



**Figure 4. (a)** Invasion routes of *Phellinus noxius* determined with DIYABC Random Forest analyses. The analyses were performed among populations representing five genetic groups identified in this study. Numbers next to the lines represent number of generations. "Ghost" indicates ghost population with unknown location that gave origin to populations from Malaysia and Guam. **(b)** Migration among *Phellinus noxius* populations sampled from 15 locations detected with Treemix. The width of the lines reflects the percentage of ancestry (migration weight) in recipient from donor population (see Fig. 3 and main text). Migration to American Samoa (AS) traces back to the ancestral origins in Malaysia and/or Hong Kong. Migration to Yap traces back to the ancestral origins in Australia and/or AS, migration to the ancestor of Australia and AS traces back to the ancestral origins in Pohnpei and Kosrae, and migration to Hong Kong traces back to the ancestral populations sampled from islands of Japan.