

Supplementary Materials

Table S1. Mean (SE) weight (g) of sand removed by worker ants 24 h after they were released in the two choice digging bioassay.

| Chemical | Concentration (mg/kg) | Sand removed (SE) | | Digging suppression index (SE) | t-Value | p-Value |
|----------------------|-----------------------|-------------------|--------------|--------------------------------|---------|---------|
| | | Treatment | Control | | | |
| Tai Conch Pink | 1 | 0.48 (0.037) | 0.39 (0.045) | -0.15 (0.078) | -1.43 | 0.17 |
| | 10 | 0.49 (0.037) | 0.51 (0.035) | 0.04 (0.053) | 0.49 | 0.6271 |
| | 100 | 0.47 (0.051) | 0.55 (0.052) | 0.08 (0.094) | 1.03 | 0.3127 |
| <i>H. thyriforme</i> | 1 | 0.62 (0.054) | 0.59 (0.070) | -0.07 (0.078) | -0.31 | 0.7569 |
| | 10 | 0.66 (0.059) | 0.63 (0.062) | -0.03 (0.070) | -0.37 | 0.7168 |
| | 100 | 0.46 (0.052) | 0.62 (0.056) | 0.16 (0.090) | 2.25 | 0.0321 |
| Dave Cave | 1 | 0.74 (0.067) | 0.43 (0.050) | -0.31 (0.050) | -5.32 | <0.0001 |
| | 10 | 0.77 (0.056) | 0.56 (0.058) | -0.20 (0.046) | -4.27 | 0.0002 |
| | 100 | 0.82 (0.066) | 0.56 (0.061) | -0.24 (0.047) | -5.17 | <0.0001 |
| Pink V | 1 | 0.57 (0.042) | 0.46 (0.043) | -0.16 (0.052) | -3.17 | 0.0036 |
| | 10 | 0.63 (0.053) | 0.45 (0.040) | -0.19 (0.042) | -5.03 | <0.0001 |
| | 100 | 0.61 (0.046) | 0.53 (0.054) | -0.12 (0.060) | -1.46 | 0.1546 |
| White Starburst | 1 | 0.52 (0.050) | 0.32 (0.048) | -0.23 (0.103) | -2.87 | 0.0076 |
| | 10 | 0.57 (0.071) | 0.39 (0.045) | -0.22 (0.090) | -2.57 | 0.0155 |
| | 100 | 0.48 (0.051) | 0.49 (0.061) | -0.11 (0.102) | 0.22 | 0.822 |
| <i>H. elatum</i> | 1 | 0.36 (0.039) | 0.23 (0.040) | -0.34 (0.067) | -4.14 | 0.003 |
| | 10 | 0.39 (0.041) | 0.28 (0.038) | -0.20 (0.0716) | -3.1 | 0.0043 |
| | 100 | 0.38 (0.040) | 0.34 (0.040) | -0.05 (0.069) | -0.8 | 0.4325 |
| Dr. Moy | 1 | 0.33 (0.034) | 0.56 (0.054) | 0.19 (0.091) | 3.19 | 0.0034 |
| | 10 | 0.26 (0.045) | 0.40 (0.045) | 0.22 (0.070) | 2.91 | 0.0069 |
| | 100 | 0.35 (0.045) | 0.41 (0.049) | 0.08 (0.052) | 1.99 | 0.0561 |
| Pink Sparks | 1 | 0.48 (0.059) | 0.71 (0.049) | 0.21 (0.075) | 2.9 | 0.0146 |
| | 10 | 0.41 (0.030) | 0.62 (0.056) | 0.19 (0.059) | 3.81 | 0.0029 |
| | 100 | 0.38 (0.052) | 0.67 (0.048) | 0.31 (0.083) | 5.5 | 0.0002 |
| <i>H. flavum</i> | 1 | 0.45 (0.032) | 0.43 (0.045) | -0.03 (0.062) | -0.26 | 0.7963 |
| | 10 | 0.66 (0.076) | 0.54 (0.064) | -0.10 (0.073) | -1.45 | 0.1759 |
| | 100 | 0.83 (0.055) | 0.65 (0.040) | -0.16 (0.038) | -3.29 | 0.0072 |

Table S1. Cont.

| Chemical | Concentration (mg/kg) | Sand removed (SE) | | Digging suppression index (SE) | t-Value | p-Value |
|-------------------------|-----------------------|-------------------|--------------|--------------------------------|---------|---------|
| | | Treatment | Control | | | |
| <i>H. bousigonianum</i> | 1 | 0.45 (0.067) | 0.33 (0.045) | −0.14 (0.097) | −1.81 | 0.0097 |
| | 10 | 0.61 (0.051) | 0.31 (0.043) | −0.36 (0.070) | −6.5 | <0.0001 |
| | 100 | 0.43 (0.058) | 0.32 (0.082) | −0.25 (0.137) | −0.97 | 0.3514 |
| Tai Monarch | 1 | 0.55 (0.060) | 0.51 (0.063) | −0.04 (0.105) | −0.4 | 0.6959 |
| | 10 | 0.48 (0.069) | 0.65 (0.052) | 0.17 (0.075) | 2.16 | 0.0538 |
| | 100 | 0.61 (0.047) | 0.57 (0.051) | −0.04 (0.075) | −0.43 | 0.6759 |
| Tai Empress | 1 | 0.43 (0.060) | 0.30 (0.053) | −0.20 (0.121) | −1.81 | 0.0972 |
| | 10 | 0.51 (0.045) | 0.33 (0.043) | −0.21 (0.074) | −3.11 | 0.0099 |
| | 100 | 0.53 (0.030) | 0.27 (0.034) | −0.35 (0.071) | −6.49 | <0.0001 |
| Tai Emperor | 1 | 0.53 (0.053) | 0.34 (0.048) | −0.26 (0.077) | −3.79 | 0.003 |
| | 10 | 0.44 (0.056) | 0.37 (0.055) | −0.85 (0.145) | −0.69 | 0.5066 |
| | 100 | 0.40 (0.052) | 0.38 (0.052) | −0.01 (0.128) | −0.2 | 0.8478 |
| <i>H. forresti</i> | 1 | 0.42 (0.044) | 0.27 (0.037) | −0.23 (0.037) | −4395 | 0.0004 |
| | 10 | 0.34 (0.050) | 0.23 (0.053) | −0.26 (0.174) | −1.36 | 0.2022 |
| | 100 | 0.44 (0.054) | 0.23 (0.042) | −0.30 (0.157) | −2.57 | 0.0262 |
| <i>H. coccineum</i> | 1 | 0.37 (0.040) | 0.22 (0.049) | −0.32 (0.121) | −2.6 | 0.0246 |
| | 10 | 0.35 (0.051) | 0.34 (0.048) | −0.05 (0.131) | −0.19 | 0.8534 |
| | 100 | 0.30 (0.048) | 0.30 (0.045) | 0.02 (0.125) | 0.03 | 0.9771 |
| Kinkaku | 1 | 0.30 (0.033) | 0.42 (0.029) | 0.25 (0.062) | 3.88 | 0.0025 |
| | 10 | 0.33 (0.045) | 0.39 (0.055) | 0.07 (0.102) | 0.95 | 0.3639 |
| | 100 | 0.25 (0.046) | 0.35 (0.047) | 0.21 (0.117) | 1.75 | 0.1074 |
| Tai Mammoth | 1 | 0.49 (0.053) | 0.47 (0.041) | −0.005 (0.067) | −0.23 | 0.8256 |
| | 10 | 0.49 (0.055) | 0.32 (0.047) | −0.20 (0.113) | −1.97 | 0.0749 |
| | 100 | 0.50 (0.042) | 0.48 (0.069) | −0.05 (0.076) | −0.27 | 0.7934 |
| <i>H. flavescens</i> | 1 | 0.37 (0.049) | 0.25 (0.054) | −0.21 (0.140) | −1.36 | 0.1996 |

Table S2. Concentrations, number of colonies, and number of replicates for each bioassay.

| Chemical | Concentration (mg/kg) | Number of colonies | Replicates per bioassay |
|-------------------------|----------------------------------|---------------------------|--------------------------------|
| Tai Conc Pink | 1.0, 10.0, 100.0 | 3 | 10 |
| <i>H. thyrsoforme</i> | 1.0, 10.0, 100.0 | 3 | 10 |
| Dave Case | 1.0, 10.0, 100.0 | 3 | 10 |
| Pink V | 1.0, 10.0, 100.0 | 3 | 10 |
| White Starburst | 1.0, 10.0, 100.0 | 3 | 10 |
| <i>H. elatum</i> | 1.0, 10.0, 100.0 | 3 | 10 |
| Dr. Moy | 1.0, 10.0, 100.0 | 3 | 10 |
| Pink Sparks | 1.0, 10.0, 100.0 | 3 | 6 |
| <i>H. flavum</i> | 1.0, 10.0, 100.0 | 3 | 6 |
| <i>H. bousigonianum</i> | 1.0, 10.0, 100.0 | 3 | 6 |
| Tai Monarch | 1.0, 10.0, 100.0 | 3 | 6 |
| Tai Empress | 1.0, 10.0, 100.0 | 3 | 6 |
| <i>H. forrestii</i> | 1.0, 10.0, 100.0 | 3 | 6 |
| <i>H. coccineum</i> | 1.0, 10.0, 100.0 | 3 | 6 |
| Kinkaku | 1.0, 10.0, 100.0 | 3 | 6 |
| Tai Mammoth | 1.0, 10.0, 100.0 | 3 | 6 |
| <i>H. flavesens</i> | 1.0, 10.0, 100.0 | 3 | 6 |