


## Correction

# Correction: He et al. Biology, Ecology and Management of Tephritid Fruit Flies in China: A Review. *Insects* 2023, 14, 196

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## Error in Figure/Table

In the original publication [1], there was a mistake in Figure 1 and Tables 1 and 2 as published. Overall, the issue that needs to be corrected relates to the fact that the distribution range of tephritid fruit flies is not as large as previously described. Although they were mentioned in the literature, sometimes there is no evidence of the field collection of adults or larvae. In other instances, the fruit can only be infested when the hard peel is mechanically damaged and therefore cannot be considered a host.

The corrected Figure 1 and Tables 1 and 2 are shown below.



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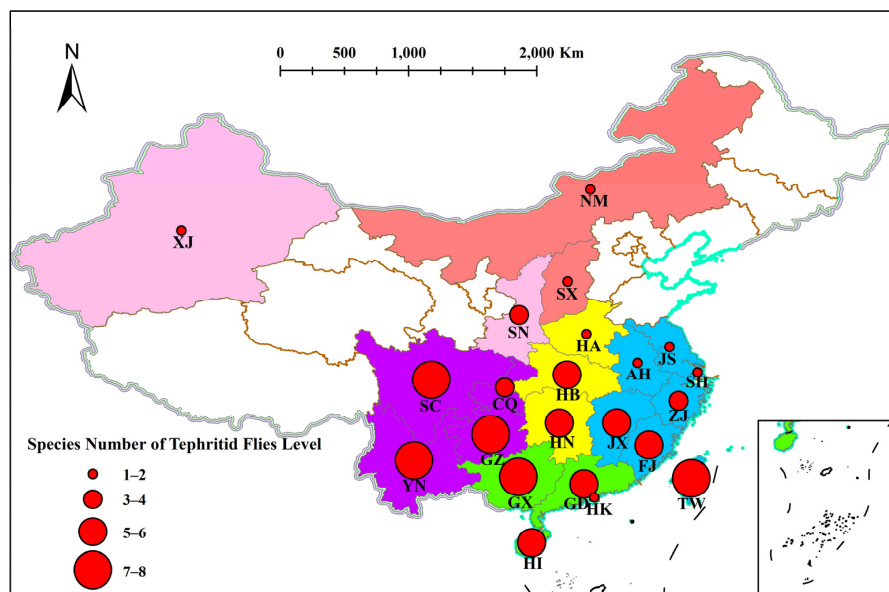
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**Figure 1.** Distribution of tephritid fruit flies in each province of China. The size of the solid circles in the figure represents the species number of tephritid fruit flies. Colors in the figure represent different regions (Red, yellow, green, blue, purple, and pink represent North, Central, South, East, Southwest, and Northwest China respectively). Abbreviations: AH, Anhui; CQ, Chongqing Shi; FJ, Fujian; GD, Guangdong; GX, Guangxi Zhuangzu Zizhiqu; GZ, Guizhou; HA, Henan; HB, Hubei; HI, Hainan; HK, Hong Kong; HN, Hunan; JS, Jiangsu; JX, Jiangxi; NM, Nei Mongol Zizhiqu; SC, Sichuan; SH, Shanghai Shi; SN, Shaanxi; SX, Shanxi; XJ, Xinjiang Uygur Zizhiqu; TW, Taiwan; YN, Yunnan; ZJ, Zhejiang. The map data was generated by Geospatial Data Cloud (<https://www.gscloud.cn>, accessed on 4 February 2022) and Alibaba Cloud (DataV.GeoAtlas, [http://datav.aliyun.com/portal/school/atlas/area\\_selector](http://datav.aliyun.com/portal/school/atlas/area_selector), accessed on 4 February 2022). The spa-tial analysis function was via ArcGIS (version 10.7) and Mapshaper (<https://mapshaper.org>, accessed on 4 February 2022).

**Table 1.** Distribution of tephritid fruit flies (Diptera: Tephritidae) in China (based on the provincial level).

Specific Name	Regions	Provinces	Native Range	First Reported	References
<i>Bactrocera correcta</i>	East	Taiwan	India and South-East Asia	1982, Yunnan	[10–17]
	South	Guangxi Zhuangzu Zizhiqu			
	Southwest	Sichuan (only detected in Miyi County) and Yunnan			
<i>Bactrocera dorsalis</i>	Central	Hubei and Hunan	South-East China	1911, Taiwan	[16,18–32]
	East	Anhui, Jiangsu, Zhejiang, Shanghai Shi <sup>⊙</sup> , Jiangxi, Fujian and Taiwan			
	South	Guangdong, Guangxi Zhuangzu Zizhiqu, Hainan and Hong Kong <sup>•</sup>			
	Southwest	Guizhou, Sichuan, Chongqing Shi <sup>⊙</sup> and Yunnan			
<i>Bactrocera latifrons</i> (only captured by bait traps)	East	Fujian and Taiwan	South-East Asia	-	[16,33–43]
	South	Hainan, Guangdong, and Guangxi Zhuangzu Zizhiqu			
	Southwest	Guizhou and Yunnan			
<i>Bactrocera minax</i>	Northwest	Shaanxi	China	-	[44–49]
	East	Jiangxi and Taiwan			
	Central	Hubei and Hunan			
	South	Guangxi Zhuangzu Zizhiqu			
<i>Bactrocera tsuneonis</i>	Southwest	Guizhou, Sichuan, and Yunnan	East Asia	1940, Sichuan	[16,20,50–54]
	East	Taiwan			
	Central	Hunan			
	Southwest	Guizhou, Sichuan, and Yunnan			
<i>Zeugodacus scutellatus</i> (only captured by bait traps)	North	Shanxi	East Asia	1912, Taiwan	[16,52,55–64]
	Northwest	Shaanxi (only 6 adults captured by bait traps in 1984)			
	East	Anhui, Jiangxi, Fujian, and Taiwan			
	Central	Henan, Hubei, and Hunan,			
	South	Guangdong, Guangxi Zhuangzu Zizhiqu and Hainan			
	Southwest	Guizhou, Sichuan, Chongqing Shi <sup>⊙</sup> and Yunnan			
<i>Carpomya vesuviana</i>	Northwest	Xinjiang Uygur Zizhiqu (currently limited in Turpan region and under official control)	India	2007, Xinjiang (Turpan)	[65,66]
<i>Rhagoletis batava obseuriosa</i>	North	Nei Mongol Zizhiqu	Russia	1985, Liaoning	[67–69]
	Northwest	Shaanxi and Xinjiang Uygur Zizhiqu			

Table 1. Cont.

Specific Name	Regions	Provinces	Native Range	First Reported	References
<i>Zeugodacus cucurbitae</i>	East	Zhejiang, Jiangxi, Fujian, and Taiwan	India	1960, Taiwan	[16,39,70–80]
	Central	Hubei and Hunan			
	South	Guangdong, Guangxi Zhuangzu Zizhiqu, Hainan, and Hong Kong •			
	Southwest	Guizhou, Sichuan Chongqing Shi <sup>⊙</sup> and Yunnan			
<i>Zeugodacus tau</i>	East	Zhejiang, Jiangxi, Fujian, and Taiwan	Asia	1912, Guangdong and Yunnan	[16,59,77,81–89]
	Central	Henan, Hubei, and Hunan			
	South	Guangdong, Guangxi Zhuangzu Zizhiqu, and Hainan			
	Southwest	Guizhou, Sichuan, Chongqing Shi <sup>⊙</sup> and Yunnan			

Notes: “<sup>⊙</sup>” represents municipalities directly under the control of the Central Government, and “•” represents special administrative regions (SAR).

Table 2. Records of host plants of tephritid fruit flies in China.

Tephritid Species	Plant Type	Plant Family	Plant Species	Degree of Damage	References
<i>Bactrocera correcta</i>	Fruit	Anacardiaceae	<i>Anacardium occidentale</i>	nd	[3,94,95]
			<i>Mangifera indica</i>	+++	
		Annonaceae	<i>Annona squamosa</i>	++	
		Combretaceae	<i>Terminalia catappa</i>	nd	
		Musaceae	<i>Musa nana</i>	++	
		Myrtaceae	<i>Psidium guajava</i>	+++	
			<i>Syzygium samarangense</i>	nd	
		Oxalidaceae	<i>Averrhoa carambola</i>	+++	
		Rhamnaceae	<i>Ziziphus jujuba</i>	nd	
			<i>Ziziphus mauritiana</i>	++	
			<i>Prunus salicina</i>	+	
			<i>Prunus</i> spp.	nd	
		Rosaceae	<i>Pseudocydonia sinensis</i>	++	
			<i>Pyrus pyrifolia</i>	+	
			<i>Citrus maxima</i>	+	
		Rutaceae	<i>Citrus reticulata</i>	++	
			<i>Citrus sinensis</i>	+	
		Sapotaceae	<i>Manilkara zapota</i>	nd	
	Vegetable	Cucurbitaceae	<i>Cucumis sativus</i>	+	
			<i>Momordica charantia</i>	++	
			<i>Capsicum annuum</i>	+	
		Solanaceae	<i>Solanum lycopersicum</i>	+	
			<i>Solanum melongena</i>	+	

Table 2. Cont.

Tephritid Species	Plant Type	Plant Family	Plant Species	Degree of Damage	References
<i>Bactrocera dorsalis</i>	Fruit	Actinidiaceae	<i>Actinidia fulvicoma</i>	+	[96–98]
		Anacardiaceae	<i>Mangifera indica</i>	+ /++++	
		Annonaceae	<i>Desmos chinensis</i>	+	
			<i>Diospyros kaki</i>	+	
		Ebenaceae	<i>Diospyros morrisiana</i>	++	
			<i>Diospyros tutcheri</i>	+	
		Euphorbiaceae	<i>Phyllanthus emblica</i>	+	
		Melastomataceae	<i>Melastoma dodecandrum</i>	+	
			<i>Broussonetia kaempferi</i>	+	
			<i>Broussonetia papyrifera</i>	+	
		Moraceae	<i>Ficus hirta</i>	+	
			<i>Ficus sagittata</i>	+	
		Musaceae	<i>Musa nana</i>	nd	
		Myricaceae	<i>Myrica rubra</i>	++	
			<i>Acmena acuminatissima</i>	+	
			<i>Cleistocalyx operculatus</i>	++	
			<i>Psidium guajava</i>	+++ /++++	
		Myrtaceae	<i>Rhodomyrtus tomentosa</i>	++	
			<i>Syzygium jambos</i>	++++	
			<i>Syzygium levinei</i>	+	
			<i>Syzygium samarangense</i>	++++	
		Oxalidaceae	<i>Averrhoa carambola</i>	+++	
		Punicaceae	<i>Punica granatum</i>	+++	
			<i>Ziziphus jujuba</i>	++++	
		Rhamnaceae	<i>Ziziphus spp.</i>	nd	
		Rhizophoraceae	<i>Carallia brachiata</i>	++	
			<i>Amygdalus davidiana</i>	++	
			<i>Duchesnea indica</i>	+	
			<i>Eriobotrya fragrans</i>	+	
			<i>Eriobotrya japonica</i>	++ /++++	
			<i>Malus pumila</i>	+	
			<i>Prunus mume</i>	+	
			<i>Prunus persica</i>	+ /++++	
		Rosaceae	<i>Prunus phaeosticta</i>	+	
			<i>Prunus salicina</i>	+	
			<i>Pseudocydonia sinensis</i>	+	
			<i>Pyrus calleryana</i>	+	
			<i>Pyrus pyrifolia</i>	+	
			<i>Rubus leucanthus</i>	+	
			<i>Rubus reflexus</i>	+	
			<i>Rubus rosifolius</i>	+	
			<i>Rubus sumatranus</i>	+	
			<i>Citrus limon</i>	+	
			<i>Citrus maxima</i>	+	
		Rutaceae	<i>Citrus reticulata</i>	+++	
			<i>Clausena lansium</i>	++	
			<i>Fortunella hindsii</i>	++	
		Sapotaceae	<i>Manilkara zapota</i>	+	
			<i>Cayratia japonica</i>	+	
		Vitaceae	<i>Vitis amurensis</i>	+	
			<i>Vitis vinifera</i>	+	
	Vegetable	Cucurbitaceae	<i>Cucumis melo</i>	+	
			<i>Cucumis sativus</i>	++	
			<i>Cucurbita moschata</i>	+	
			<i>Luffa aegyptiaca</i>	++++	
			<i>Momordica charantia</i>	+	
		Solanaceae	<i>Sechium edule</i>	+	
			<i>Capsicum annuum</i>	+	
			<i>Solanum lycopersicum</i>	++	
			<i>Solanum melongena</i>	+	
<i>Bactrocera latifrons</i>	Vegetable	Solanaceae	<i>Capsicum annuum</i>	+	[33,99,100]
			<i>Solanum melongena</i>	+	

Table 2. Cont.

Tephritid Species	Plant Type	Plant Family	Plant Species	Degree of Damage	References
<i>Bactrocera minax</i>	Fruit	Rutaceae	<i>Citrus aurantium</i>	nd	[47]
			<i>Citrus erythrosa</i>	nd	
			<i>Citrus junos</i>	nd	
			<i>Citrus limon</i>	nd	
			<i>Citrus maxima</i>	+++ /++++	
			<i>Citrus medica</i>	+++ /++++	
			<i>Citrus paradisi</i>	nd	
			<i>Citrus poonensis</i>	+ /++++	
			<i>Citrus reticulata</i>	nd	
			<i>Citrus sinensis</i>	+ /++ /+++ /++++	
			<i>Citrus tangerina</i>	+ /+++	
			<i>Citrus unshiu</i>	+ /++ /+++ /++++	
<i>Bactrocera tsuneonis</i>	Fruit	Rutaceae	<i>Fortunella margarita</i>	nd	[101,102]
			<i>Poncirus trifoliata</i>	nd	
			<i>Citrus aurantium</i>	nd	
			<i>Citrus reticulata</i>	nd	
<i>Carpomya vesuviana</i>	Fruit	Rhamnaceae	<i>Ziziphus</i> spp.	nd	[65]
<i>Rhagoletis batava obscuriosa</i>	Fruit	Elaeagnaceae	<i>Hippophae</i> spp.	nd	[68]
<i>Zeugodacus cucurbitae</i>	Vegetable	Cucurbitaceae	<i>Benincasa hispida</i>	nd	[97,103]
			<i>Citrullus lanatus</i>	nd	
			<i>Cucumis sativus</i>	++++	
			<i>Cucurbita moschata</i>	nd	
			<i>Cucurbita pepo</i>	nd	
			<i>Luffa aegyptiaca</i>	++++	
			<i>Momordica charantia</i>	++	
<i>Zeugodacus scutellatus</i>	Vegetable	Cucurbitaceae	<i>Sechium edule</i>	++	[16,104]
			Cucurbitaceae flowers	nd	
<i>Zeugodacus tau</i>	Vegetable	Cucurbitaceae	<i>Benincasa hispida</i>	nd	[97,105,106]
			<i>Citrullus lanatus</i>	++	
			<i>Cucumis sativus</i>	+ /++	
			<i>Cucurbita moschata</i>	++ /+++ /++++	
			<i>Cucurbita pepo</i>	nd	
			<i>Luffa aegyptiaca</i>	+ /++	
			<i>Momordica charantia</i>	+	
<i>Zeugodacus tau</i>	Vegetable	Cucurbitaceae	<i>Sechium edule</i>	++	

Notes: “+” represents the degree of damage (<10%: +, 10–30%: ++, 30–50%: +++, >50%: ++++); “nd” indicates that there is no record of the degree of harm, although there is a host.

### Missing Citation

In the original publication, “Refs. [10–12,31,32,44,81]” was not cited. The citation has now been inserted in Table 1.

In the original publication, “Ref. [104]” was not cited. The citation has now been inserted in Table 2.

### Text Correction

There was an error in the original publication: *Bactrocera scutellata* was referred to instead of *Zeugodacus scutellatus*. *Bactrocera scutellata* has been changed to *Zeugodacus scutellatus* due to a recent classification revision.

A correction has been made to the second paragraph in the Introduction section, Tables 1 and 2.

“...which are the most studied in China, especially *Bactrocera correcta* (Bezzi), *Bactrocera dorsalis* (Hendel), *Bactrocera latifrons* (Hendel), *Bactrocera minax* (Enderlein), *Bactrocera*

*tsuneonis* (Miyake), *Carpomya vesuviana* (Costa), *Rhagoletis batava obscuriosa* (Kolomiets), *Zeugodacus cucurbitae* (Coquillett), *Zeugodacus scutellatus* (Hendel) and *Zeugodacus tau* (Walker)."

A correction has been made to Section 2.2 Distribution. We rephrased the first sentence to "The data presented in Figure 1 and Table 1 were obtained from literature reports with the field evidence. Fujian and Taiwan Provinces in East China, Guangdong Province and the Guangxi Zhuang Zizhiqu in South China, and Guizhou, Sichuan and Yunnan Provinces in Southwest China are the areas where the tephritid fruit flies overlap many times..."

## References

Due to the change in the distribution range of some species (showed in Table 1), the following references are no longer necessary for citation in the updated manuscript.

- [3] White, I.M.; Elson-Harris, M.M. *Fruit Flies of Economic Significance: Their Identification and Bionomics*, 1st ed.; Oxford University Press: Oxford, UK, 1992; ISBN 978-0-85198-790-3.
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Below references were added in the updated manuscript.

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Due to these corrections, the order of some references has been adjusted accordingly. The order of some other references needs to be adjusted, please see details as below:

Citation in the original publication	New citation in updated publication
[93]	[3]
[46]	[47]
[45]	[48]
[48]	[53]
[64]	[57]
[65]	[58]
[55]	[63]
[60]	[64]
[68]	[68]
[80]	[70]
[84]	[71]
[79]	[72]
[76]	[73]
[75]	[74]
[78]	[75]
[53]	[82]
[89]	[84]
[85]	[89]
[99]	[94]
[51]	[102]
[153]	[149]
[155]	[151]

The authors state that the scientific conclusions are unaffected. This correction was approved by the Academic Editor. The original publication has also been updated.

Reference

1. He, Y.; Xu, Y.; Chen, X. Biology, Ecology and Management of Tephritid Fruit Flies in China: A Review. *Insects* **2023**, *14*, 196. [\[CrossRef\]](#) [\[PubMed\]](#)

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