

Korthals s.n. (L); 24-6-1872 *Sciffer s.n.* (BO). WEST JAVA. Purwakarta, Wanayasa, Cisarap, 1000 m. 26-7-1920. *Backer & Bakhuizen v.d. Brink 4673* (BO); Pogal. *Mousser 147* (BO); Depok, *Miquel et de Miquel* (BO); Jasinga, 28-11-1919. *Backer 10377* (BO); Preanger, 720 m. 25 - 26 July 1917. *Koorders 44363. 44365* (BO); Bogor, 250 m. 4-5-1895. *Hallier f. s.n.* (BO); 15-5-1918. *Backer & Bakhuizen v.d. Brink 283* (BO); Ciampea, 250m. 20-3-1918. *Backer & Bakhuizen v.d. Brink 671* (BO, L); Sukabumi, G Parean (Halimun), Pucang Perak, Parung Kuda, 1000 m. 18-5-1974. *J. Dransfield 4251* (L); Bandung, Dago, 800 m. 19-9-1939. *Korthals 27648* (BO); *C. Holstvoogd 165* (BO). CENTRAL JAVA. Baturaden, G. Slamet, 1300 m. 14-3-1911. *Backer 283* (BO); Semarang, Ambarawa, Telomoyo, 6 m. 14-6-1897. *Koorders 27648* (BO), 8-5-1814. *Koorders 17648* (BO); Jepara, Jati, Ngarengan, Juana, 50 m. 22-5-1899. *Koorders 35004* (BO). EAST JAVA. Trawas. 3-7-1932. *J. Coert 1078* (BO, L); Madiun, G. Wilis. *J.D. Doyeh 686* (L); Kediri, Prigi, 5 m. 23-1-1914. *C.A. Backer 30520* (BO); Malang, Sumber Tangkil, 400 - 500 m. 27-6-1896. *Koorders 23655* (BO); Besuki, 18-8-1897. *Koorders 28498, 28499* (BO); 3-6-1933. *A. Rant 1040* (BO); Curah manis, 2 m. 10-9-1897. *Koorders 28718* (BO); Rawa Cangkoang, 5-12-1870. *Scheffer s.n.* (BO); Situbondo, Prajekan, Pancur - Ijen. *Koorders 15434* (BO); Ampel gading, 600 m. 27-7-1916. *Koorders 43695* (BO). KALIMANTAN. West Kalimantan. Simanggang, 2 m. 15-9-1966. *J. A. R. Anderson 524798* (L). SABAH. Kinabalu. 1931-1932. *C. Clemens 26741-27376* (BO). BRUNEI, Ulu Belait, Tempinak, 50 m. 30-12-1988. *Kessler 355* (L, BO). SULAWESI. North Sulawesi, Kamp. Genderan, Bukit Ulu. September 1912. *Amdjah 514* (L).

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NOVELTIES IN ALYSICARPUS DESV. (FABACEAE) FROM INDIA

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ABSTRACT

Two **new** species and two new varieties in the genus *Alysicarpus* Desv. (Fabaceae) are described. All the new taxa are collected from various parts of Maharashtra. A note on their distribution throughout India is also added.

ABSTRAK

Dua jenis dan dua varietas baru dalam marga *Alysicarpus* Desv. (Fabaceae) diuraikan. Semua taksa baru dikoleksi dari berbagai daerah di Maharashtra. Keterangan tentang distribusinya di seluruh India juga dijelaskan.

The genus *Alysicarpus* Desv. is represented by 25-30 species in the tropical and subtropical region of world (Ohashi *et al.* 1981). It is concentrated in India, with 15 species and 7 varieties distributed mostly in the dry zones of Maharashtra and Andhra Pradesh states of the country. During the course of investigations since last 6 years, the author has come across several variants. After the detailed morphological investigations some of these have turned out novelties. Four such novelties, two of specific status and two of varietal status, are reported in present article.

1. *Alysicarpus naikianus* Pokle, *sp. nov.*

Maxime simile sed differt a *Alysicarpus bupleurifolius* (L.) DC, plantis statura **minor (10 — 20 cm altis) profuse** ramosissimus, foliis minoribus ovalis-obovalis vel oblongis **quae birsutis** infra, inflorescentiis distincte pendunculis, leguminibus **minoribus, articulis latiorum quam** longioribus, reticulatis. — TYPE: *Pokle A 104 a* (CAL-Holo), Appachiwadi, India, *A 104 b* (BAMU Aurangabad-Iso), *A.104 c* (K-Iso), *A 104 d* (L-Iso).



Fig. 1. *Alysicarpus naikianus* Pockle. a—habit, b—stipules, c—bract, d—pod.

Erect, much branched, annual herbs 10–20 cm tall. Stems brown, substriated, sparsely pubescent; branches slender. Stem leaves unifoliate; stipules broadly triangular acute, 4.5–5.5 x 2.5–3 mm, glabrescent; stipels absent; lamina variable in shape, usually ovate to obovate, oblong, 6–7 x 5–8 mm, subcordate at base, obtuse. The leaves subtending the inflorescence linear-oblong. All leaves glabrous above, sparsely pubescent beneath. Racemes axillary and terminal, dense, 6–10 flowered; peduncle distinct, 15–2 cm long, much elongating (2.5–6.5 cm) in fruit. Bracts caudaceous broadly ovate, 3.4–4 x 3–3.5 mm, shortly acuminate, glabrous; bracteoles subulate, ca 2.5 x 1 mm, obtuse. Calyx glumaceous, forming distinct, basal 1–1.5 mm long tube; lobes subequal lanceolate acute, 3–3.5 mm long, the dorsal two united with a distinct notch at apex, sparsely ciliated. Corolla uniformly pink purple; standard petal broadly ovate, ca 4 x 3.75 mm, distinctly stalked; wings and the keel petals slightly shorter. Pods articulated, 4–6 jointed with 5–7 articles; each article subterete, ca 1.5 mm long and broad, faintly reticulated, deep brown at maturity. Seeds subglobose, ca 1 mm diam. shining brown. Flowers and Fruits August to October.

ECOLOGY— On gravelly soil of hill slopes and plateaus.

DISTRIBUTION - MAHARASHTRA: Amaravati, Kolhapur and Sindhudurg districts; KERALA: Cannanore distict.

ETYMOLOGY - Specific epithet is in honour of Dr. V.N. Naik, an eminent taxonomist, who have devoted 30 years for floristic studies of Marathwada region.

NOTE — Allied to *Alysicarpus bupleurifolius* (L.) DC. differing in short habit; small ovate to obovate leaves; dense peduncled inflorescence; smaller pods with fewer, faintly reticulated articles (Table 1).

Table I. Comparison of *A. naikianus* Pockle with *A. bupleurifolius* (L.) DC.

<i>A. naikianus</i>	<i>A. bupleurifolius</i>
1. Tiny herbs often up to 10 cm long occasionally up to 20 cm long; branches several close.	1. Large herbs up to 50 cm tall; branches few distant.
2. Leaves ovate to obovate, sometimes oblong, 6–17 x 5–8 mm, obtuse, sparsely pubescent beneath.	2. Leaves linear to lanceolate 30–50 x 3–6 mm, acute or subacute, glabrous on both the surfaces.
3. Inflorescence, with distinct peduncle, dense even in fruits, up to 6.5 cm long.	3. Inflorescence, without distinct peduncle, very lax in fruit, up to 25 cm long.
4. Pods 6–8 mm long.	4. Pods 10–12 mm long.
5. Articles 5–7, shorter than broad, ca 1 x 1.5 mm, faintly reticulated.	5. Ariticles 4–6 as long as longer than broad, ca 2 x 2.5 mm, smooth.

2. *Alysicarpus saplianus* Pokle, *sp. nov.*

Maxime simile sed differt a *Alysicarpus heyneanus* Wight & Arn. plantis statura minore (usque 25 cm altis), foliis minoribus, ovatis-oblongis vel oblongis, inflorescentia pauci-florifera, simplici (usque 4 cm long), bracteis minoribus ovatis acutis, glabris, calycibus chartaceis plus minusve hyalinis, lobis ellipticis obtusis qui fructiferis patentibus, vexillo citrino carinis et alis profundis purpureis. — TYPE: Pokle A. 77 a (CAL-Holo), Bodhadi, India, A 77 b (BAMXJ Aurangabad-Iso), A 77c (K-Iso), A 77 d (L-Iso).

Erect annual herbs up to 25 cm tall. Stem brown, subtriate, with short hairs; branches slender. Leaves unifoliolate; stipules triangular acute, 5-6 x 2-25 mm, glabrescent; stipels absent; lamina ovate-oblong to oblong, ca 15-30 x 8-12 mm, subcordate at base, obtuse, glabrous above, sparsely appressed hairy along the nerves beneath. Racemes extra-axillary, lax, unbranched, 6-10 flowered, 1-3 cm long, much elongating in fruits (3-6 cm). Bracts caducous, broadly ovate-acute, 3-3.5 x 3-4 mm; bracteoles absent. Calyx glumaceous, thin, translucent, divided almost to the base; lobes all equal, elliptic obtuse, 6-6.5 mm long, spreading, slightly overlapping at base, the dorsal two united throughout with a shallow notch at apex. Corolla bicoloured; standard obovate, slightly notched, 4.5-5 x 2.75-3 mm, without distinct stalk, lemon yellow; wings and keels slightly shorter, deep purple. Pods beaded, 1-3 jointed with 2-4 articles, each article two sided, broader than long, ca 3 x 2 mm, transversely ridged, black at maturity. Seeds reniform to subglobose, ca 2-2.5 x 1.25-1.5 mm, shining brown. Flowers and Fruits September to November.

ECOLOGY- Near foot of hills in black soil.

DISTRIBUTION - MAHARASHTRA: Nanded and Prabhani districts; ANDHRA PRADESH: Karimnagar districts.

ETYMOLOGY — Specific epithet is based on locality of first collection i.e. sapli dam in Parbhani district.

NOTE - Similar to *Alysicarpus heyneanus* Wight & Arn. differing in much shorter habit; small thin leaves; unbranched short, few flowered inflorescence; thin and translucent calyx with all equal elliptic-obtuse lobes spreading in fruits; bicoloured corolla and 2-A included articles (Table II).

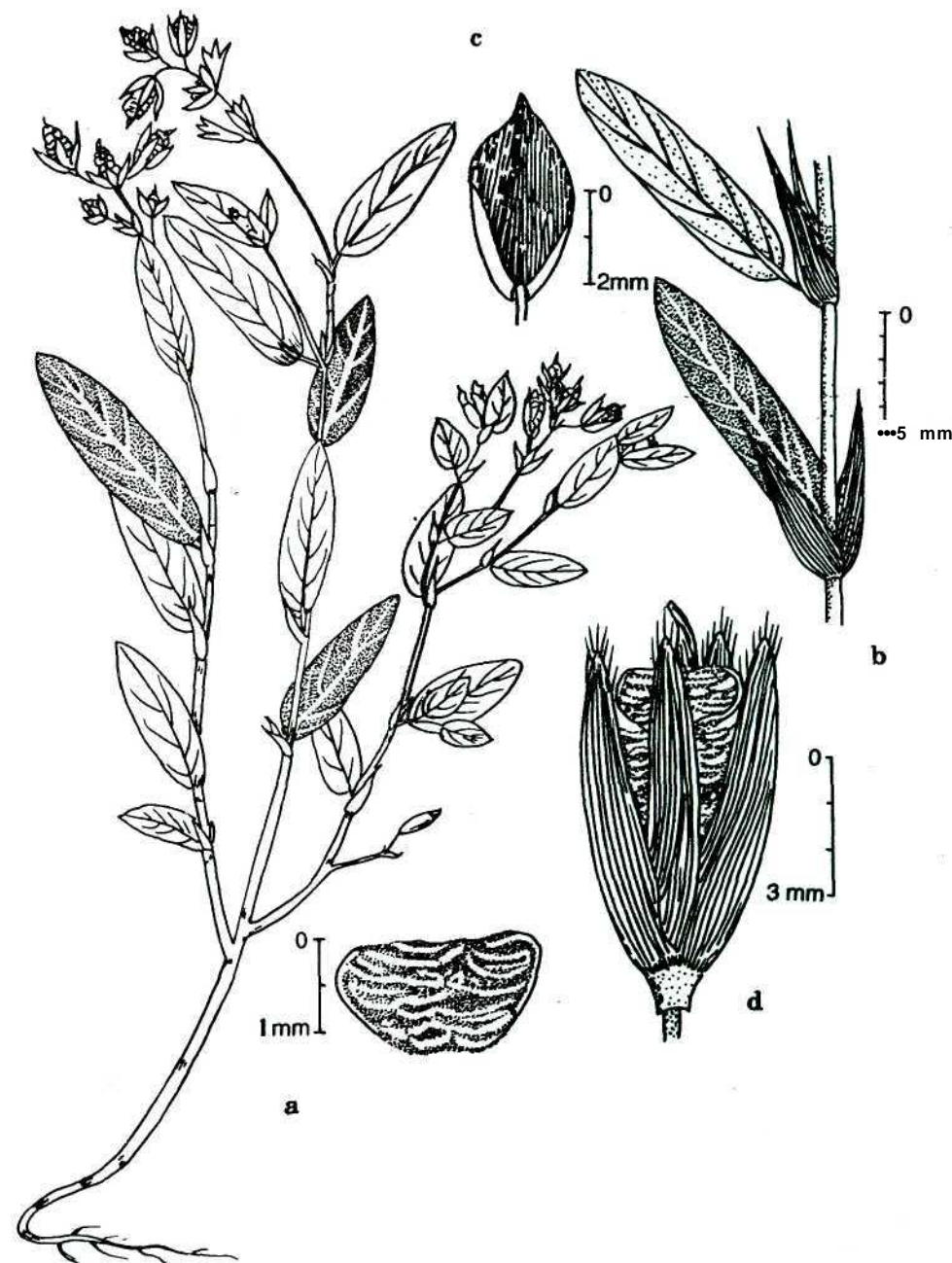


Fig. 2. *Alysicarpus saplianus* Pookle. a-habit, b-stipules, c-bract, d-pod.

Table II. Comparison of *A. saplianus* Pokle with *A. heyneanus* Wight & Arn.

<i>A. saplianus</i>	<i>A. heyneanus</i>
1. Tiny herbs up to 25 cm tall, branches wiry.	1. Robust herbs up to 2 m tall, branches stout.
2. Leaves thin, ovate-oblong, 1.5-3 x 0.8-1.2 cm, stipules ca 5-6 mm long.	2. Leaves thick, ovate-obovate, 3.5-5.5 x 2.5-4 cm, stipules ca 10-12 mm long.
3. Inflorescence, 3-6 cm long, unbranched, dense.	3. Inflorescence, 30-50 cm long, often branched, lax.
4. Calyx membranous, translucent, lobes free almost to the base, equal, obtuse, spreading in fruits.	4. Calyx scarious, thick, lobes forming a definite calyx tube, acute, unequal, adhering to fruit.

3. *Alysicarpus longifolius* (Rottler ex Spreng.) Wight & Arn. var. *pygmaeus* Pokle, var. nov.

Maxime simile sed differt a *Alysicarpus longifolius* var. *longifolius* habitatus minore, ramis debilibus et gracilibus, foliis multo minore comparate tenuibus, stipulis ovatis-oblongis acuminatis ad caudatis, inflorescentiis, bracteis et calycibus minoribus. - TYPE: Pokle A 17 a (CAL-Holo), Bodhadi, India, A 17 b (BAMU Aurangabad-Iso), A 17 c (K-Iso), A 17 d (L-Iso).

Erect annual herbs up to 40 cm tall. Stem striated, sparsely pubescent; branches weak, wiry, procumbent. Leaves unifoliate; stipules ovate, acuminate 6-7 x 2.75-3 mm; stipels absent; lamina ovate-oblong to oblong, 2-3.5 x 0.7-1.2 cm, subcordate at base, obtuse, glabrous above, appressed hairy beneath, prominently so along nerves. Racemes extra-axillary, dense, many flowered, unbranched, 8-20 cm long in fruits; axis wiry. Bract ovate, acuminate, ca 4-5 x 1.5-2 mm, densely short hairy; bracteoles absent. Calyx glumaceous; lobes subequal, oblong, ca 4.5-5.5 mm long, ciliated, dorsal two united for two third length forming a prominent notch at apex. Corolla uniformly purplish red; standard petal broadly ovate, notched, ca 5-6 x 4-5 mm, distinctly stalked; wings and keels slightly shorter. Pods moniliform, 2-4 jointed with 3-5 articles; articles globose, ca 1.5 mm in diam., reticulated, puberulous, straw coloured at maturity. Seeds subglobose, ca 1.25 mm in diam., shining deep brown. Flowers and Fruits September to December.

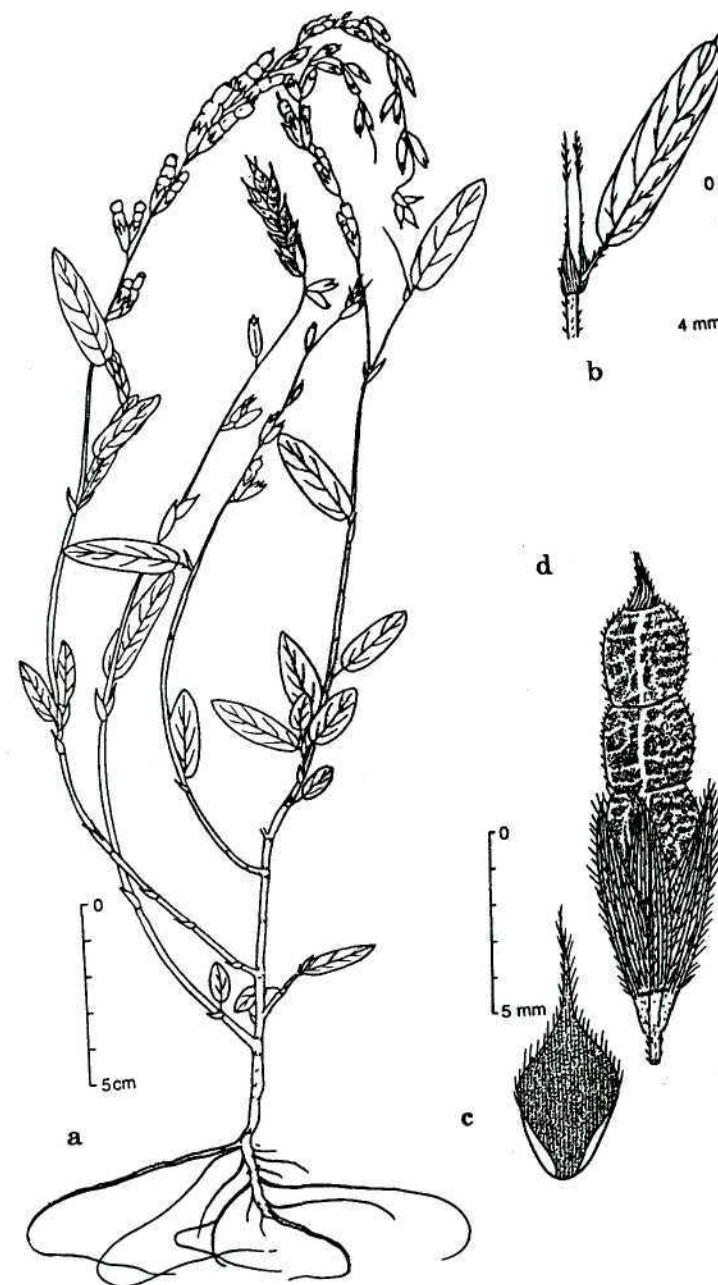


Fig. 3. *Alysicarpus longifolius* (Rottler ex Spreng.) Wight & Arn. var. *pygmaeus* Pokle. a-habit, b-stipules, c-bract, d-pod.

ECOLOGY- Near foot of hills in black soil.

DISTRIBUTION - MAHARASHTRA: Nanded district; GOA: Dolara forest.

NOTE — Similar to *Alysicarpus longifolius* var. *longifolius* but differing in over all small size of vegetative parts; small unbranched inflorescence, smaller calyx lobes, and pods with fewer and smaller articles (Table III).

Table III. Comparison of three varieties of *A. longifolius* (Rottler ex Spreng.) Wight & Arn.

var. <i>pygmaeus</i>	var. <i>major</i>	var. <i>longifolius</i>
1. Up to 50 cm tall, branches wiry.	1. 1.5-1.7 m tall, branches very thick.	1. 1.5-2 m tall, branches stout.
2. Leaves ovate-oblong, 2-3.5 x 0.7-1.2 cm.	2. Leaves ovate-oblong, 10-15 x 2.5-4.5 cm.	2. Leaves linear, subacute to acute, ca 10-15 x 1-2 cm.
3. Stipules thick, 6-7 cm long.	3. Stipules membranous, 2.75-3.5 cm long.	3. Stipules membranous, 1.75-2 cm long.
4. Inflorescence 15-20 cm long, unbranched.	4. Inflorescence 30-50 cm long, often unbranched.	4. Inflorescence 50-80 cm long, often branched.
5. Calyx not accrescent.	5. Calyx accrescent.	5. Calyx accrescent.

4. *Alysicarpus longifolius* (Rottler ex Spreng.) Wight et Arn.
var. *major* Pokle, var. *nov.*

Haec varietate praecipue proprium habitu robustis et foliis late ellipticis oblongis apicibus obtuses vet rotundis, foliis et stipulis multo major, inflorescentis minoribus, simplici. Aliter velut in var. *longifolius*. — **TYPE**. Pokle A 150 a (CAL-Holo), Devalgaonraja, India, A 150 b (BAMU Aurangabad-Iso), A 150 c (K-Iso), A 150 d (L-Iso).

Robust herbs up to 1.5 m tall, branched. Stem very thick, finely striated. Leaves unifoliolate; stipules triangular, acuminate, 2.75-3.25 cm long, membranous, stipels minute; lamina broadly oblong, 10-15 x 2.5-4.5 cm, cordate at base, obtuse to rounded, appressed hairy beneath, prominently veined. Racemes axillary and terminal, unbranched, 30-50 cm long, axis stout. Bracts ovate acuminate, 7-8 x 2.5-3.5 mm, ciliated, bracteoles absent. Calyx glumaceous, forming distinct, basal ca 1-1.5 mm long tube; lobes ovate, acute, ciliated, 3.5-4 mm long. Corolla uniformly



Fig. 4. *Alysicarpus longifolius* (Rottler ex Spreng.) Wight & Arn. var. *major* Pokle. a-habit, b-stipules, c-bract, d-pod.

purplish red. Pods moniliform, 4–6 jointed, articles 5–7, globose, reticulated, minutely puberulous, *ca* 1.75–2 mm in diam. Seeds subglobose *ca* 1.5–1.75 mm in diam., shining brown. Flowers and Fruits September to December.

ECOLOGY- In cultivated fields near hills.

DISTRIBUTION - MAHARASHTRA: Jalna district, TAMILNADU: Coimbatore district.

NOTE — Very similar to var. *longifolius* differing in very thick robust stem, large, ovate, oblong leaves, larger stipules and unbranched smaller inflorescence (Table III).

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