

## STERCULIACEAE

**Melhania integra** Verdoorn, sp. nov., stylis longis ad *M. acuminatam* accedens sed foliis angustioribus marginibus integris differt.

Fruticulus, 20–45 cm altus, basi lignosus, rhizomatus. *Caules* plures, graciles, teretes, lignosi, parce ramosi, ramulis breviter tomentosus. *Stipulae* subulatae, 6–15 mm longae. *Petioles* 0·4–1 cm longi. *Folia* anguste lanceolato-elliptica, 2–6·5 cm longa, 0·4–1·2 cm lata, integra, supra velutino-tomentosa, infra albo-tomentosa plerumque squamis minutibus et stellato-piliis evidentibus. *Pedunculi* axillares, 1–3 flori, 4–20 mm longi, pedicellis 3–14 mm longis. *Bracteolae* ovatae acuminatae, basi subobtusae vel cordatae, c. 12 mm longae, 6 mm latae, utrinque tomentosae. *Calyx* 5-partitus, lobis lanceolatis acuminatis, c. 15 mm longis, 3·5 mm latis extus tomentosus. *Petala* lutea, c. 16 mm longa, 10–14 mm lata, calyce longiora. *Stamina* filamentis 1 mm longis antheris 3–4 mm longis; staminodii ligulati, 9 mm longi. *Ovarium* subglobosum, c. 3 mm diam., albo-tomentosum, stylo 8 mm longo, ovulis 7 pro loculo. *Capsula* c. 10 mm longa 8 mm lata tomentosa.

TRANSVAAL.—Pietersburg; Wolkberg, *Van Vuuren* 1316; *Codd & Verdoorn* 10407 (holotype, PRE); 10433.

Shrublet 20–45 cm tall with several slender, woody stems from a woody rootstock, laxly branched; branches shortly tomentose, sometimes minute, reddish-brown, stellate scales are obvious in the tomentum of the new growth. *Stipules* subulate, 6–15 mm long. *Leaves* on flowering branches clustered towards the apex, narrowly lanceolate-elliptic, mostly 2–6·5 cm long and 0·4–1·2 cm broad (lower leaves or leaves on sterile shoots larger and lanceolate-elliptic to ovate-elliptic), entire, very rarely lower leaves shallowly toothed in part, finely and densely velvety tomentose above, greyish-tomentose, with reddish-brown lepidote scales, bearing clustered hairs, obvious on lower surface, nerves obscure above, prominent beneath, basal nerves 3, rarely 5, subrounded at the base, slightly narrowing towards the subacute or subrounded apex, mucronate; petiole 0·4–1 cm long, tomentose and sparsely to densely lepidote with minute reddish-brown scales. *Inflorescence* axillary in the upper leaves, 1–3-flowered; peduncle 4–20 mm long, pedicels 3–14 mm long, both tomentose and with scattered reddish-brown scales which bear clustered hairs. *Epicalyx-bracts* ovate acuminate, rounded to cordate at the base, about 12 mm long, 6 mm broad near the base, tomentose on both surfaces, also lepidote on the outer. *Calyx-lobes* lanceolate acuminate, about 15 mm long, 3·5 mm broad near the base, tomentose and lepidote without. *Petals* canary yellow, turning brownish at maturity, broadest at the apex, about 16 mm long, 10–14 mm broad at apex. *Stamens* united at the base for about 1 mm, filaments 1 mm long, anthers 3–4 mm long, staminodes 9 mm long. *Ovary* subglobose about 3 mm diam., white tomentose; style 6–8 mm long, branches 1·5–3 mm long; ovules 7 in each locule. *Capsule* about 10 mm long, 8 mm diam., shortly tomentose and scaly, the scales with groups of short hairs; seeds with numerous minute raised dots and ridges.

This species resembles *M. acuminata* in the long style and petals, but differs among other things, in the narrowly elliptic leaves with entire margins and the habit of the plant. In *M. integra* several slender stems arise from a woody rootstock whereas

*M. acuminata* has, usually, one erect stem, which is branched, and a comparatively slender tap root. The only other species of *Melhania* in South Africa known to have entire leaves is *M. prostrata* which differs principally in the upper surface of the leaf being glabrous, or pilose with subappressed single hairs, instead of densely velvety tomentose as in *M. integra*.

To date *M. integra* has been recorded only from the Wolkberg area where it was found quite plentifully growing in mountain grassland on shallow soil over dolomite.

***Melhania polygama*** Verdoorn, sp. nov., ad *M. forbesii* et *M. acuminatam* accedens, sed ab illa brateolis ad apicem subulatum attenuatis ab hac brateolis calyce longiore sensim (non abrupte) attenuatis, ab ambabus foliis ovato-trullatis differt.

Fructiculus, c. 35 cm altus, basi lignosus. *Caules* plures, crassiusculi, siccitate 3–5 mm crassi, parce ramosi, ramulis cinereo-sulphureis stellato-tomentosis. *Stipulae* subulatae, 5–10 mm longae. *Petioles* 1–2 cm longi, tomentosi. *Folia* utrinque stellato-tomentosa, late ovato-trullata vel ovato-elliptica, 3–9.5 cm longa, 1.5–6 cm lata, basi late cuneata vel subrotundata, ad apicem leviter angustata, obtusa vel subtruncata, crenato-dentata. *Pedunculi* axillares, 6 cm longi, tomentosi, 1–3-flori, pedicelli 0.3–1.5 cm longi. *Flores* polygami. *Bracteolae* ovatae, basi, cordatae vel subrotundatae, ad apicem subulatum attenuatae, calyce longiores, c. 14 mm longae, 4–12 mm latae, utrinque tomentosae. *Calyx* 5-partitus, lobis deltoideo-acuminatis, c. 11 mm longis, extus stellato-tomentosis. *Petala* lutea, masculo 14 mm longis, femineo 10 mm longis. *Stamina* masculo antheris 4 mm longis, femineo abortivis, 2 mm longis; staminodii ligulati, 6.5 mm longi. *Ovarium* dense stellato-hirsutum; stylus masculo c. 7 mm longus ramulis abortivis vel brevibus; stylus femineo c. 2.5 mm longus, ramulis stylo longioribus; ovula 5 pro loculis. *Capsula* late oblonga, c. 9 mm longa, tomentosa et stellato-hirsuta.

NATAL.—Lower Umfolozi, Umfolozi Game Reserve, Ward 3324; Dengeseni Beacon Hill, Strey 4957a; 4957b (holotype, PRE); 4957 c and d.

Shrublet about 35 cm tall, with a woody rootstock. *Stems* many, rather robust, in dried specimens 3–5 mm diam., laxly branched, new growth with a sulphur-grey tomentum densely interspersed with rather long hairs of the same colour grouped on scales. *Stipules* subulate, 5–10 mm long. *Leaves* finely and densely sulphur-grey tomentose on both surfaces, upper surface somewhat darker than the lower, the tomentum densely interspersed with grouped hairs; lamina broadly ovate-trullate or ovate-elliptic, 3–9.5 cm long, 1.5–6 cm broad, broadly cuneate or subrounded at the base, narrowing slightly to the obtuse or subtruncate apex, shallowly crenate-dentate except at the base; petiole 1–2 cm long, densely sulphur-grey tomentose, fairly stout. *Inflorescence* axillary in the upper leaves; peduncle up to 6 cm long, tomentose, 1–3-flowered at the apex; pedicels 0.3–1.5 cm long. *Flowers* polygamous. *Epicalyx-bracts* ovate, cordate at the base, gradually attenuating to a subulate upper portion and acute apex, longer than the calyx, about 14 mm long, 4–12 mm wide, tomentose on both surfaces. *Calyx* with lobes deltoid-acuminate, about 11 mm long, outer surface tomentose interspersed with scales bearing grouped hairs. *Petals* yellow, broadest at the apex, in essentially male flowers about 14 mm long, in female shorter, about 10 mm long. *Stamens* in male flowers, with anthers about 4 mm long, in female abortive, about 2 mm long; ligulate staminodes about 6.5 mm long. *Ovary* densely beset with long, grouped hairs on scales; style in male flowers long and slender, about 7 mm long, branches aborted or short, style in female flowers thick and short, about 2.5 mm long, branches longer than the style, about 5 mm long, sometimes decurrent on the style; ovules 5 in a cell. *Capsule* broadly oblong, about 9 mm long, tomentose and with groups of rather long, sulphur-coloured hairs; seeds with numerous raised dots and ridges.

This is the first record of polygamous flowers in a species of *Melhania*. The essentially male flowers can be recognized by the larger petals which are as long as the

epicalyx-bracts, while those of the female flowers are shorter than the bracts. Invariably the anthers in the long-petalled flowers (male) were found to be well developed and the style long with abortive branches. In the short-petalled flowers (female) the anthers were small and abortive while the styles were short and had 5 well developed, long branches. Only a very few flowers among the scores dissected appeared to be hermaphrodite.

To date *M. polygama* is known only from the type locality where it is common in grassveld on the hill-slopes. The bushy plants, about 35 cm high, are formed by many stems which arise from a woody rootstock. This habit of growth is another feature in which this species differs from *M. forbesii* and *M. acuminata*, the two species mentioned in the Latin diagnosis as resembling *M. polygama* in some respects. In these species the plants are weakly perennial with a comparatively slender tap root and one or two erect stems from which the seasonal growth arises. The shape of the leaf, which is mentioned as a distinguishing feature in the Latin diagnosis, is usually ovate-trullate in *M. polygama* that is the broadest portion is about a third of the length above the base. In the other two species the leaves are ovate-oblong with the broadest portion at or near the base. The styles in the male flower of our species are long, like those of *M. acuminata*, while in the female they are short, like those of *M. forbesii*. The shape of the epicalyx-bracts, is distinct in all three species and can be used to distinguish between them. In *M. forbesii* they are consistently broadly acuminate, in *M. acuminata* abruptly acuminate into a more or less caudate apex and in *M. polygama* gradually attenuate to a more or less subulate apical portion.

I. C. VERDOORN.





PLATE 1.—*Graderia linearifolia* L. E. Codd (Codd 9832, holotype).

