

Supplementary Material 1: Location records of *S. invicta* from literatures

Table S1. Location records of *S. invicta* from literatures published after 2013

Location records	Reference
Worldwide distribution records of <i>S. invicta</i> .	Wetterer, J. K., et al [1]
Caldwell (30.58°N, 96.68°W)	Puckett, R. T., et al [2]
Escambia County, Alabama (31.16°N, 86.70°W)	Robbins, T. R., et al [3]
Gainesville, FL (26.6°N, 82.3°W); Gainesville, FL (29.65°N, 82.32° W)	Barriga, P. A., et al [4]; Porter, S. D., et al [5]
Huangmei county; Shanghang county; Nanyan county; Wuping county; Haicang county; Jimei county; Huli county; Zhangpu county; Yonghe county	Xiang, Zhang, & You-Ming. [6]
Zengcheng county	Wang, K., et al [7]
Records map of <i>S. invicta</i> . in Trinidad	Wetterer, J. K., et al [8]
Washington County, Mississippi	Wang, L., & Chen, J.[9]; Wang, L., Zeng, L., & Chen, J.[10].
New Taipei City in Northern Taiwan.	Lai, L. C., et al [11]
Guangzhou (23.15°N,113.36°E), China	Cheng, D., et al [12]
Greenville, Mississippi	Lei, W., et al [13]
Baker County, Georgia	Gleim, E. R., et al [14]; Cumberland, M. S., & Kirkman, L. K.[15]; Pracana, R., et al [16]
Athens (33.93°N, 83.35°W), GA; Tifton (31.51°N, 83.56°W), GA	Wickings, K., & Ruberson, J. R. [17].
Taoyuan County, Taiwan	Lin, H. M., et al [18]
Rostock (54.09°N, 12.11°E), Germany	Kramer, B. H., et al [19]
Lexington(38.12°N,84.50°W), KY; St. Cloud (28.18°N, 81.24°W), FL; Micanopy (29.50°N, 82.33°W), FL	Penn, H. J., et al [20]
Savannah River Site (33.36°N ,81.68°W)	Chandler, J. L., et al [21]
Santa Rosa County (30.94°N, 86.82°W), FL;	
Geneva Co. (31.12°N, 86.16°W), AL; Dekalb County (36.08°N, 85.83°W), TN; Overton County (36.47°N, 85.42°W), TN	Herr, M. W., et al [22]
Roldán(32.883°S,60.883°W) Villa Escobar (26.617°S, 58.667°W); Herradura (26.483°S, 58.300°W); Formosa (26.17°S, 59.09°W)	Peter A. Follett et al [23]
Alabama (31.16°N, 86.70°W); Alabama(31.12°N, -86.17°W); Alabama (30.74°N, 87.91°W); Arkansas (34.71°N, 90.73°W); Tennessee (36.08°N, 85.83°W); Tennessee (36.47°N, 85.42°W)	Thawley, C. J., & Langkilde, T. [24]

References for Table S1

1. Wetterer, J. K., Exotic spread of Solenopsis invicta Buren (Hymenoptera: Formicidae) beyond North America. *Sociobiology* **2013**, *60* (1), 50-55.
2. Puckett, R. T.; Calixto, A. A.; Reed, J. J.; McDonald, D. L.; Drees, B. B.; Gold, R. E., Effectiveness Comparison of Multiple Sticky-Trap Configurations for Sampling Pseudacteon spp. Phorid Flies (Diptera: Phoridae). *Environmental Entomology* **2013**, *42* (4), 763-769.
3. Robbins, T. R.; Freidenfelds, N. A.; Langkilde, T., Native predator eats invasive toxic prey: evidence for increased incidence of consumption rather than aversion-learning. *Biol. Invasions* **2013**, *15* (2), 407-415.
4. Barriga, P. A.; Sloan, J. V.; Porter, S. D.; Sagers, C. L., Stable isotope enrichment in laboratory ant colonies: effects of colony age, metamorphosis, diet, and fat storage. *Entomologia Experimentalis Et Applicata* **2013**, *149* (3), 265-272.
5. Porter, S. D.; Calcaterra, L. A., Dispersal and competitive impacts of a third fire ant decapitating fly (Pseudacteon obtusus) established in North Central Florida. *Biological Control* **2013**, *64* (1), 66-74.
6. Zhang, X.; Hou, Y.-M., Invasion history of Solenopsis invicta (Hymenoptera: Formicidae) in Fujian, China based on mitochondrial DNA and its implications in development of a control strategy. *Insect Science* **2014**, *21* (4), 493-498.
7. Wang, K.; Tang, L.; Zhang, N.; Zhou, Y.; Li, W.; Li, H.; Cheng, D.; Zhang, Z., Repellent and fumigant activities of Eucalyptus globulus and Artemisia carvifolia essential oils against Solenopsis invicta. *Bulletin of Insectology* **2014**, *67* (2), 207-211.
8. Wetterer, J. K.; Davis, L. R.; White, G. L., SPREAD IN TRINIDAD OF THE SOUTH AMERICAN FIRE ANT SOLENOPSIS INVICTA (HYMENOPTERA, FORMICIDAE). *Florida Entomologist* **2014**, *97* (1), 238-241.
9. Wang, L.; Chen, J., Fatty Amines from Little Black Ants, Monomorium minimum, and Their Biological Activities Against Red Imported Fire Ants, Solenopsis invicta. *Journal of Chemical Ecology* **2015**, *41* (8), 708-715.
10. Wang, L.; Zeng, L.; Chen, J., Sublethal Effect of Imidacloprid on Solenopsis invicta (Hymenoptera: Formicidae) Feeding, Digging, and Foraging Behavior. *Environmental Entomology* **2015**, *44* (6), 1544-1552.
11. Lai, L.-C.; Hua, K.-H.; Wu, W.-J., Intraspecific and interspecific aggressive interactions between two species of fire ants, Solenopsis geminata and S-invicta (Hymenoptera: Formicidae), in Taiwan. *Journal of Asia-Pacific Entomology* **2015**, *18* (1), 93-98.
12. Cheng, D.; Lu, Y.; Zeng, L.; Liang, G.; He, X., Si-CSP9 regulates the integument and moulting process of larvae in the red imported fire ant, Solenopsis invicta. *Scientific reports* **2015**, *5*, 9245.
13. Wang, L.; Zeng, L.; Chen, J., Impact of imidacloprid on new queens of imported fire ants, Solenopsis invicta (Hymenoptera: Formicidae). *Scientific Reports* **2015**, *5*.
14. Gleim, E. R.; Conner, L. M.; Yabsley, M. J., The Effects of Solenopsis invicta (Hymenoptera: Formicidae) and Burned Habitat on the Survival of Amblyomma americanum (Acari: Ixodidae) and Amblyomma maculatum (Acari: Ixodidae). *Journal of Medical Entomology* **2013**, *50* (2), 270-276.
15. Cumberland, M. S.; Kirkman, L. K., The effects of the red imported fire ant on seed fate in the longleaf pine ecosystem. *Plant Ecology* **2013**, *214* (5), 717-724.
16. Pracana, R.; Priyam, A.; Levantis, I.; Nichols, R. A.; Wurm, Y., The fire ant social chromosome supergene variant Sb shows low diversity but high divergence from SB. *Molecular Ecology* **2017**, *26* (11), 2864-2879.

17. Wickings, K.; Ruberson, J. R., The red imported fire ant, *Solenopsis invicta*, modifies predation at the soil surface and in cotton foliage. *Annals of Applied Biology* **2016**, *169* (3), 319-328.
18. Lin, H.-M.; Tseng, Y.-C.; Chen, C.-T.; Lin, C.-C.; Lee, Y.-T.; Chen, Y.-Y., USE OF LIQUID NITROGEN TO TREAT SOLENOPSIS INVICTA (HYMENOPTERA: FORMICIDAE) NESTS. *Florida Entomologist* **2013**, *96* (3), 871-876.
19. Kramer, B. H.; Schaible, R.; Scheuerlein, A., Worker lifespan is an adaptive trait during colony establishment in the long-lived ant *Lasius niger*. *Experimental Gerontology* **2016**, *85*, 18-23.
20. Penn, H. J.; Chapman, E. G.; Harwood, J. D., Overcoming PCR Inhibition During DNA-Based Gut Content Analysis of Ants. *Environmental Entomology* **2016**, *45* (5), 1255-1261.
21. Chandler, J. L.; Orrock, J. L.; Resasco, J., Invasive Ants Generate Heterogeneity in Patterns of Seed Survival. *American Midland Naturalist* **2016**, *176* (2), 289-297.
22. Herr, M. W.; Robbins, T. R.; Centi, A.; Thawley, C. J.; Langkilde, T., Irresistible ants: exposure to novel toxic prey increases consumption over multiple temporal scales. *Oecologia* **2016**, *181* (3), 749-756.
23. Follett, P. A.; Porcel, S.; Calcaterra, L. A., Effect of Irradiation on Queen Survivorship and Reproduction in the Invasive Fire Ant *Solenopsis invicta* (Hymenoptera: Formicidae) and a Proposed Phytosanitary Irradiation Treatment for Ants. *Journal of economic entomology* **2016**, *109* (6), 2348-2354.
24. Thawley, C. J.; Langkilde, T., Attracting unwanted attention: generalization of behavioural adaptation to an invasive predator carries costs. *Animal Behaviour* **2017**, *123*, 285-291.

Supplementary Material 2: Occurrence points and infestation risk level of *S. invicta* by continents

Figure S1. Occurrence points and infestation risk level of *S. invicta* in North America

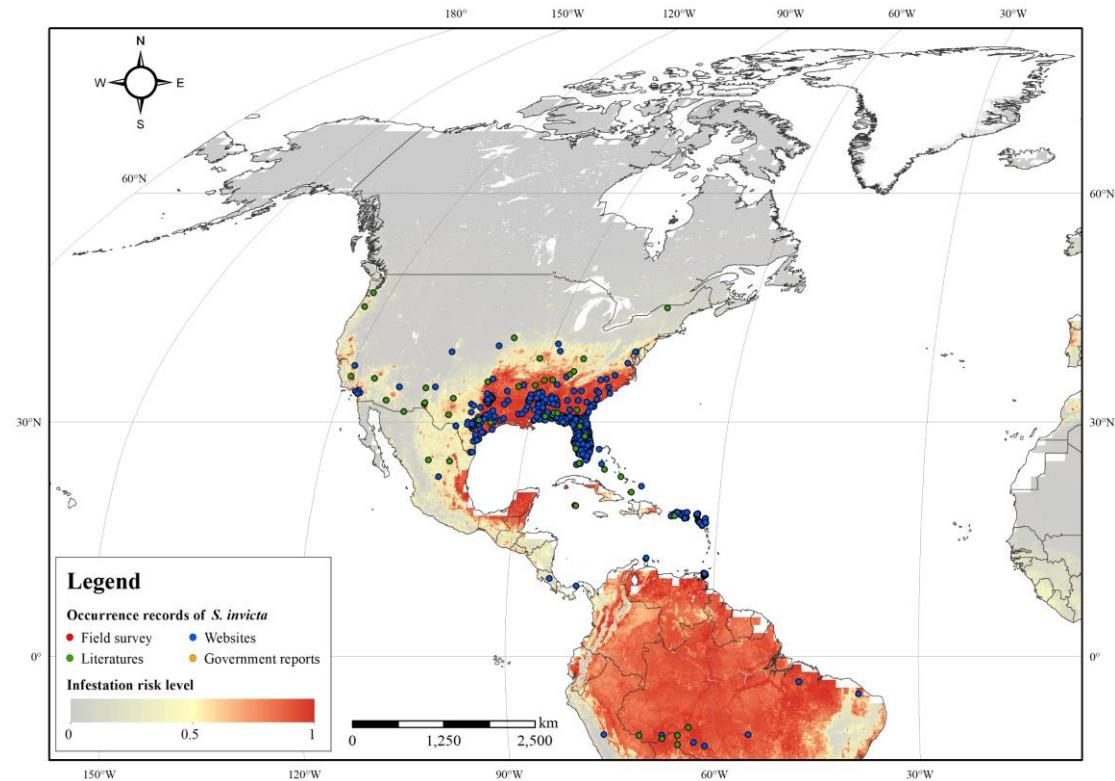


Figure S2. Occurrence points and infestation risk level of *S. invicta* in South America

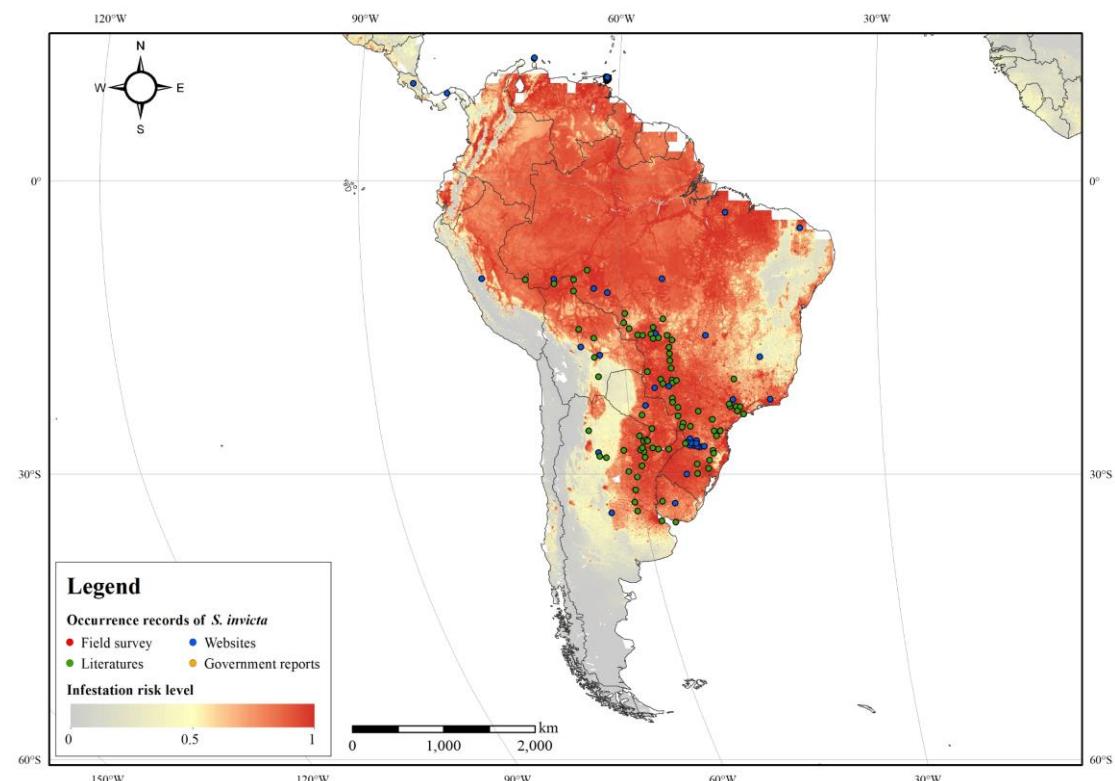


Figure S3. Occurrence points and infestation risk level of *S. invicta* in Europe

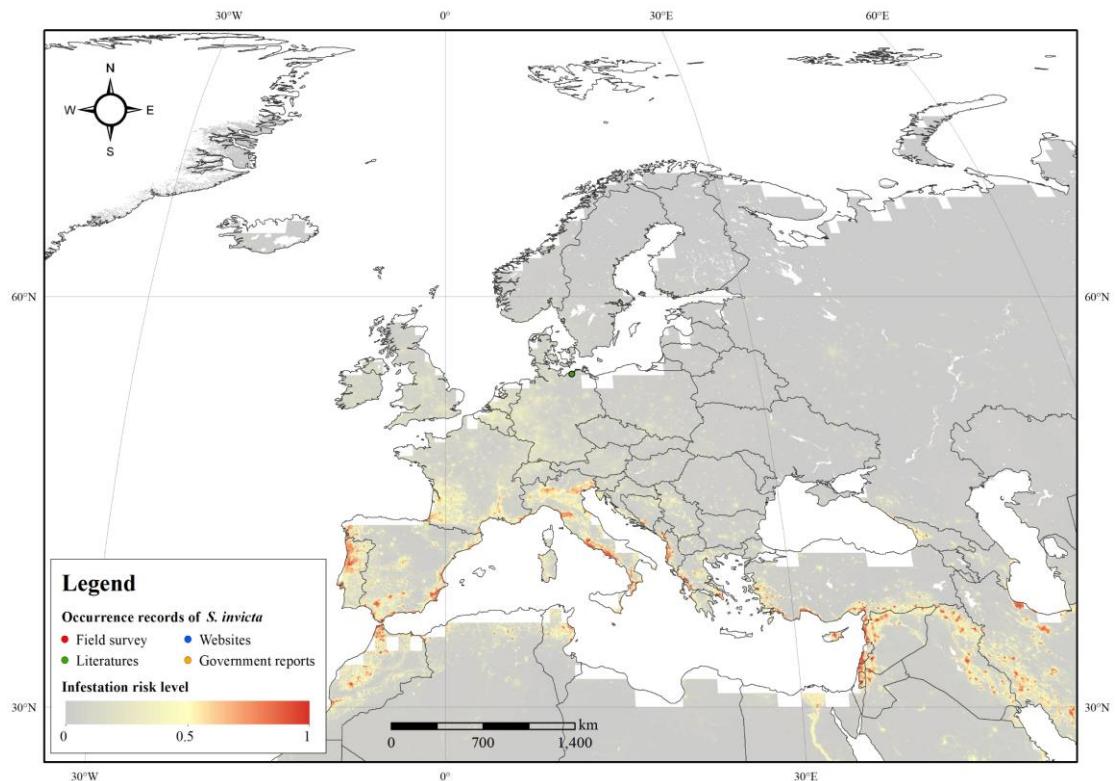


Figure S4. Occurrence points and infestation risk level of *S. invicta* in Africa

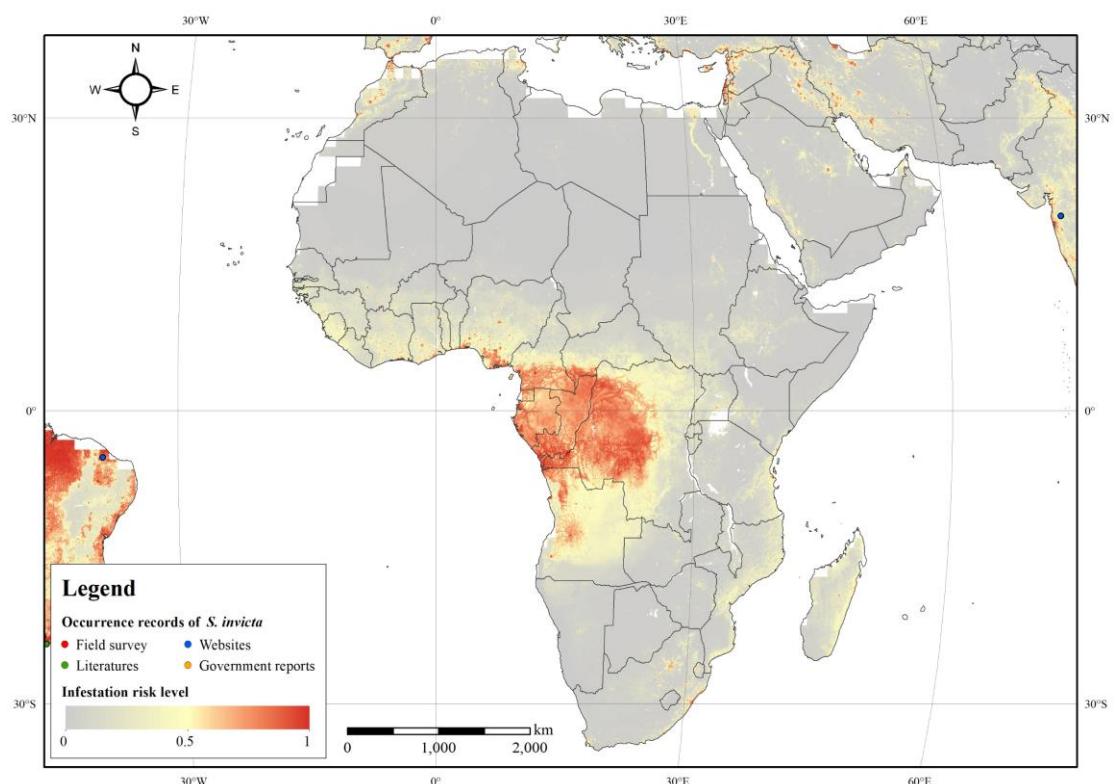


Figure S5. Occurrence points and infestation risk level of *S. invicta* in Asia

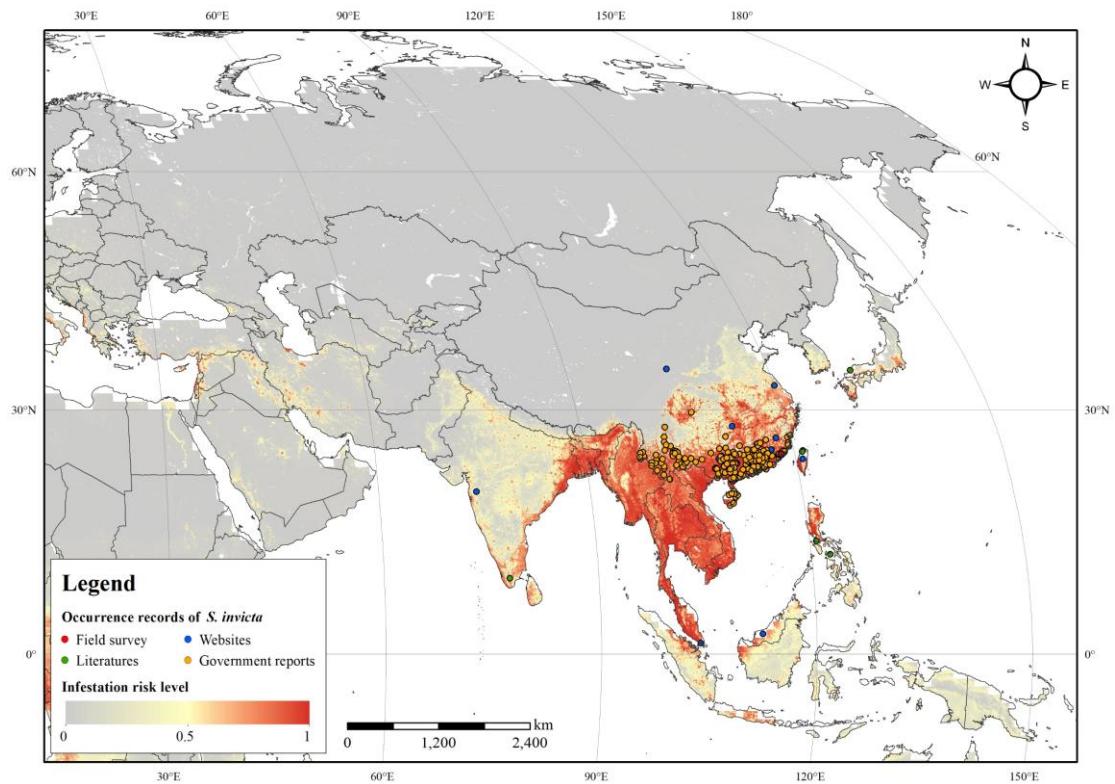
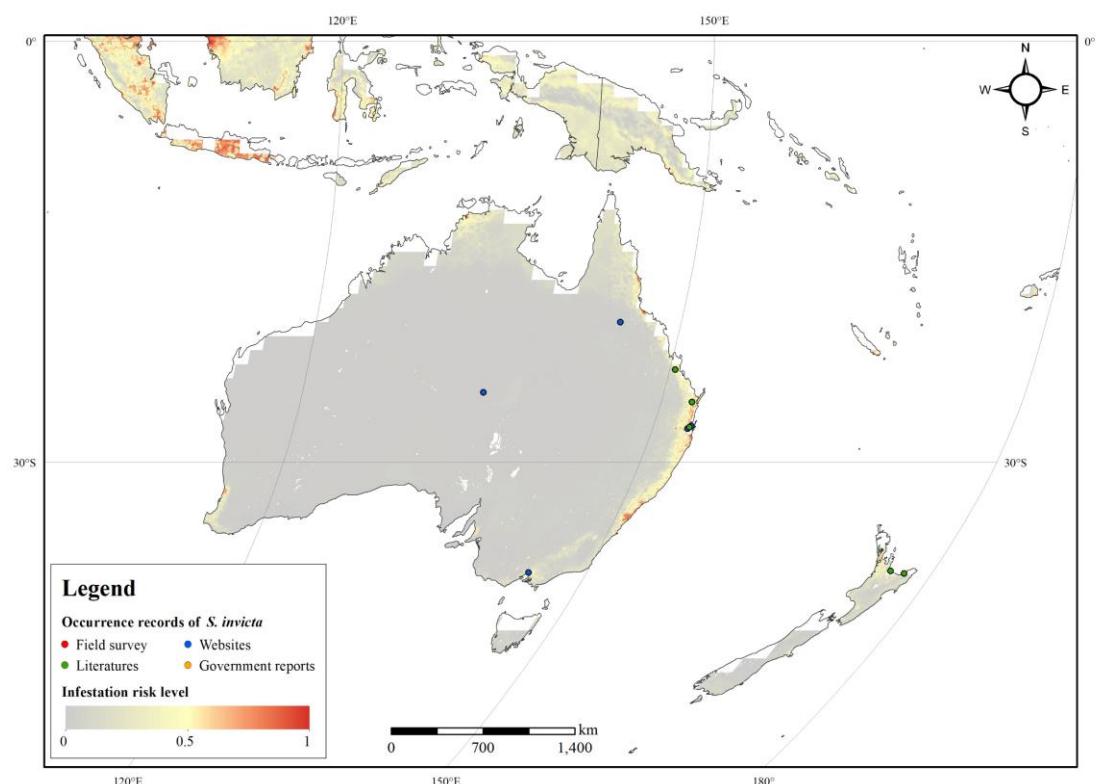
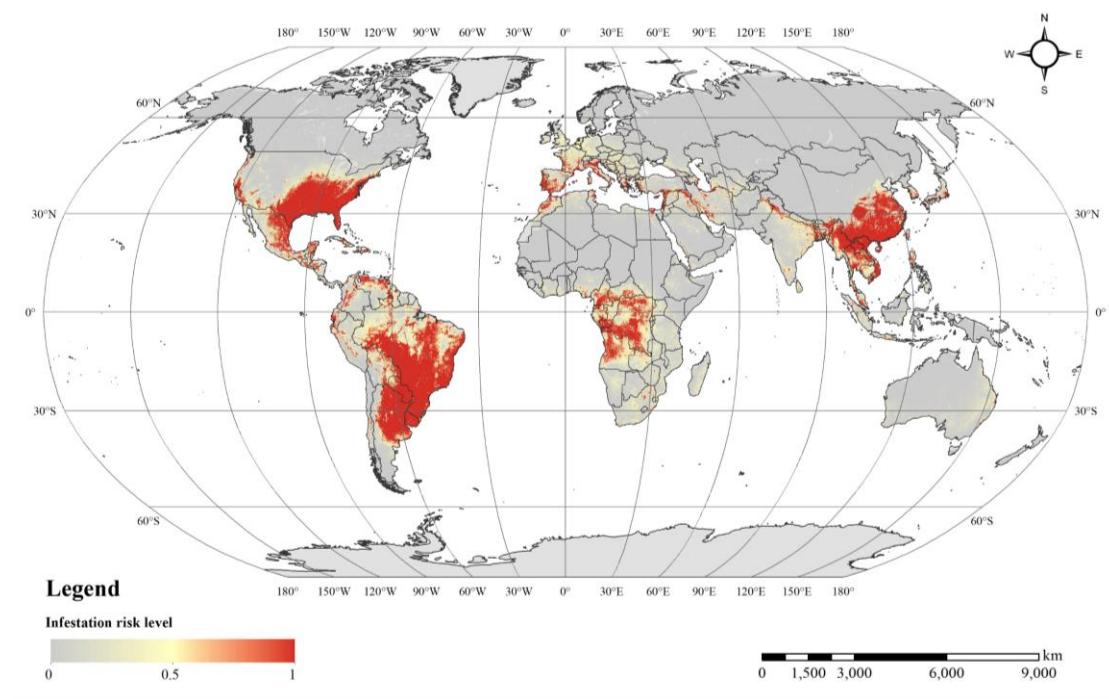


Figure S6. Occurrence points and infestation risk level of *S. invicta* in Oceania



Supplementary Material 3: Global infestation risk level of *S. invicta* predicted by Maxent

Figure S7. Global infestation risk level of *S. invicta* predicted by Maxent



Supplementary Material 4: Sampling points of *S. invicta* field survey in Fujian Province

Figure S8. Sampling points of *S. invicta* field survey

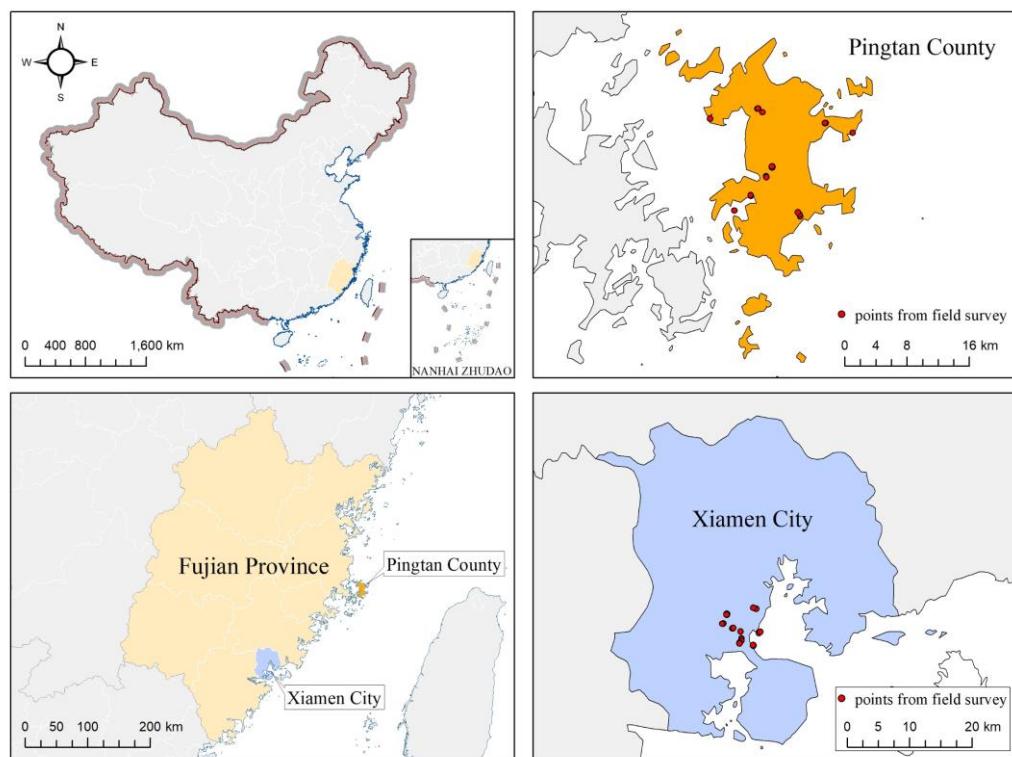


Figure S9. Sampling points pictures of *S. invicta* field survey

