The alternative behavioral mechanism to tandem running behavior remains unknown, but aggregation could be the mechanism (Supplementary Text S1).

**Text S1. Aggregation behavior of *Glyptotermes nakajimai***

We performed the preliminary observations on the group of *Glyptotermes nakajimai* (sexual population collected in Tokunoshima-island). We introduced 10 females and 10 males into the 90 mm dish filled with the plaster and recorded their behavior for 3 hours. All individuals were color-marked for sexual identification. We observed two different groups. During 3 hours of observation, we did not observe any clear tandem running behavior either between heterosexual or homosexual pairs. We took the snapshots every hour and