

TWO NEW SPECIES OF *MEDIOCALCAR* (ORCHIDACEAE) FROM NEW GUINEA

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INTRODUCTION

Since the establishment of *Mediocalcar* by J.J. Smith in 1900, 51 species and 3 varieties have been described in this genus. Many of these are based on trivial characters, which lack diagnostic value for distinction at species level. Revisional work in progress at the Rijksherbarium suggests that less than 15 species should be recognized, but much work remains to be done before a satisfactory classification of this remarkable genus can be produced. During the course of these investigations it soon became apparent that two distinct species are still undescribed, of which one is fairly common throughout the highlands of New Guinea. They are strikingly different from all other species of the genus and they can easily be recognized by their vegetative characters alone.

DESCRIPTIONS

Mediocalcar decoratum Schuiteman, *spec. nov.* – Fig. 1.

A congeneribus pseudobulbis tri- vel quadrifoliatis, floribus parvis labello perbrevisiter unguiculato, calcari profunde saccato ad basin labelli extenso differt. — T y p u s: *Morrison 1659* (spirit material K), Papua New Guinea, Central Province, Efogi, 1400 m, February 1978.

Mediocalcar spec.; A.B. Graf (1978) 735, 'Tropica' (colour photograph). — *Mediocalcar spec.*; R.T. Northen (1980) 108, fig. 98 'Miniature Orchids' (b/w photograph).

Roots c. 0.5 mm thick, densely covered with root-hairs. *Rhizome* creeping, freely branching, mat-forming, c. 1 mm thick. *Pseudobulbs* 1–5 mm apart, cylindrical to slightly clavate, (5–)10–15(–20) mm long, 3–6 mm across, almost entirely adnate to the rhizome; three-, more frequently four-foliolate. *Leaves* very shortly petiolate, spreading in one plane, narrowly elliptic (index 3.5–6), (7–)10–18(–23) mm long, 2–4 mm wide; apex obtuse to subacute, rarely acute, minutely mucronate; carinose. Young shoots as well as the bases of heterantherous inflorescences enveloped by 3–5 transparent, subacute, keeled sheaths. *Inflorescences* solitary, heterantherous or rarely synantherous, at the base without an exposed bract. Peduncle 3–7 mm long, at

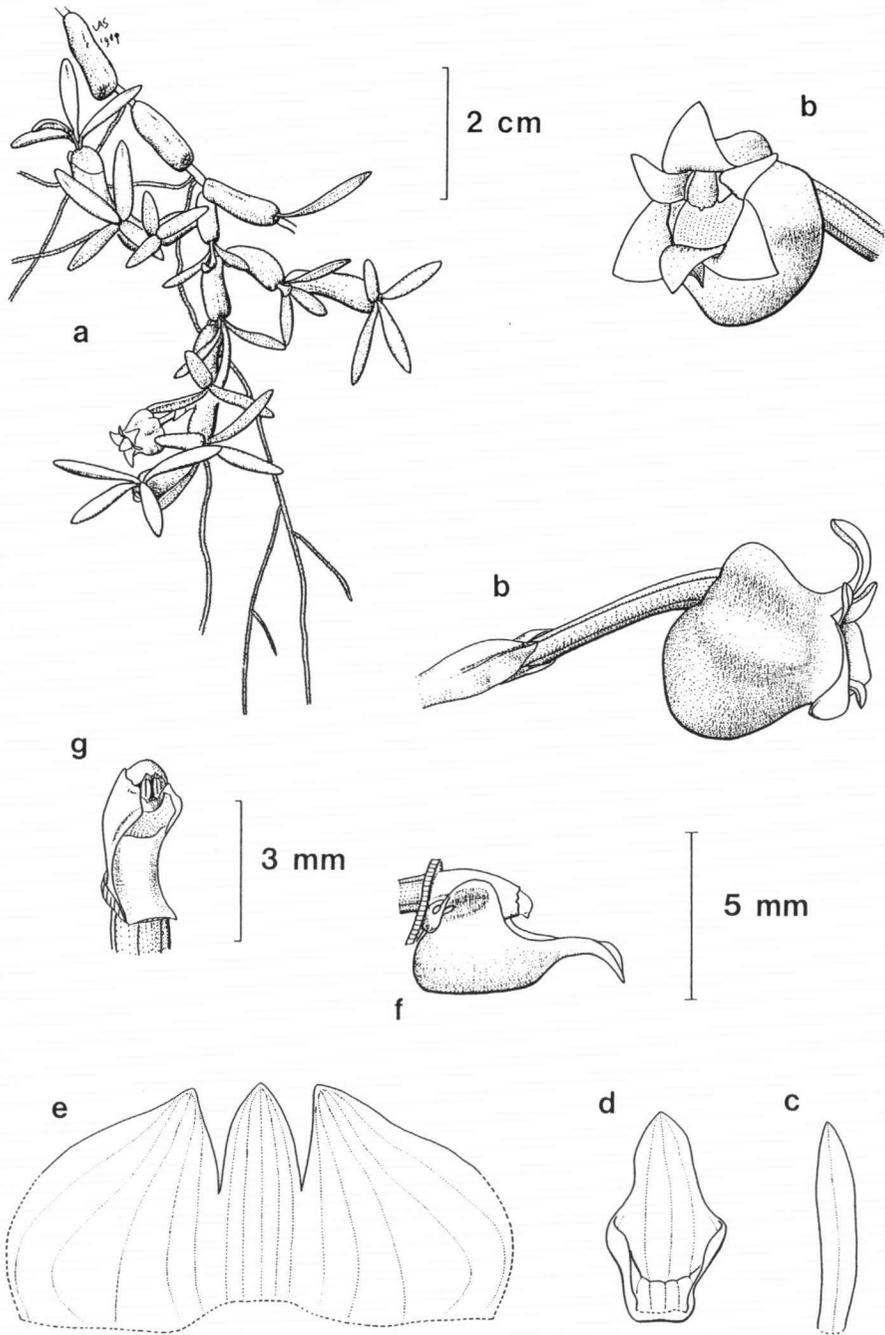


Fig. 1. *Mediocarcar decoratum* Schuiteman. a. Habit; b. flower; c. petal; d. lip; e. sepals; f. lip & column; g. column (a Schuiteman 69; b-g Womersley s.n. 30-10-1969).

the apex with a triangular acuminate bracteole c. 1.5 mm long. Pedicel and ovary 5–7 mm long. *Flowers* urceolate-globose, oblique; length, height and width 5–7 mm. *Synsepalum* 6.5–8.5 mm long and 12–16 mm wide when cut open and flattened; free tips triangular, subacute to acute, without mucro, reflexed, 2.5–3.5 mm long. All *sepals* smooth externally, conspicuously gibbose. *Petals* narrow, more or less elliptic (index 5.5–7), 5.5–7 by c. 1 mm; apex acute; 1-nerved. *Lip* 5–7 mm long, c. 3 mm wide in natural position; claw c. 1 by 2 mm, auricles inconspicuous; apex acute, reflexed; margins erect, more or less clasping the column; spur deeply saccate, somewhat laterally compressed, c. 2.5 mm across, extending to the base of the lip. *Column* short, much dilated apically, c. 3 mm long, 2 mm wide at the apex, foot very short. *Fruit* cylindrical, c. 10 by 3 mm.

E c o l o g y. Epiphyte in montane forest, on trunk or major branches of *Nothofagus*, *Castanopsis*, *Dacrydium*, etc., usually in shaded positions. Altitude 900–2000 m.

C o l o u r. The sepaline tube is generally bright orange-red with sulphur-yellow or golden-yellow tips, rarely red with green tips, orange with white tips or entirely orange or entirely yellow. The emerging parts of the labellum and the petals are identical in colour to the free tips of the sepals. The leaves are grass-green to dull green above, pale green below, the pseudobulbs pale yellowish-green. Leaves and pseudobulbs of specimens growing in strong light take on a purple tinge.

C o l l e c t i o n s e x a m i n e d :

IRIAN JAYA. Wissel Lakes region: Arabu, near Wettamotti and Kumopa in Arandora, alt. ?, Oct. 1939, *Eyma 5248*; Kadaitadie, E of Motito, alt. ?, May 1960, *Vink & Schram BW 8666*; Central Mountains: Swart (= Ilim) Valley, Kadubaka, 1600–2000 m, March–April 1958, *Bergman 140, 209, 282, 434, 742*.

PAPUA NEW GUINEA. West Sepik Prov.: Oksapmin, 1600 m, Oct. 1968, *Henty et al. NGF 41543*. — Southern Highlands Prov.: Mt Ambua, alt.?, date?, ex cult. Hort. Bot. Leiden nr. 26827 (received from Kew). — Western Highlands Prov.: near Nondugl, 1800 m, date?, *Womersley & Hoogland NGF 4963*; Kim Creek near Ogelbeng, 1525 m, Sept. 1963, *Millar & Garay NGF 18725*. — Eastern Highlands Prov.: Aiyura Range, 1850 m, July 1954, *Womersley NGF 6058*; base of Kratke Range c. 12 miles south of Aiyura, 1850 m, Aug. 1963, *Hartley 12168*; Goroka, alt.?, ex cult. Hort. Kew. Jan. 1964, *Chadin 19A*; Aiyura–Lae road 3 miles from station, 1900 m, Sept. 1966, *Millar NGF 22718*; Unggai near Goroka, 2000 m, July 1982 (not in flower, material ex cult. March 1984), *Schuiteman 69*. — Morobe Prov.: Kaisinik logging area SE of Wau, 2000 m, Sept. 1975, *Sands et al. 1832*; Gumi logging area W of Bulolo, 1850 m, Sept. 1980, *Cribb S 145*. — Central Prov.: Boridi, 1250 m, Sept. 1935, *Carr 10334*; Efogi, 1300 m, Febr. 1976, *Dodd E 26*; Efogi, 1400 m, Febr. 1978, *Morrison 1659*; Kosipe Swamp, 1940 m, Jan. 1980, *Hope ANU 28112*. — Milne Bay Prov.: Mt Param, 1400 m, May 1954, *Cruttwell 420*. Ferguson Island, mountains between Agamoia and Ailuluai, 900 m, June 1956, *Brass 27088*; Mt Moiba, 1070 m, July 1969, *Schodde 5386*; Mt Paori above Mayu I., 1000 m, July 1972, *Streimann NGF 28951*; Mt Suckling area, 1700 m, Febr. 1975, *Womersley s.n.*. — Origin not stated (ex cult.): *Mason 1604*; *Mason s.n. 30/10/1969*; *Northen s.n.*; *Womersley s.n. 30/10/1969*.

N o t e s. *Mediocalcar decoratum* is characterized, among other things, by its 3- to 4-foliolate pseudobulbs. A few other species, usually 2-foliolate, occasionally produce 3-foliolate pseudobulbs. Of these only *M. pygmaeum* Schltr. is of similar small stature. The latter species differs in the broad leaves (index < 3), the always synanthous inflorescences, the narrow flowers and the long-clawed lip with a weakly devel-

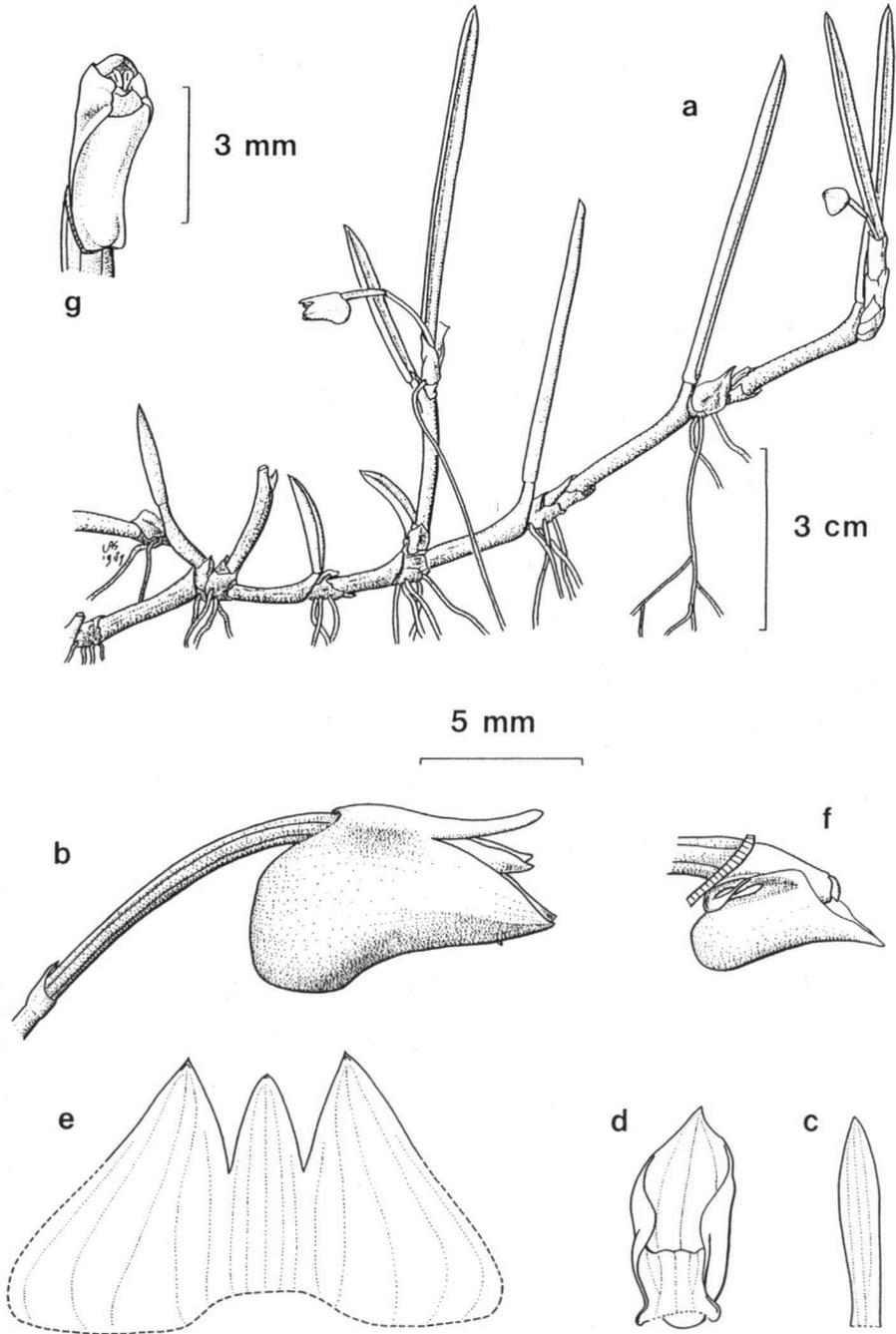


Fig. 2. *Mediocalar subteres* Schuiteman. a. Habit; b. flower; c. petal; d. lip; e. sepals; f. lip & column; g. column (a Kairo NGF 44083; b–e Reeve 751; f, g Cribb S 129).

oped spur. *Mediocalcar decoratum* is probably more closely related to *M. bifolium* J.J. Smith and *M. versteegii* J.J. Smith, all with heteranthous inflorescences.

Some years ago T.M. Reeve informed me that he planned to describe this species, as *M. quadrifolium*. Regrettably he ended his botanical activities not much later, without having published a description. As this attractive little plant, apparently first collected by C.E. Carr in 1935, is now making its way into cultivation, I found it necessary to take this long overdue step. I refrain from using the epithet *quadrifolium*, as there are too many specimens to which the epithet *trifolium* would apply just as well.

Mediocalcar subteres Schuiteman, *spec. nov.* — Fig. 2.

A congeneribus foliis subteretibus, radicibus minute papillosis differt. — *T y p u s*: *Kairo NGF 44083* (LAE, holo; AMES, K, SING, iso), Papua New Guinea, Morobe Province, Baime Creek near Yamap, 1850 m, August 1969.

Roots c. 0.5 mm thick, densely minutely papillose. *Rhizome* creeping, more or less frequently branching, c. 2 mm thick. *Pseudobulbs* approximate, terete, (8–)15–25(–35) mm long, 2.5–3.5 mm across, largely adnate to the rhizome; free apex ascending, 3–7 mm long; 1-, occasionally 2-foliate. *Leaves* sessile, subterete, straight, channeled above, (1.5–)3–5(–7) cm long, 2–3 mm wide; apex acute, mucronate. Young shoots enveloped by c. 5 closely adpressed, imbricate, subacute, membranous sheaths. *Inflorescences* solitary, synanthous, at the base with a narrow acuminate bract c. 3 mm long. Peduncle 5–15 mm long, at the apex with a triangular acute bracteole c. 1 mm long. Pedicel and ovary 7–10 mm long. *Flowers* urceolate, oblique, laterally compressed, 8–9 mm long, 5–5.5 mm high, 4–5 mm wide. *Synsepalum* 8–9 mm long and 11–16 mm wide when cut open and flattened; free tips triangular, subacute, mucronate, only slightly spreading, 3–3.5 mm long. *Lateral sepals* more or less sharply keeled to almost smooth externally. *Petals* narrow, more or less elliptic (index 5.5–6.5), 5.5–6.5 by c. 1 mm; apex acute; 1- or 3-nerved. *Lip* 6.5–7 mm long, c. 3 mm wide in natural position; claw c. 2 by 1.5 mm, auricles well developed, slightly recurved; apex acute; margins erect, clasping the column; spur broadly cylindrical, c. 2 mm across, extending to, or somewhat surpassing the base of the lip. *Column* clavate, 3–4 mm long, c. 2 mm wide at the apex, foot very short. *Fruit* not seen.

E c o l o g y. Epiphyte in montane forest, creeping on moss covered branches of *Nothofagus*, *Araucaria*, etc. Altitude 1200–2000 m.

C o l o u r. The whole flower is usually bright yellow or orange-yellow; the type is described as having yellow flowers with a red base. The ovary is bright greenish-yellow. The leaves are dull green, the pseudobulbs yellow-green.

C o l l e c t i o n s e x a m i n e d:

IRIAN JAYA. Central Mountains: Swart (= Ilim) Valley, Kadubaka, 1600–2000 m, March 1958, *Bergman 168*.

PAPUA NEW GUINEA. Enga Prov.: Apapa River near Yondalia, 1650 m, Aug. 1980, *Reeve 751*. — Morobe Prov.: head of Baime Creek, Yamap, 1850 m, Aug. 1969, *Kairo NGF 44083*; Regina Creek logging area between Wau and Bulolo, 1200 m, Sept. 1980, *Cribb S 129*; Gumi logging area W of Bulolo, 1850 m, Sept. 1980, *Cribb S 159*.

N o t e s. *Mediocalcar subteres* is distinguished by its subterete leaves. The roots, practically glabrous to the naked eye but densely papillose in microscopic view, are also distinctive. In all other species, as far as now known, the roots are more or less noticeably covered with root-hairs.

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