The following supplement accompanies the article

Conserving the understudied invertebrates: a call for a systematic monitoring protocol for Asian horseshoe crabs in nursery habitats

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Table S1. Local names of horseshoe crabs used in the reference searching

| Country    | Common names                                           |
|------------|--------------------------------------------------------|
| China      | 蟹 (hou) and 马蹄蟹                                     |
| Japan      | カブトガニ (Kabutogani)                                  |
| Malaysia   | Belangkas                                              |
| Indonesia  | Mimi, mimi lan mintuno and kepiting tapal kuda         |
| Thailand   | Mangda and hera                                         |
| Vietnam    | Loài Sam ven biển, Loài sam ba gai and So biên rìng ngáp mận |
| Myanmar    | Kin-Pho, Kin-Ma, Yay-Kim and Yay- Belar                 |
| Cambodia   | Pro Laing Kas                                          |
| Philippines| Barangkas                                              |
Table S2. Random visual search

T = temperature, ind. = individual, hr = hour; Horseshoe crab species: TT = *Tachypleus tridentatus*; CR = *Carcinoscorpius rotundicauda*

| No. | Country/ Region | Study site | Reference | Nursery habitat baselines | Sampling conditions | Population baselines |
|-----|-----------------|------------|-----------|---------------------------|---------------------|----------------------|
|     |                 |            |           | Sampling location/ point coordinates | Total suitable habitat area (m²) | Sampling period/ month/ season | Water T when sampling (°C) | Sampling time in relative to tidal level | Total sampling area (m²) | Sampling shore length (m) | Sampling hr | No. of surveyor | Abundance or number of ind. (species) | Density (ind. per 100 m²) (species) |
| 1   | Mainland China  | Xiamen, Nanan & Danzhoueman | Weng et al. (2012) | 2006–2007 Summer, 2009 Summer | 3 | 3–5 | 180 (TT) |
|     |                 | Longkou    | Weng et al. (2012) | 2006–2007 Summer | 3 | 3–5 |
| 2   | Taiwan          | Penghu, Chiayi | Hsieh & Chen (2015) | 2003, 2004–2005 | 4 | 1.47 (TT) |
| 3   | Philippines     | Aventura Beach | Almendral & Schoppe (2005) | 09°43.8049N 118°46.3709E 10,200 | 2002.07–2002.10 | 30 | 10,200 | 4 | 2.5 |
| 4   | Philippines     | Bernardo Marcelo | Kaiser & Schopper (2018) | 9.7620N, 118.7720E 17,745 | 2001.05–2001.12, 2017.04–05 | 29–31 | 2–3 hrs before lowest water level | 17,745 | 2–3 hrs before lowest water level | 4–5 | 2.00 (TT) |
| 5   | Singapore       | Kranji | Cartwright-Taylor et al. (2009) | 1°26’N, 103°45’E 26,680 | 2007.09–2008.07 | ~30 | Tide height ~1 m | 26,680 | 232 | 2.5 | 174–765 /day (CR) |
| 6   | Singapore       | Kranji | Cartwright-Taylor et al. (2012) | 1°26’N, 103°45’E 26,680 | 2008.10–2011.06 | ~30 | Tide height ~1 m | 26,680 | 232 | 2.5 | 3–588 /day (CR) |
| 7   | Japan           | Tsuyazaki  | Wada et al. (2008) | 33°47’N, 130°27’E 2003.09, 2004.07–2004.09, 2005.05–2005.10, 2006.05–2006.10 | 2 hrs before and after lowest water level | 1–2 | 11–48 | Mean 113 /entire period (TT) |


| No. | Country/Region | Study site | Reference | Nursery habitat baselines | Sampling conditions | Population baselines |
|-----|----------------|------------|-----------|---------------------------|--------------------|----------------------|
|     |                |            | Sampling location/ point coordinates | Total suitable habitat area (m²) | Sampling period/ month/ season | Water T when sampling (°C) | Sampling time in relative to tidal level | Sampling shore length (m) | No. of transect | Transect length (m) | Distance between transects (m) | No. of quadrat per transect | Area of each quadrat (m²) | Abundance or number of ind. | Density (ind./ 100 m²) (species) |
| 1   | Mainland China | Pearl Bay  | Available | 2014.10 | 23–32 | ~3 hrs before low tide | Point sampling | 200 | Point sampling | 4 | 2×2 | 2–11 (TT), 22–25 (CR) |
|     |                |            | Chen et al. (2015) | 2014.10 | 23–32 | ~3 hrs before low tide | Point sampling | 200 | Point sampling | 4 | 2×2 | 2–11 (TT), 22–25 (CR) |
| 3   | Hong Kong     | New Territories | Shin et al. (2009) | Available | 3,720–165,750 | 2004.09–2004.11, 2005.08–2005.10 | 29 | 170–600 | 4 | 170–600 | 26–81 | 5 | 8×8 | 0.1–0.3 (TT) |
|     |                | Lantau Island | Kwan et al. (2016) | Available | 3,720–165,750 | 2012.07–2012.09, 2014.07–2014.09 | > 20 | 170–600 | 4 | 170–600 | 26–81 | 5 | 8×8 | 0.2–1.0 (TT), 0.1–0.3 (CR) |
| 4   | Taiwan        | Kinmen     | Hsieh & Chen (2009) | Available | 2005.08–2006.11 | > 25 | 4 | 300 | 50 | 3 | 5×5 | 0.6–16.9 (TT) |
| 5   | Taiwan        | Kinmen     | Hsieh & Chen (2015) | Available | 2003.01–2009.12 | 4 | 300 | 50 | 3 | 5×5 | 0.6–16.9 (TT) |
| 6   | Singapore     | Main Island | Cartwright-Taylor et al. (2011) | Available | ~9,000 | 2009.01–2009.03, 2009.06 | ~26–31 | Halfway through ebb tide | Point sampling | 50 | Point sampling | 10 or 25 | 10×2 or 2×2 | 8–44 /entire period (CR) |
Table S4. Belt transect

T = temperature, ind. = individual, pers. = person, hr = hour; Horseshoe crab species: TT = *T. tridentatus*; CR = *C. rotundicauda*

| No. | Country/Region | Place | Reference | Nursery habitat baselines | Sampling conditions | Population baselines |
|-----|----------------|-------|-----------|---------------------------|--------------------|----------------------|
|     |                |       |           | Sampling location/point coordinates | Total suitable habitat area (m²) | Sampling period/month/season | Water T when sampling (°C) | Sampling time in relative to tidal level | Sampling shore length (m) | No. of transect | Transect length (m) | Transect width (m) | Distance between transects (m) | Sampling hr | No. of surveyor | Abundance or number of ind. (species) |
| 1   | Mainland China | Silver Bay | Hu et al. (2009) | Available | 2008.08 | 30–32 | 6 | 10 | 250 | | | | | | | | 0.1–2.4 (TT) |
| 2   | Mainland China | Xichang, Xibeiling, Jinhaiwan | Hu et al. (2015) | Available | 2009.05–06 | 700–1,350 | 6 | 700–1,350 | 12 | | | | | | | | 2 | 0.9–3.2 (TT), 0.1–1.7 (CR) |
| 3   | Mainland China | Pearl Bay | Chen et al. (2015) | Available | 2014.10 | 23–32 | ~3 hrs before low tide | 3 | 20 | 1 | 15 | | | | | | | 15–65 (CR) |
| 4   | Hong Kong | New Territories | Morton & Lee (2011) | Available | 2002.05–2002.07, 2007.09 | 26–29 | ~3 hours before low tide | 6 | 100 | 2 | 30 | | | | | | | 0.1–2.0 (TT) |
| 5   | Hong Kong | New Territories | Lee & Morton (2016) | Available | 2014.09–2014.11 | 2004.09–2004.11, 2005.08–2005.11 | 29 | 170–600 | 4 | 100 | 2 | 13–89 | | | | | | 0.2–3.2 (TT), 0.6–1.9 (CR) |
| 6   | Hong Kong | New Territories | Shin et al. (2009) | Available | 3,720–165,750 | 2004.09–2004.11, 2005.08–2005.11 | 29 | 170–600 | 4 | 100 | 2 | 13–89 | | | | | | 0.2–1.7 /pers./hr (TT), 0.2–0.8 /pers./hr (CR) |
| 7   | Indonesia | Teluk Bintan | Anggraini et al. (2017) | Available | 2016.08–2016.09 | 31–33 | 4 | 20 | 1 | 250 | | | | | | | 2.5–3.8 (CR) |
| 8   | Singapore | Main island | Cartwright-Taylor et al. (2011) | Available | ~9,000 | 2009.01–2009.03, 2009.06 | ~26–31 | Halfway through ebb tide | 4 | 50 | 5 | 45–75 | | | | | | 8–44 /entire period (CR) |
Fig. S1. A diagram illustrating the systematic survey for juvenile Asian horseshoe crabs on the intertidal flat
Fig. S2. An example of density distribution map visualises the core nursery area across the entire suitable habitat. The density distribution was interpolated with ordinary Kriging method on a satellite image of nursery ground (Landsat 8 OLI, RGB753, Path and Row number: 124045, image date: 17 January 2015; USGS) by ArcMap (Version 9.3, ESRI, CA, USA)
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