**Collection and processing of sawdust**

Sawdust from non-indigenous poplar tree *Populus × canadensis* cultivated widely in Dongtai, Jiangsu. The production process included the following steps: (1) Living and intact poplar trees in Dongtai were felled and cut into 50~70 cm-long logs. Only logs of roughly 15cm diameter were employed to fabricate sawdust; (2) Cutting off the bark of logs with a chisel; (3) A miter saw was utilized to make multiple incisions into the debarked poplar sections, and the manufacturing sawdust was collected; (4) The collected sawdust was exposed to a temperature of 75 ℃ in an oven until the moisture had been completely evaporated; (5) Dry sawdust was fitted with a 1 mm screen mesh by removing large particles to improve the texture; (6) The treated sawdust was sealed in vacuum bags and refrigerated until needed.

**Production steps of diets**

To obtain the diet suitable for rearing beetles, we used the following processing steps: (1) given the solid consistency, we packed the diet rather than poured into single-use 50-mL sterile polyethylene centrifuge tubes; (2) to prevent the diet from expanding out of the tube, the mouth of each tube was sealed with a hydrophobic fluorophore membrane before autoclaving; (3) the tubes containing diet, hoods, and wooden cylinders, were autoclaved for 15 minutes at 121 ℃; (4) after autoclaving, we transfer the test tubes to a sterile bench and use a wooden cylinder to compact the food inside each tube once again; (5) to facilitate the reduction of water vapor, the centrifuge tubes were sealed and placed on a sterile bench for 24 hours; and (6) in order to prevent contamination from the outside, we have filled all the tubes with 500 ml of paraffin wax and the caps are tightly sealed.

**Preparation steps of fungal medium**

(1) Components of the culture medium: 0.3 g of Wesson's salt mixture, 3 g of yeast, 3 g of casein, 3 g of starch, 6 g of sucrose, 9 g of agar, and 300 ml of deionized water; (2) These components were filled into Erlenmeyer flasks and autoclaved at 121 °C; (3) The hot medium was removed into the sterile bench and stirred well to suspend sediment; (4) The appropriate amount of culture medium was poured into Petri dishes; (5) After one day, the culture medium was inoculated with the spore suspension (2x106) of *Fusarium populicola,* which was convinced to establish an association with *E.interjectus* by Lai et al. (2022); (6) All plates inoculated symbiotic fungi were allowed to grow for two days at 25 ℃.