

Table S1. Ratio of diameter (R), spacing (L) and height (H) of protrusions and values of roughness factor (r), solid fraction in contact with the liquid (φ), $\cos\theta_w$ and $\cos\theta_c$ based on the Wenzel and Cassie models (standard deviations in brackets)

Type	Species	CA (deg.)	Ratio		Wenzel model		Cassie model	
			H/L	L/R	r	$\cos\theta_w$	φ	$\cos\theta_c$
A	<i>C. maculata</i>	76.8 (13.9)	3.37	0.95	4.37	-1.13	0.263	-0.805
	<i>P. scitula</i>	91.9 (5.9)	3.36	1.00	4.36	-1.13	0.250	-0.815
B	<i>M. hebes</i>	78.4 (5.0)	1.73	1.12	2.72	-0.704	0.223	-0.835
	<i>L. bifuscata</i>	81.3 (8.3)	1.71	1.30	2.68	-0.259	0.189	-0.860
	<i>M. conica</i>	93.9 (8.3)	1.37	1.21	2.36	-0.611	0.205	-0.848
C	<i>M. durga</i>	134.8 (5.7)	2.89	1.00	3.82	-0.989	0.250	-0.815
	<i>A. bindusara</i>	135.5 (5.2)	2.57	1.08	3.57	-0.923	0.230	-0.829
	<i>M. microdon</i>	139.8 (4.5)	2.34	1.09	3.33	-0.863	0.230	-0.830
D	<i>M. mongolica</i>	123.3 (12.7)	8.85	0.37	7.95	-2.06	0.535	-0.604
	<i>P. radha</i>	136.5 (5.2)	6.55	0.32	5.82	-1.51	0.573	-0.575
	<i>D. vaginata</i>	141.3 (3.3)	6.46	0.42	6.41	-1.66	0.493	-0.635
	<i>D. nagarasingna</i>	141.6 (4.5)	6.72	0.37	6.28	-1.63	0.535	-0.604
	<i>M. opalifer</i>	143.8 (6.0)	8.71	0.32	7.44	-1.93	0.570	-0.577
	<i>T. vacua</i>	144.2 (6.8)	10.14	0.31	8.35	-2.16	0.581	-0.570
	<i>T. jinpingensis</i>	146.0 (2.6)	8.52	0.33	7.32	-1.90	0.569	-0.579

CA, contact angles (standard deviations in brackets).

Table S2. Advancing (θ_A) and receding angles (θ_R) of wing surfaces of five cicada species

Type	Species	θ_A (deg.)	θ_R (deg.)	Hystersis
B	<i>M. conica</i>	79.5	73.3	6.2
C	<i>A. bindusara</i>	139.6	138.6	1.0
	<i>D. vaginata</i>	141.2	139.1	2.1
D	<i>D. nagarasingna</i>	140.6	139.7	0.9
	<i>T. vacua</i>	145.1	144.4	0.7

Table S3. Mean contact angles (standard deviations in brackets) of wing surfaces of five cicada species, cleaned with flowing deionized water or cleaned with deionized water and a fine brush

Species	Measured contact angles of wing surface (deg.)	
	Cleaned with deionized water	Cleaned with deionized water and a fine brush
<i>C. maculata</i>	76.8 (13.9)	70.5 (4.3)
<i>M. hebes</i>	78.4 (5.0)	61.0 (3.2)
<i>P. scitula</i>	91.9 (5.9)	66.1 (10.0)
<i>M. conica</i>	93.9 (8.3)	75.7 (3.0)
<i>M. mongolica</i>	123.3 (12.7)	75.6 (11.5)