

Letter to the Editor

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Dear Prof. Trumble,

In the issue of *Journal of Economic Entomology* (Advance Access published April 28, 2016), there were a number of errors in the article published by Mardani-Talaei et al. (2016) “Effects of Chemical, Organic and Bio-Fertilizers on Some Secondary Metabolites in the Leaves of Bell Pepper (*Capsicum annuum*) and Their Impact on Life Table Parameters of *Myzus persicae* (Hemiptera: Aphididae)”.

- In Fig. 1 (Left of Fig. A in my letter), the value of m_x of *G. intraradices* × *B. subtilis* is 0.24 at age 6 ($x = 6$), while the value of l_x at the same age is 1 ($l_x = 1$). The product of l_x and m_x is 0.24. In Fig. 2 (Right of Fig. A in my letter), the value of $l_x m_x$ of *G. intraradices* × *B. subtilis* is 1.79 at age 6 ($x = 6$). These two values are obviously not identical. If Fig. 2 is correct, according to life table theory, the net reproductive rate is the summation of $l_x m_x$ (i.e., $R_0 = \sum l_x m_x$), the R_0 value should be ~ 14.8 . However, the authors reported that $R_0 = 8.33$ in Table 3. If Fig. 1 is correct, then the curve of $l_x m_x$ should resemble the right plot in Fig. B.
- In Table 3, the R_0 value of Vermicompost (30%) was “04.38”, while according to Fig. 2, it should be about 13.4. In Fig. 2, the maximum of $l_x m_x$ should be 1.76 at age 6 d, not 1.53 at age 7 d.

However, if the data in Fig. 1 were used, the maximum of $l_x m_x$ should be ~ 0.49 – 0.52 at age 10 d.

- In Table 3, the R_0 value of *G. intraradices* × *P. fluorescens* was “08.53”. However, according to Fig. 2, it should be about 13.5.
- Additional inconsistencies can be found in Fig. 1, Fig. 2, and Table 3. These inconsistencies demonstrate that there are likely a number of errors in other population parameters in Table 3 as well as in the correlation analysis in Table 4.

I noticed the errors in April 2016 and initially sent a letter to the Editor-in-Chief (Prof. Trumble) at that time. I suggested that the authors should submit an erratum. Because the authors did not respond to Prof. Trumble, I think it is preferable to submit this formal Letter-to-the-Editor to point out these inconsistencies to interested readers. Life tables are a useful and important tool in population ecology and pest management, if and only if the raw data are correctly analyzed and presented in a consistent manner. According to Huang and Chi (2012) and Huang and Chi (2013), these errors are likely due to the authors use of a female age-specific life table (Birch 1948, Carey 1993, Southwood and Henderson 2000) and the jackknife method in their study.

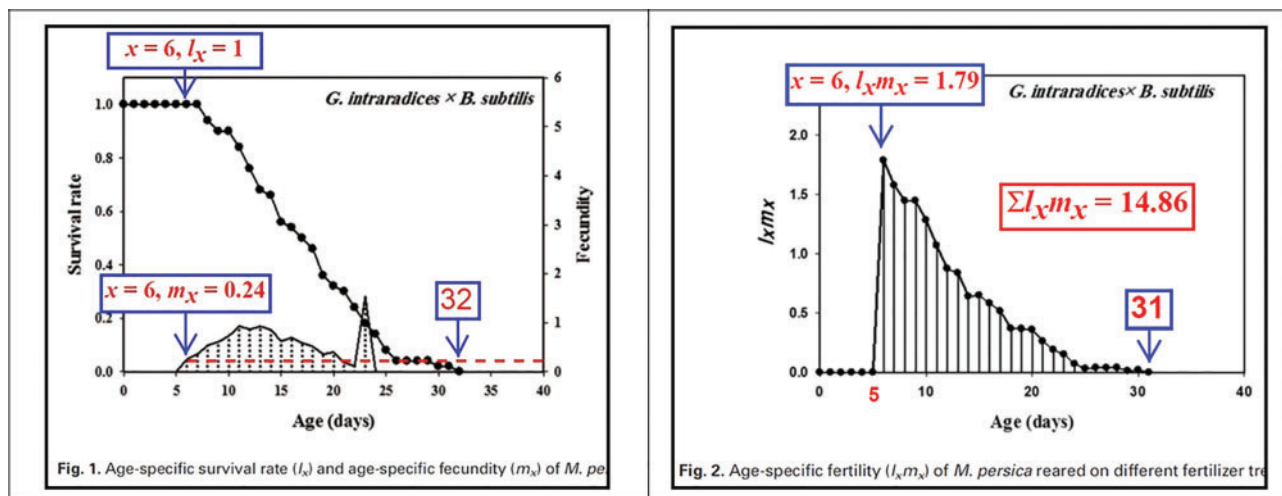


Fig. A. The images of survival rate, fecundity, and $l_x m_x$. From Fig. 1 and Fig. 2 in Mardani-Talaei et al. (2016).

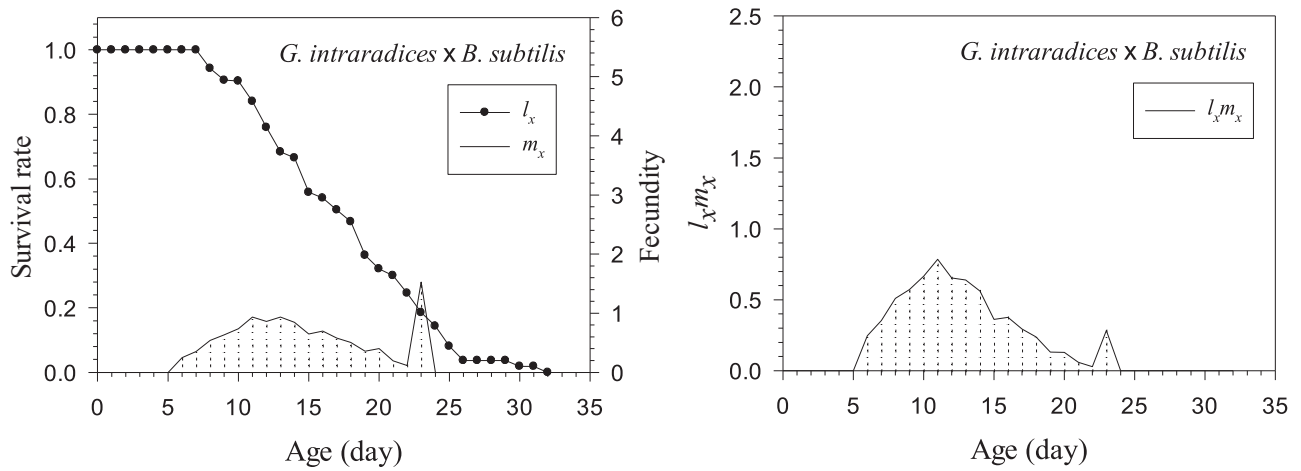


Fig. B. The plots of survival rate and fecundity (left), and $l_x m_x$ (right) of *G. intraradices* x *B. subtilis* using data from Fig. 1 of Mardani-Talaei et al. (2016).

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