Our goal was to compare the sex pheromones of an eastern and a western North American species of Polyergus (P. lucidus group and P. breviceps group, respectively). We have previously described the queen sex pheromone in a species in the P. breviceps group, P. topoffi. Males fly to lures containing the pheromone. We now describe the queen sex pheromone of a species in the P. lucidus group. Both species share the major component of their queen sex pheromones, methyl 6-methylsalicylate. The minor component in the P. breviceps group is (R)-3-ethyl-4-methylpentanol, while in the P. lucidus group the minor component is (R)-3-ethyl-4-methylpentanoate. When lures of these blends are placed in a field in Missouri that contains a species in the P. breviceps group, P. mexicanus and a species in the P. lucidus group, P. lucidus, males fly almost exclusively to their own pheromone blend.