Table S1. Model selection of a cumulative probability function for *Cryptotympana facialis* hatching according to Akaike's Information Criterion (AIC). *The parameters did not converge.

Formula	AIC	Parameters	Sources
$P_{(SET)} = \frac{1}{1 + \exp(\alpha + \beta \cdot SET)}$	–216.303	α = 28.96 β = –0.040	
$P_{(SET)} = \frac{1}{1 + \exp[\alpha + \beta \cdot \ln(SET - \gamma)]}$	–218.994	α = 27.84 β = –5.656 γ = 580.1	
$P_{(SET)} = \frac{1}{1 + \exp(\alpha + \beta \cdot \sqrt[2]{(SET - \gamma)}}$	–*	–	
$P_{(SET)} = \frac{1}{1 + \exp(\alpha + \beta \cdot \sqrt[3]{(SET - \gamma)}}$	–219.226	α = 10.83 β = –2.430 γ = 628.6	
$P_{(SET)} = \frac{1}{1 + \exp(\alpha + \beta \cdot \sqrt[4]{(SET - \gamma)}}$	–216.153	α = 16.83 β = –5.181 γ = 617.1	
$P_{(SET)} = 1 - \exp\left\{-\left(\frac{SET - \gamma}{\eta}\right)^{\beta}\right\}$	–*	–	Wagner et al., 1984
$P_{(SET)} = \{1 + \exp[-K(SET - C)]\}^{-1/Q}$	**–219.725**	K = 0.029 C = 592.8 Q = 0.039	Régnière, 1984
$P_{(SET)} = 1 - \left\{1 + \exp\left[-\left(\frac{\alpha - SET}{\sqrt{\beta \cdot SET}}\right)\right]\right\}^{-1}$	–217.882	α = 719.6 β = 0.858	Dennis et al., 1986

Table S2. List of publications of the meteorological records.

Years of record	Publication title	Publication year	Editor/Publisher
1901–1926	Meteorological Cumulative Annual Report of Osaka	1928	Meteorological Observatory, Osaka
1927–1939	Meteorological Cumulative Annual Report of Osaka	1940	Osaka District Observatory
1940	Meteorological Monthly Report of Osaka	1940	Osaka District Observatory
1941	Meteorological Catalogue of Osaka	1941	Osaka District Observatory
1942	Meteorological Catalogue of Osaka	1942	Osaka District Observatory
1943	Monthly Report of the Central Meteorological Observatory of Japan	1943	Central Meteorological Observatory
1944	Monthly Report of the Central Meteorological Observatory of Japan	1944	Central Meteorological Observatory
1945	Monthly Report of the Central Meteorological Observatory of Japan	1945	Central Meteorological Observatory
1946	Monthly Report of the Central Meteorological Observatory of Japan	1946	Central Meteorological Observatory
1947	Monthly Report of the Central Meteorological Observatory of Japan	1947	Central Meteorological Observatory
1948	Monthly Report of the Central Meteorological Observatory of Japan	1948	Central Meteorological Observatory
1949	Monthly Report of the Central Meteorological Observatory of Japan	1949	Central Meteorological Observatory
1950	Meteorological Catalogue of Osaka	1950	Osaka District Observatory
1951	Meteorological Catalogue of Osaka	1951	Osaka District Observatory
1952	Meteorological Catalogue of Osaka	1952	Osaka District Observatory
1953	Meteorological Catalogue of Osaka	1953	Osaka District Observatory
1954	Meteorological Catalogue of Osaka	1954	Osaka District Observatory
1955	Meteorological Catalogue of Osaka	1955	Osaka District Observatory
1956	Meteorological Catalogue of Osaka	1956	Osaka District Observatory
1957	Meteorological Catalogue of Kinki	1957	Osaka District Observatory
1958	Meteorological Catalogue of Kinki	1958	Osaka District Observatory
1959	Meteorological Catalogue of Kinki	1959	Osaka District Observatory
1960	Meteorological Catalogue of Kinki	1960	Osaka District Observatory

Table S3. Comparison of the hatching dates observed in the field and those estimated from thermal requirements in *Cryptotympana facialis*

	2006			2007			2008		
%	Observed (*O*)	Estimated (*E*)	Difference (*O*–*E*)	Observed (*O*)	Estimated (*E*)	Difference (*O*–*E*)	Observed (*O*)	Estimated (*E*)	Difference (*O*–*E*)
5	July 9	July 14	–5	July 11	July 16	–5	July 12	July 14	–2
25	July 16	July 16	0	July 16	July 19	–3	July17	July 16	1
50	July 17	July 19	–2	July 21	July 21	0	July 18	July 18	0
75	July 17	July 22	–5	July 23	July 23	0	July 19	July 20	–1
95	July 23	July 26	–3	Aug. 4	July 28	7	Aug. 6	July 24	13