowers and naked Seeds

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Empeng, a popular fried snack with a distinctive bitter taste, is made from the rolled, flattened nuts of the belinjau or melinjau tree (*Gnetum gnemon*). These plants look just like other trees, with woody trunks, and branches and twigs bearing green leaves. But this is where the similarities cease - belinjau trees do not have flowers and thus do not form their fruits from flowers. What then, if not a flower, comes before the fruit? Instead of flowers they produce male and female reproductive structures in strobili or cones, a feature they share with conifers, cycads, ginkgos and the curious *Welwitschia*.

They all belong to the gymnosperms, or plants with 'naked' seeds, as opposed to the angiosperms, plants with 'covered seeds'. Gymnosperms like belinjau represent a new development in the evolution of plants with the emergence of seeds instead of spores as in the more primitive ferns; cycads, an ancient line of gymnosperms that share some characteristics with ferns, are in fact believed to be the evolutionary link between ferns and seed plants. Dominant during the middle to late Mesozoic period (200-65 Million years ago), they are today reduced between 700 and 900 extant species, a result of the more successful radiation of flowering plants or angiosperms, the dominant flora today.

