

	Characters	<i>M. zamboangensis</i>	<i>M. bellus</i>	<i>M. demesae</i> ¹	<i>M. javanus</i>	<i>M. sumatranus</i>	<i>M. floridus</i>	<i>M. tenuiflorus</i>	<i>M. urceolatus</i> ²	<i>M. lowii</i>	<i>M. melintangensis</i> ³ Barlow, sensu lato	<i>M. papillosus</i>	<i>M. retusus</i>	<i>M. robinsonii</i>
		Philippines (Mindanao)	Philippines (Bicol region)	Philippines (Mindanao)	Java	Sumatra	Borneo (Mt. Kinabalu)	Borneo (Kalimantan) [no specimens]	Borneo (Kalimantan)	?Cambodia, Malay pen., Thailand	Thailand, Cambodia, Laos, Malaysia (pen. & east), Indonesia	Malay pen., Borneo	Malay pen., Sumatra, Borneo	Malay pen., China, Vietnam
1	Petiole length (mm)	7–14	1.8–7.9	0–1	(5.1–) 8.7 (–18)	4–10	(3–) 6.5 (–8.5)	4–8	(3–) 7 (–10.6)	(2.3–) 3.3 (–4.4)	(3–) 6–15 (–18)	1–3	3–5	1–10
2	Leaf shape	ovate, elliptic	oblong, ovate, elliptic, narrowly elliptic	broadly ovate	ovate–lanceolate	ovate–lanceolate	ovate–oblong or ovate–lanceolate	oblong or ovate–oblong	ovate–lanceolate	ovate–oblong, ovate–lanceolate, elliptic	ovate	obovate, spatulate	elliptic, lanceolate, obovate, narrowly ovate	elliptic lanceolate, narrowly ovate, ovate
3	Leaf length (cm)	7.5–15.6	2.3–10	4–10	(6.6–) 9.5 (18)	(4.2–) 6.5 (–9.5)	(4.3–) 6.5 (–9.2)	7.5–12	(5–) 7.6 (–12)	(3.6–) 4.3 (–6)	(5–) 8–12 (–18)	2.5–4	5–10	4–8 (–12) ⁴
4	Leaf width (cm)	3.3–7.7	0.9–4	2.5–6	(2–) 3.7 (–6)	(1–) 1.7 (–2.7)	(1.4–) 2.3 (–3)	2.5–4	(1.5–) 2.6 (–4.0)	(1.2–) 1.6 (–4)	1.5–6	0.8–2	2–7	(0.8–) 2–3.5
5	Leaf base	rounded, obtuse, broadly cuneate	decurrent, attenuate	rounded, subcordate	cuneate, rounded, subcordate	cuneate	cuneate	rounded, slightly acute	cuneate	rounded, cuneate, attenuate	cuneate, truncate, cordate	attenuate	cuneate, (rounded)	attenuate, cuneate
6	Leaf apex	acuminate, caudate	obtuse, cuneate, acute, acuminate	acute, acuminate	acute, acuminate	acute, acuminate	obtuse, acuminate	acuminate	obtuse, subobtuse, acuminate	obtuse or rounded, acute or acuminate	acute, acuminate, rounded	rounded, slightly emarginate	rounded, (obtuse), retuse	acute, acuminate, obtuse
7	Lateral nerve pair no.	5–7	5	10	4–6	2–4	7–9	N/A	4–6	4–6	3–4	1–3	4–6	3–5
8	Number Inflorescence peduncles per axil	(1–) 3–4 (–5)	1 (–3)	1	1–3	1–3	1–3	1–2	1–3	1–3	N/A	1	1–3	[groups, many]
9	Inflorescence type ⁵	subumbel (raceme, flower pair)	subumbel (flower pair)	subumbel	raceme, subumbel	raceme	raceme, flower pair	raceme	racemes, flower pair	raceme, subumbel, flower pair	raceme, subumbel	flower pair (subumbel)	raceme, flower pair	flower pair (subumbel)
10	Number flower pairs per inflorescence ⁶	(1–) 2–3	(1–) 2	2–3	2–4	2–3	1–2	2–3	1–2	1–2	2–4	1 (–2)	(1–) 2–3 (–5)	(1–) 2
11	Peduncle length (mm)	3.2–8.0	1–6	2	5–12	4–5	10–12	5–10	10–25	2–5 (–10)	3–10 (–16)	1.5–6	5–20	0.9–2.5
12	Peduncle vestiture	glabrous, papillose	glabrous	glabrous	glabrous	glabrous	glabrous	glabrous	glabrous	papillose, puberulous	glabrous, rarely papillose	glabrous	glabrous	glabrous
13	Pedicle length (mm)	0.9–2.3	1–1.5	2–3	2–3	2	3–4	2–3	2–3	2–5	(1–) 2–4	1–2	1–3	0.8–2.5
14	Pedicle vestiture	papillose	glabrous	glabrous	glabrous	glabrous	glabrous	glabrous	glabrous	papillose, puberulous	glabrous, rarely papillose	glabrous	glabrous	glabrous
15	Bracteole vestiture	papillose	glabrous	glabrous	glabrous	glabrous	glabrous	glabrous	glabrous	papillose, puberulous	glabrous, rarely papillose	glabrous	glabrous	glabrous
16	Ovary length (=calyx & ovary)	2.8–3.4	2.2–3	2	3	3	1.75–2 ⁷	1.5	1.5	2.5–4	1.8–2.5	(1.3–) 1.5 (–1.7)	N/A	2.9
17	Ovary width (mm)	2.3–2.6	1–1.2	1	1.5–2	2	1–1.25	1	1	1–1.5		1	1–1.2	1.5–2
18	Calyx & fruit vestiture	papillose	glabrous	glabrous	glabrous	glabrous	glabrous	glabrous	glabrous	glabrous	glabrous, rarely papillose	papillose	glabrous	glabrous
19	Mature bud corolla shape	lageniform	lageniform, fusiform	ellipsoid	cylindrical, fusiform	narrow lageniform	narrow lageniform	narrow lageniform	narrow lageniform	cylindrical	narrow lageniform, fusiform	fusiform	narrow lageniform	fusiform
20	Mature bud corolla length (mm) ⁸	(15–) 18.6 (–19.2)	(12–) 16 (–19)	16–18	25–30 (–33)	20–25	18–21	18	to 33	24–34	(15–) 20–30 (–35)	10–15	(18–) 20 (–25) ⁹	(11–) 15–25 (–30) ¹⁰
21	Corolla tube base ¹¹	flaring	flaring	flaring	flaring	flaring	flaring	flaring	bulbous	flaring	flaring	flaring	flaring	flaring
22	Corolla tube length (mm)	(9.4–) 11.4 (–13.4)	(12–) 14 (–16)	11	16.7–19	11.2	8.8	8	N/A	(11–) 12 (–13)	12–18	7–8	(7.3–) 9 (–10)	10.5
23	Corolla tube width (widest part)	(4.5–) 4.8 (–5.2)	5	6	3.6	3.5	4.8	3.7	N/A	(2.5–) 2.85 (–3.2)	N/A	4.4	(3.1–) 3.4 (–4.0)	4.6
24	Corolla tube length / width ratio ¹²	2.4	2.8	1.83	5	3.2	1.8	2.1	N/A	4.2	N/A	1.7	2.6	2.2
25	Corolla shoulder length	(2.3–) 2.4 (–2.6)	(1.5–) 2.3 (–3.9)	2.7	3–3.3	3.4	4.8	3.9	N/A	1.9–2.6	N/A	1.6	(2.3–) 2.5 (–2.7)	2.4
26	Corolla neck length (mm)	(0.8–) 1.2 (–1.3)	(1.1–) 1.3 (–1.6)	1.2	1.7–3	2.4	3.6	2	N/A	1.8	N/A	1.7	(4.6–) 5.1 (–6.1)	2.2
27	Corolla neck width (mm)	(1.8–) 2.4 (–2.6)	(1.1–) 1.4 (1.7)	1.6	1.3–2	1.5	1.8	1.6	1.5	1.4	N/A	1.5	(1.3–) 1.4 (–1.5)	1–2
28	Corolla head length (mm)	(4.5–) 5 (–5.7)	(3.2–) 3.4 (–3.8)	3.1	5–8	4.5	2.3	4	N/A	5.6	N/A	4.3	(3.1–) 3.8 (–4.5)	4.8
29	Corolla head papillose	yes	no	no	no	no	no	no	no	no	no	yes	no	no
30	Corolla head apex shape	acute, obtuse	acute	obtuse	obtuse	obtuse	obtuse	obtuse	obtuse	obtuse	acute	obtuse	obtuse	obtuse
31	Corolla lobe length ¹³	(7.4–) 8.7 (–9.2)	(5.8–) 7 (–9.3)	7	10–14.5	10.3	10.7	8	N/A	9.3	N/A	7.6	(10.1–) 11.6 (–13.3)	5–7
32	Corolla lower tube color	orange, red	red	red	red	yellow	pink	red	N/A	pink, pinkish, white	pink, red, orange	yellow, light green, yellow–orange	pink or violet	pink or red, yellow or bright orange–red, deep crimson with green
33	Corolla upper tube color	orange, red	red	red	red	yellow	pink	red	N/A	pink, pinkish, white	pink, red, orange	yellow, light green, yellow–orange	pink or violet	Yellow, yellow or bright orange–red, deep crimson with green
34	Corolla shoulder color	orange, red	red	red	red	yellow	pink	red	N/A	pinkish	pink, red, orange	yellow, light green, yellow–orange	pink or violet	Yellow, yellow or bright orange–red, deep crimson with green
35	Corolla neck color	black	red	red	black	yellow	pink	red	not black	maroon	dark	yellow, light green, yellow–orange	dark green	Yellow, yellow or bright orange–red, deep crimson with green
36	Corolla head color	greyish green	blue	red	green or scarlet	red	green	red	N/A	green	yellow or green	yellow, light green, yellow–orange	green	Yellow, yellow or bright orange–red, deep crimson with green
37	Corolla apex color	greyish green	blue	red	green or scarlet	red	green	red	N/A	red	yellow or green	yellow, light green, yellow–orange	pink or violet	Yellow, yellow or bright orange–red, deep crimson with green
38	Free part of filament length (mm)	2.5–3.6	3	1.5	3.7	4.2	3.5	3.5	7	4.7	2–4	2	3–4	3.8–5
39	Anther length (mm)	1.1–1.6	2.5	2	1.5	1.5	2	1.5	2	2–3	1.5–3	1	1.5–2	1.5–2

Where possible, values are presented as ranges. Some cells have values in parentheses. These cells follow one of two formats: '(minimum value) average value (maximum value)' or '(outlier value) range of normal values (outlier value)'. The latter format was only used when presenting information obtained from the published literature in which this format was used.

Footnotes

1. For *M. demesae*, the description in Merrill (1914) differs from that in Danser (1935), despite both having looked at same type. No specimens of this taxon have been located.

2. For *M. urceolatus*, only a description (no illustration) is given in Danser (1941). The photo of the holotype shows immature flowers that are smaller than indicated in the description.

3. The taxa considered synonymous of *M. melintangensis* by Barlow (1995, 1997) are: *M. bellus* Danser, *M. demesae* (Merr.) Danser, *M. floridus* Danser, *M. javanus* Danser, *M. lowii* (King) Tiegh., *M. sumatranus* Danser, *M. tenuiflorus* Danser and *M. urceolatus* Danser.

4. For *M. robinsonii*, leaves on the holotype measure 4.6–7.7 cm long by 0.9–2 cm wide. Barlow (1997) gives 5–8 (–12) by (1–) 2–3.5 (–5). These larger sizes are not seen on the holotype but specimens from Thailand identified as this species (L1675270 and P06682246) have such larger leaves but are not *M. robinsonii* because their inflorescences have 4 pairs of evenly spaced flowers.

5. Here we define raceme as a floral axis with flowers evenly distributed along its length whereas a subumbel is racemose in nature but with the flowers clustered near the apex of the axis. For some taxa, such as *M. papillosus* and *M. robinsonii*, neither definition is applicable because the axis contains only one pair of flowers (scored as flower pair).

6. Some descriptions of the number of flower pairs say "few". We interpret this here to mean 3.

7. For species such as this one where excellent illustrations of inflorescences / flowers were available (e.g. *M. floridus*, *M. javanus*, *M. tenuiflorus*), mature bud corolla length (from description) was used to calibrate the drawing and other measurements extrapolated from this.

8. Features of the mature corolla bud provide important taxonomic information in *Macrosolen*. As explained in the text (and here characters 18–36), four regions of the corolla were recognized: tube, shoulder, neck and head (see Fig. 1). The tube is only the connate portion of the corolla. The point where the corolla lobes are free marks the lower boundary of the shoulder. The neck begins at the point where the corolla is constricted and is also marked by the spot where the corolla lobes begins reflexing. The neck is sometimes a different color than the shoulder/tube and head, thus marking its upper border. The head is swollen to various degrees and sometimes displays color differences between the rest of the corolla.

9. Danser (1931) reports 18–25 for the length of the mature corolla bud. Barlow (1997) indicates 18–35, but this upper value is greater than values obtained from measuring from photos of fresh flowers and from herbarium material. We thus interpret the number 35 as a typo.

10. These measurements represent a merger of the dimensions reported in Danser (1931, 1936, 1938) and Barlow (1997).

11. For the character corolla tube base expansion, nearly all of the species of *Macrosolen* considered here show a slight expansion of the corolla tube (increase in width) as it departs the calyculus limb. This gradual expansion (flaring) differs from the condition in *M. urceolatus* where the base abruptly widens above the calyculus limb and then contracts further up on the corolla tube, thus forming a bulbous base. Although no drawings or photographs of this species are available, the holotype shows this feature on the immature flower buds. Another feature often described in *Macrosolen* is curvature of the corolla tube, either as it departs the calyculus or farther up. The degree of curvature seems somewhat dependent upon the orientation of the inflorescence. Danser (1931) indicates the corolla in *M. lowii* is curved at the base. This also is seen in *M. retusus*, but that varies among flowers on the inflorescence. Most of these are just straight or slightly curved, not like in other species outside this complex. For these reasons, this character was not used.

12. The length / width ratio was calculated from mean values of length and width.

13. For corolla lobe length, the sum of the shoulder, neck and head lengths was used. The character "shape of the corolla lobes" was not used. All are very similar and it is difficult to understand how the different workers applied the terms spatulate, narrowly spatulate, lanceolate, etc.