**Supplementary Material**

**Supplementary Table 1**. Estimated rodent abundance of 39 out of 43 sampling sites with associated estimation method used. The remaining four sites are of open saline brushland with zero captures as these sites were dominated by diurnal *M. hurrianae* with a mean burrow count of 107.67, S.E. = 10.71.

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| --- | --- | --- | --- | --- | --- |
| **Site ID** | **Habitat** | **Method** | **Model** | **Abundance (N)** | **S.E.** |
| FEB06\_AGRI\_BHIND | Agricultural fallow | Canonical estimator | NA | 25.38 | 0 |
| FEB06\_AGRI\_SHRKN | Agricultural fallow | Huggin's p' & c' | Mt | 14.29 | 1.51 |
| FEB12\_AGRI\_ZRWDI | Agricultural fallow | Huggin's p' & c' | Mt | 39.14 | 18.03 |
| FEB20\_AGRI\_BHIND1 | Agricultural fallow | Huggin's p' & c' | M0 | 28.7 | 4.33 |
| FEB20\_AGRI\_BHIND2 | Agricultural fallow | Huggin's p' & c' | Mt | 11.72 | 4.04 |
| FEB24\_AGRI\_VDLI1 | Agricultural fallow | Huggin's p' & c' | Mt | 72.16 | 14.43 |
| FEB24\_AGRI\_VDLI2 | Agricultural fallow | Canonical estimator | NA | 25.38 | 0 |
| NOV28\_GRAS\_ZAKA | Grasslands | Log-linear model | M0-BC | 3.5 | 2.6 |
| DEC03\_GRAS\_ZAKA | Grasslands | Huggin's p' & c' | Mt | 22.72 | 6.75 |
| DEC15\_GRAS\_LUNA | Grasslands | Log-linear model | M0-BC | 111.4 | 104.7 |
| DEC25\_GRAS\_GORE | Grasslands | Huggin's p' & c' | M0 | 77.87 | 18.63 |
| JAN21\_GRAS\_WAGH | Grasslands | Huggin's p' & c' | Mt | 57.53 | 13.45 |
| FEB02\_GRAS\_PANA | Grasslands | Huggin's p' & c' | M0 | 62.14 | 30.51 |
| MAR01\_GRAS\_KBUL | Grasslands | Huggin's p' & c' | Mb | 135.45 | 114.02 |
| MAR03\_GRAS\_BHIND | Grasslands | Huggin's p' & c' | Mt | 29.45 | 10.87 |
| 2018FEB03\_GRAS\_GORE | Grasslands | Huggin's p' & c' | Mt | 111.43 | 29.92 |
| 2018MAR24\_GRAS\_WAGH | Grasslands | Huggin's p' & c' | Mt | 39.61 | 5.39 |
| 2018MAR31\_GRAS\_PANA | Grasslands | Huggin's p' & c' | Mt | 36.27 | 21.19 |
| FEB02\_MIX\_PANA | Sparse Prosopis | Huggin's p' & c' | Mt | 25.61 | 4.13 |
| 2018FEB19\_MIX\_KAR | Sparse Prosopis | Huggin's p' & c' | Mt | 8.36 | 2.84 |
| NOV28\_MIX\_ZAKA | Sparse Prosopis | Log-linear model | M0-BC | 3.5 | 2.6 |
| 2018MAR20\_MIX\_DHEB | Sparse Prosopis | Huggin's p' & c' | Mt | 8.16 | 2.67 |
| JAN16\_MIX\_SHRO1 | Sparse Prosopis | Huggin's p' & c' | Mt | 86.78 | 79.95 |
| JAN16\_MIX\_SHRO2 | Sparse Prosopis | Huggin's p' & c' | Mt | 23.77 | 10.13 |
| MAR05\_MIX\_SRDA2 | Sparse Prosopis | Huggin's p' & c' | Mt | 31.87 | 27.49 |
| DEC25\_MIX\_GORE | Sparse Prosopis | Log-linear model | M0-BC | 2.4 | 0.9 |
| 2018APR15\_MIX\_KAR2 | Sparse Prosopis | Huggin's p' & c' | Mb | 8.3 | 0.76 |
| 2018APR7\_PROS\_ADYNG | Prosopis dominated | Huggin's p' & c' | Mb | 20.66 | 2.19 |
| MAR05\_PROS\_SRDA1 | Prosopis dominated | Huggin's p' & c' | Mt | 31.87 | 27.49 |
| MAR15\_PROS\_VKRY | Prosopis dominated | Huggin's p' & c' | M0 | 15.81 | 5.21 |
| 2018FEB10\_PROS\_ARND | Prosopis dominated | Huggin's p' & c' | Mb | 43.28 | 6.39 |
| DEC21\_PROS\_KAR2 | Prosopis dominated | Huggin's p' & c' | Mt | 17.16 | 14.34 |
| DEC03\_PROS\_ZAKA | Prosopis dominated | Huggin's p' & c' | Mt | 24.77 | 8.6 |
| DEC21\_PROS\_KAR1 | Prosopis dominated | Log-linear model | M0-BC | 19.3 | 16.8 |
| JAN21\_PROS\_DBYA | Prosopis dominated | Huggin's p' & c' | Mt | 47.64 | 12.1 |
| DEC15\_PROS\_LUNA | Prosopis dominated | Huggin's p' & c' | Mt | 63.18 | 20.09 |
| 2018APR11\_PROS\_KKNBHAI | Prosopis dominated | Huggin's p' & c' | Mt | 23.63 | 6.81 |
| MAR1\_OPEN\_KAR2 | Open brushland | Min. Capture | NA | 1 | 0 |
| FEB12\_OPEN\_SADI | Open brushland | Min. Capture | NA | 2 | 0 |

**Supplementary Figure 1.** Output of Pearson’s correlation test between the population estimates of two different methods.

