

AN ENUMERATION OF *ARTEMISIA* L. AND *SERIPHIDIUM* (BESS.) POLJAK. (COMPOSITAE) IN HIMALAYAS AND THE SOUTH ASIAN SUBCONTINENT

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A B S T R A C T

This paper enumerates 54 species and 10 varieties of *Artemisia* L. s.s. and 4 species of *Seriphidium* (Bess.) Poljak. of Compositae including 5 new combinations from Himalayas and the South Asian Subcontinent.

INTRODUCTION

Ever since Linnaeus (*Species Plantarum* 845. 1753) described the genus *Artemisia*, several of its species have been recorded from Himalayas and the South Asian Subcontinent. J. D. Hooker in his "*Flora of British India*" Vol. 3, 1881 recognised 27 species including 6 doubtful ones under *Artemisia* L. from India and adjoining countries. Recently, Nasir and Ali (in *Flora of West Pakistan* 1972) recorded 32 species with 6 doubtful ones from Pakistan and adjoining areas. Y. R. Ling (in J. Nanj. Tech. Coll. For. Prod. Vol. 1, 1981 and *Flora Xizangica* Vol. 4, 1985) has recorded 216 species and 47 varieties of *Artemisia* L. s.s. and *Seriphidium* (Bess.) Poljak. (syn. *Artemisia* L. sect. *Seriphidium* Bess.) from China including 60 species and 6 varieties from Xizang (Tibet). The present enumeration is based on the study of specimens represented (including types) in BM, CAL, CGE, CIMAP, E, K, L, LINN, P and available literature. A total of 54 species and 10 varieties of *Artemisia* L. s.s. and 4 species of *Seriphidium* are enumerated here and 5 new combinations are also proposed.

Artemisia L., Sp. Pl. 845. 1753 & Gen. Pl. ed. 5, 3 : 367. 1754, s.s. excl. sect. *Seriphidium* Bess. Lectotype : **A. vulgaris** L. (vide Britton & Brown, Ill. Fl. N.U.S. ed. 2, 3 : 522. 1913).

a. Subgen, **Artemisia** Sect. **Absinthium** DC.

A. absinthium L., Sp. Pl. 848. 1753 ; C. B. Clarke, Compos. Ind. 164. 1876 ; Hook. f., Fl. Brit. India 3 : 328. 1881 ; Nasir & Ali, Fl. W. Pakistan 714. 1972. *Absinthium vulgare* Lam., Fl. France 2 : 45. 1778 ; Bess. in Bull. Soc. Nat. Mosc. 1 : 259. 1829. *Artemisia kulbadica* Boiss. & Buhse in Nouv. Mem. Soc. Nat. Mosc. 12 : 120. 1860.

India (Jammu & Kashmir, Himachal Pradesh, Uttar Pradesh), China (W. Xizang), Pakistan, Afghanistan, Iran, C.I.S., Europe, N. & W. Africa and N. America.

Specimens examined : INDIA : Kashmir, Young s.n. (BM) ; Thomson s.n. (K. CGE) ; Stewart 10561, 23018 (K) ; Polunin 443 (E) ; Schlagint Cat. No. 4478 (BM).

A. macrocephala Jacquem. ex Bess. in Bull. Soc. Nat. Mosc. 9 : 28. 1836 ; Hook. f., Fl. Brit. India 3 : 329. 1881 ; Nasir & Ali, Fl. W. Pakistan. 717. 1972 ; Y. R. Ling in J.

Nanj. Tech. Coll. For. Prod. 1 : 82. 1981 & Fl. Xizang 4 : 747. 1985. *A. griffithiana* Boiss., Fl. Orient. 3 : 376. 1875.

India (Jammu & Kashmir, Himachal Pradesh, Uttar Pradesh), Nepal, China (N, NW, NE & SW), Mongolia, Afghanistan, Iran, C.I.S.

Specimens examined : INDIA : Kashmir, Koelz 2415a (K); Univ. Stockley K-15 (K); Bor 16453 (K); Coll? Southampton Univ. 106 (BM); Chitrat Stainton 3002 (K); Schlagint Cat. No. 939 (E); TIBET : Thomson 26 (K); Thomson s.n. (P).

A. minor Jacquem. ex Bess. in Bull. Soc. Nat. Mosc. 9 : 22. 1836; Hook. f., Fl. Brit. India 3 : 329. 1889; Nasir & Ali, Fl. W. Pakistan 717. 1972; Y. R. Ling in J. Nanj. Tech. Coll. For. Prod. 1 : 82. 1981 & Fl. Xizang 4 : 751. 1985. *A. sieversiana* Ehrh. ex Willd. var. *tibetica* C. B. Clarke, Compos. Ind. 165. 1876. *A. tibetica* Hook. f. & Thomson ex Hook. f., Fl. Brit. India 3 : 329. 1881, *pro syn.*

India (Jammu & Kashmir, Himachal Pradesh, Sikkim), Bhutan, China (Xizang), Pakistan, Iran, C.I.S.

Specimens examined : INDIA : Kashmir, Maxwell 83 (E); Sikkim, Pradhan 116 (E). TIBET : Thomson s.n. (BM, CGE); Schlagint Cat. No. 7099 (BM); Hegde s.n. (K).

A. persica Boiss., Diagn. Ser. 1, 6 : 91. 1845; C. B. Clarke, Compos. Ind. 165. 1876; Hook. f., Fl. Brit. India 3 : 327. 1881; Nasir & Ali, Fl. W. Pakistan 718. 1972; Y. R. Ling in J. Nanj. Tech. Coll. For. Prod. 1 : 82. 1981 & Fl. Xizang. 4 : 753. 1985.

India (Jammu & Kashmir), China (Xizang & Qinghai), Afghanistan, Pakistan, Iran, C.I.S.

Specimens examined : INDIA : Kashmir, Osmaston 145 (K), Duthie 13689 (E) TIBET : Thomson s.n. (BE, K).

A. rutaefolia Steph. ex Sprengel, Syst. Veg. 3 : 488. 1826; Nasir & Ali, Fl. W. Pakistan 718. 1972 ('rutifolia'); Y. R. Ling in J. Nanj. Tech. Coll. For. Prod. 1 : 82. 1982 & Fl. Xizang. 4 : 753. *A. falconeri* C. B. Clarke ex Hook. f., Fl. Brit. India 3 : 328. 1881. *A. turczaninowiana* Bess. var. *falconeri* (C. B. Clarke) O. Fedtsch. in Act. Hort. Petrop. 24 : 322. 1905.

India (Jammu & Kashmir, Himachal Pradesh), Nepal, China (NW, SW, W. Xizang), Mongolia, C.I.S., Pakistan, Afghanistan, Iran.

Specimens examined : INDIA : Kashmir, C. B. Clarke 30121 (BM), Duthie 12121 (K); Schlagint Cat. No. 242 (P). NEPAL : Stainton 2946 (BM); Wendelbo 66 (BM); Aitchinson 78 (BM); Quazilbash 10473 (K).

A. sieversiana Ehrh. ex Willd., Sp. Pl. 3 : 1845. 1804; C. B. Clarke, Compos. Ind. 165. 1876, p.p.; Hook. f., Fl. Brit. India 3 : 329. 1881; Nasir & Ali, Fl. W. Pakistan 719. 1972; Y. R. Ling in J. Nanj. Tech. Coll. For. Prod. 1 : 82. 1981 & Fl. Xizang 4 : 747. 1985. *Absinthium sieversianum* (Ehrh. ex Willd.) Bess. in Bull. Soc. Nat. Mosc. 1 : 259. 1829.

India (Jammu & Kashmir, Himachal Pradesh, Uttar Pradesh), Nepal, China (N, NW, NE & SW), N. Korea, N. Japan, Mongolia, C.I.S., Pakistan, Afghanistan.

Specimens examined : INDIA : C. B. Clarke 30953c (K), 29955a (BM); Ludlow 7953 (BM); Schomberg 28 (BM); Laeschke 74 (K); NEPAL : Stainton 1999, 2021, 2182, 8050, 8051 (BM); Polunin 148, 356, 2611, 4393 (BM); Toppin 1909 (K); Lowndes 1299 (K, E); Schlagint Cat. No. 671, 739, 988, 1116, 1682, 2066, 2211, 5405, 5518 (K, BM, E.L.). TIBET : Thomson s.n. (BM, K, CGE); Walton s.n. (K).

A. stracheyi Hook. f. & Thomson ex C. B. Clarke, Compos. Ind. 164. 1876; Hook. f., Fl. Brit. India 3 : 328. 1881; Nasir & Ali, Fl. W. Pakistan 720. 1972; Y. R. Ling in

J. Nanj. Tech. Coll. For. Prod. 1 : 83. 1981 & Fl. Xizang 4 : 759. 1985.

India (Jammu & Kashmir), China (Xizang), Pakistan.

Specimens examined : TIBET : Thomson s.n. (Type, K, CGE) Strachey 5 (K) ; Dungboo s.n. (K).

A. younghusbandii J. R. Drumm, ex Pamp. in Nuov. Giorn. Bot. Ital. n.s. 34 : 708. 1927 ; Y. R. Ling in J. Nanj. Tech. Coll. For. Prod. 1 : 82. 1981 & Fl. Xizang 4 : 751. 1985.

China (Xizang).

Specimens examined : TIBET : Dungboo s.n. (K) ; *Younghusband* s.n. (L).

Sect. **Abrotanum** Bess. s.s.

A. annua L., Sp. Pl. 847. 1753 ; Hook. f., Fl. Brit. India 3 : 323. 1881 ; Nasir & Ali, Fl. W. Pakistan 715. 1972 ; Y. R. Ling in J. Nanj. Tech. Coll. For. Prod. 1 : 82. 1981 & Fl. Xizang. 4 : 754. 1985. *A. wadei* Edgew. in Trans. Linn. Soc. Bot. 20 : 72. 1846. *A. stewartii* C. B. Clarke, Compos. Ind. 163. 1876.

Widely distributed in N. Hemisphere and N. Africa.

Specimens examined : INDIA : Kashmir Ludlow 8223 (BM) ; *Polumin* 56/771 (BM) ; *Duthie* 786 (BM) ; *Stewart* s.n. (K) ; N. W. India *Stewart* 1635 (E), Schlagint Cat. No. 2670 (E) ; Uttar Pradesh, S. S. Singh s.n. (CIMAP).

A. biennis Willd., Phytogr. 11. No. 39. 1794 & Sp. Pl. 3 : 1842. 1804. *A. tournefortiana* Reichb., Iconogr. Bot. Exot. 1 : 6, t. 5. 1824 ; C. B. Clarke, Compos. Ind. 163. 1876 ; Hook. f., Fl. Brit. India 3 : 324. 1881 ; Nasir & Ali, Fl. W. Pakistan 720. 1972 ; Y. R. Ling in J. Nanj. Tech. Coll. For. Prod. 1 : 82. 1981 & Fl. Xizang 4 : 754. 1985. *A. pinnatifida* Jacquem., ex DC. Prodr. 6 : 120. 1837, pro syn.

India (Jammu & Kashmir), China (W. Parts), Mongolia, C.I.S., Pakistan, Afghanistan, Iran.

Specimens examined : INDIA : Kashmir, Young s.n. (BM) ; J. Gay s.n. (Type, K) ; *Falconer* 569 (K) ; TIBET : Thomson s.n. (BM, CGE, K). AFGHANISTAN : *Aitchinson* 984 (K).

A. caruifolia Buch.-Ham. in Roxb., [Hort. Beng. 61. 1814, *nom. nud.*] Fl. Ind. 3 : 422. 1832 ('carnifolia') ; C. B. Clarke, Compos. Ind. 162. 1876 ('caruifolia') ; Hook. f., Fl. Brit. India 3 : 324. 1881. *A. apiacea* Hance in Walp., Ann. Bot. Syst. 2 : 895. 1852. *A. caruifolia* Buch.-Ham. ex Roxb. var. *apiacea* (Hance) Pamp. in Nuov. Giorn. Bot. Ital. n.s. 34 : 648. 1927.

India (Throughout Himalayas, W. Bengal, Assam), Nepal, China (E, C, S & SW), Bangladesh, Myanmar, Indo-China, Korea, Japan.

Specimens examined : INDIA : Bengal, Wallich, Cat. No. 3299/409 (Type, K, CGE) ; C. B. Clarke 21797a (K) ; *Mukerjee* 400 (K) ; Assam, Wallich, Cat. No. 409a (BM) ; BANGLADESH : Dacca, C. B. Clarke 4650, 38067 (BM). TIBET : *Hooker f. & Thomson* s.n. (K).

A. filiformilobulata Y. R. Ling & H. S. Puri in Guihaia 5 : 1, f. 1. 1985.

India (Uttar Pradesh).

Specimen examined : INDIA : Uttar Pradesh, Gangotri, 22.9.1979, *Shah* 266a (Type, CIMAP).

A. gmelinii Web. ex Stechm., Dissert. de Artem. 30. 1775 ; Hook. f., Fl. Brit. India 3 : 330. 1881 ; Kitam. in Act. Phytotax. Geobot. 23 : 11. 1968. *A. santoliniaefolia* Turcz. ex Bess. In Nouv. Mem. Soc. Nat. Mosc. 3 : 87. 1834 ; Poljak in Fl. URSS 26 : 465. 1961 ; Y. R. Ling in J. Nanj. Tech. Coll. For. Prod. 1 : 82. 1981 & Fl. Xizang. 4 : 756. 1985. *A. laciniata* auct. non Willd. 1804 ; Hook. f., Fl. Brit. India 3 : 326. 1881 ; Nasir & Ali, Fl. W. Pakistan 716. 1972. *A. sacrorum* Ledeb. var. *santoliniae*.

folia Pamp. in Nuov. Giorn. Bot. Ital. n.s. 34 : 693. 1927 incl. formae & subformae.

India (Jammu & Kashmir, Himachal Pradesh, Uttar Pradesh, Nepal, China (W. Parts), Mongolia, C.I.S.

Specimens examined : INDIA : Kumaon, Thomson s.n. (K); Kashmir, Schomburg 75 (BM); C. B. Clarke 30694a (BM); Shah & S. S. Singh 159, 1257 (CIMAP); Punjab, Drummond 22119 (E). NEPAL : Sharma E 18² : 523. 1773. *A. gmelinii* auct. non Web. ex Stechm. 1775 : Poljak. in Fl. URSS 26 : 464. 1961. THIBET : Thomson s.n. (BM); Schlagint Cat. No. 11738 (E).

A. hedinii Ostenf. & Pauls. in S. Hedin, S. Tibet 6(3) : 41, t. 3. f.l. 1922; Y. R. Ling in J. Nanj. Tech. Coll. For. Prod. 1 : 82. 1981 & Fl. Xizang 4 : 754. 1985. *A. bienis* auct. non Willd. 1794; Hook. f., Fl. Brit. India 3 : 324. 1881; Nasir & Ali, Fl. W. Pakistan 715. 1972.

India (Jammu & Kashmir, Himachal Pradesh, Uttar Pradesh, Sikkim), Nepal, China (W. parts), C.I.S., Pakistan.

Specimens examined : INDIA : Kumaon Duthie 2477, 3059 (K); Sikkim, Hooker f. s.n. (BM); R. Lepcha 202 (E). NEPAL : Stainton 1106 (BM); 1348, 3788, 8036 (E); Sykes 3574. 1348 (BM); Sharma E 118 (BM); Dhwoj 181 (BM); Syles 8036 (BM); Kiehe 714 (BM) John 1106 (K); Polunin 3574 (K). TIBET : Strachey 18 (K); Soulie 474 (P); Chumbi Dungboo s.n. (BM); Kingdon-ward 6140 (K) Schlagint Cat. No. 1006 (BM).

A. macrantha Ledeb. in Mem. Acad. Sci. St Petersburg. 5 : 573. 1815; Pamp. in Nuov. Giorn. Bot. Ital. n.s. 34 : 677. 1927 incl. vars. *turtzchaninoviana* & *occidentalis*. India (N. W. Himalayas), China (NW & W), Mongolia, C.I.S.

A. pallens Wall. ex Bess in Nuov. Mem. Soc. Nat. Mosc. 3 : 85. 1834; C. B. Clarke Compos. Ind. 163. 1876; Hook. f., Fl. Brit. India 3 : 329. 1881.

India (cultivated), N. Thailand.

A. sacrorum Ledeb. in Mem. Acad. Sci. St. Petersburg. 5 : 571. 1815; C. B. Clarke, Compos. Ind. 160. 1876; Hook. f., Fl. Brit. India 3 : 326. 1881; Nasir & Ali, Fl. W. Pakistan 719. 1972.

var. **sacrorum**

A. annua auct. non L. 1753 : Pall., Reise Stechm. 1775 : Poljak. in Fl. URSS 26 : 464. 1961.

India, Nepal, China, Mongolia, Korea, Japan, Pakistan, Afghanistan, C.I.S.

Specimens examined : INDIA : Kashmir, Ludlow 8223 (E). NEPAL : Dobremez 1129 (BM); Gaves s.n. (K) TIBET : Thomson s.n. (K).

var. **messerschmidtiana** (Bess.) Y. R. Ling, comb. nov. *A. messerschmidtiana* Bess. in Nuov. Mem. Soc. Nat. Mosc. 3 : 27. 1881.

India (Jammu & Kashmir), China, Mongolia, Korea, Japan, Pakistan, Afghanistan, C.I.S.

A. vestita Wall. ex Bess. in Nouv. Mem. Soc. Nat. Mosc. 3 : 25. 1834; C. B. Clarke, Compos. Ind. 160. 1876; Hook. f., Fl. Brit. India 3 : 326. 1881; Y. R. Ling in J. Nanj. Tech. Coll. For. Prod. 1 : 83. 1981 & Fl. Xizang. 4 : 757. 1985. *A. laciniata* auct. non Willd. 1804 : C. B. Clarke, Compos. Ind. 161. 1876. *A. sacrorum* Ledeb. var. *minor* Ledeb. Ledeb. forma *wallichiana* Pamp in Nuov. Giorn. Bot. Ital. n.s. 34 : 690. 1927.

India (Jammu & Kashmir, Himachal Pradesh, Uttar Pradesh), Nepal, China (SW), Pakistan, Afghanistan.

Specimens examined : INDIA : Kumaon, Wallich, Cat. No. 3301/411 (Type, K); C. B. Clarke 23591 (BM); Polunin 3350 (BM); Strachey 4, 6 (K); Punjab, Drummond 25433, 1798, 14618 (K); Simla, Collett 864 (K), Gamble 25062 (K); Chamba, Gerard s.n.,

(BM); Kashmir, *Thomson s.n.* (CGE, K); *Stewart* 3356 (K), *Jacquemont s.n.* (K); *Edgeworth* 107 (K); *Young s.n.* (BM). NEPAL : *Stainton* 1481; 2389 (BM), 2090 (E); *Lookern* 39 (L); *Miche* 23, 162, 396, 430, 721b (BM); *Strachey & Winterbottom* 4 (BM). TIBET : *Thomson s.n.* (K).

Sect. **Artemisia**

A. amygdalina Decne. in Jacquem., Voy. Inde 92, t. 100. 1844; Hook. f., Fl. Brit. India 3 : 325. 1881; Nasir & Ali, Fl. W. Pakistan 715. 1972.

India (Jammu & Kashmir), Pakistan, Afghanistan.

Specimens examined : Kashmir, C. B. Clarke, 30697a (K); R.R. & I.D. Steward 5750 (K); *Jacquemont s.n.* (K); *Polunin* 56/496 (BM); *Jacquemont* 1196 (P).

A. austrohimalayana (Y. R. Ling & H. S. Puri) Y. R. Ling & H. S. Puri in Guihaia 8 : 64. 1988 ('austro-himalayana') *A. tenuifolia* Y. R. Ling & H. S. Puri in Guihaia 5(1) : 2. 1982 non Adam ex DC. 1838. India (Uttar Pradesh).

Specimens examined : INDIA : Uttar Pradesh, Chamoli, Niti, Shah & S. S. Singh *s.n.* (Type, CIMAP).

A. austroyunnanensis Ling & Y. R. Ling in Bull. Bot. Res. North-East Forest Inst. 4 (2) : 20, f. 4. 1984 ('austro-yunnanensis'). *A. burmanica* Pamp. forma *latiloba* Pamp. in Nuov. Giorn. Bot. Ital. n.s. 33 : 455. 1925. *A. dubia* Wall. ex Bess. var. *longeracemulosa* Pamp. in Nuov. Giorn. Bot. Ital. n.s. 36 : 439. 1930. incl. forma *tonkingensis*.

India (NE Parts), China (SW), Myanmar, N. Thailand, Indo-China.

Specimens examined : MYANMAR (Burma), *Lace* 4399 (K); *Tagawa* 4043 (K).

A. campbellii Hook. f. & Thomson ex C. B. Clarke, Compos. Ind. 164. 1876; Hook. f.,

Fl. Brit. India 3 : 327. 1887; Nasir & Ali, Fl. W. Pakistan 715. 1972; Y. R. Ling in J. Nanj. Tech. Coll. For. Prod. 1 : 83. 1981 & Fl. Xizang 4 : 763. 1985.

India (Jammu & Kashmir), Bhutan, China (Xizang), Pakistan.

Specimens examined : INDIA : Sikkim, *Hooker f., s.n.* (Type, K, E.) *B. Lepcha* 255 (K); *Cave* 13 (K), *Smith & Cave* 1916, 1936. 2156, 2470 (K); *King s.n.* (K); *Cave* 13/47 (E); *R. Lepcha* 289 (E) NEPAL : *Miehm* 1112 (K); TIBET : *Thomson s.n.* (K).

A. incisa Pamp. in Nuov. Giorn. Bot. Ital. n.s. 33 : 456. 1926. Incl. var. *kunwarensis*; Nasir & Ali, Fl. W. Pakistan 721. 1972. *A. vulgaris* L. var. *myriantha* (Wall. ex Bess.) Pamp. in Nuov. Giorn. Bot. Ital. n.s. 33 : 456. 1926. p.p.

India (Jammu & Kashmir, Himachal Pradesh, Uttar Pradesh), Nepal, China (S. W.), Pakistan.

Specimens examined : INDIA : Kashmir, *Thomson s.n.* (Type, K); C. B. Clarke 30955a (K); *Fullerdry* 107 (K); *Harris* 16236 (K); *Young s.n.* (BM); N1635, *Stainton* 1345. 1741, 3910, 7454, 7779, 8456 (BM); PAKISTAN : Ziarat, *Rodin* 5648 (K).

A. indica Willd., Sp. Pl. 3 : 1846. 1804; Nasir & Ali, Fl. W. Pakistan 716. 1972; Bess. in Nouv. Mem. Soc. Nat. Mosc. 3 : 56-57. 1834 incl. vars. *multiflora*, *nepalensis*, *heyneana* & *legitima* (pp.) var. **indica**.

A. leptophylla D. Don, Prodr. Fl. Nepal. 182. 1825. pp. *A. grata* Wall. ex Bess. in Nuov. Mem. Soc. Nat. Mosc. 3 : 57. 1834. p.p. *A. wallichiana* Bess. in Nuov. Mem. Soc. Nat. Mosc. 3 : 69. 1834. *A. vulgaris* L. var. *indica* (Willd.) Maxim., Fl. Amur. 160. 1859. *A. vulgaris* auct. L. 1753; Hook. f., Fl. Brit. India 3 : 325. 1881. p.p.; Nasir & Ali, Fl. W. Pakistan 720. 1972. p.p. *A. dubia* auct. non Wall. ex Bess. 1834; Pamp. in Nuov. Giorn. Bot. Ital. n.s. 33 : 447. 1926 & 36 : 434. 1930 incl. var. *legitima* formae *genuina*

& *communis*, var. *acuminata* forma *congesta*, vars. *multiflora*, *grata*, *orientalis*, *septentrionalis*, *compacta*, *gracilis*; Nasir & Ali, Fl. W. Pakistan 716. 1972; Kitam. in Mem. Coll. Sci. Koyoto Univ. ser. B. 15 (3) : 430. 1940. *A. nilagirica* (C. B. Clarke) Pamp. in Nuov. Giorn. Bot. Ital. 33 : 452. 1926, p.p. *A. eriocephala* Pamp. in Nuov. Giorn. Bot. Ital. 33 : 454. 1926; Nasir & Ali, Fl. W. Pakistan 721. 1972. *A. dolichocephala* Pamp. in Nuov. Giorn. Bot. Ital. 34 : 175. 1927; Nasir & Ali, Fl. W. Pakistan 721. 1972. *A. myriantha* auct. non Wall. ex Bess. 1834 : Y. R. Ling in J. Nanj. Tech. Coll. For. Prod. 1 : 83. 1981 & Fl. Xizang. 4 : 768. 1985.

Widely distributed in Aisa (except North).

Specimens examined : INDIA : Assam, Kingdownward 20233 (BM); Kashmir, *Jacquemont* 2474 (K); Simla, *Khoshoo* 1, 4 (K) Punjab, *Bourne* 2650 (K); Kumaon, Wallich, Cat. No. 3293c, 3294/404, 3294/404a (CGE), NW Himalaya, Wallich, Cat. No. 3293/403 (CGE), 3293 (K); *Thomson s.n.* (CGE); Tamil Nadu (Madras), Herb. Wight. Proper 1462 (BM) *Drummond* 21015 (K). BHUTAN : *Besti* 1055 (K); *Cooper* 2793 (BM); *Griffith* 2181 (BM); NEPAL : Wallich, Cat. No. 3294A, 4036, 3293B (BM); *Lace* 578 (E).

var. ***elegantissima*** (Pamp.) Y. R. Ling & C. J. Humphries **comb. nov.**

A. elegantissima Pamp. in Nuov. Giorn. Bot. Ital. 33 : 454. 1926 incl. var. *kumaoensis* & formae; Nasir & Ali, Fl. W. Pakistan 716. 1972.

India (Jammu & Kashmir, Himachal Pradesh, Uttar Pradesh), Nepal, China (SW).

Specimens examined : INDIA : Kashmir, *Fuller* 897 (K); Chitral, *Toppin* 633 (K). *Kongbo*, *Ludlow*, *Sheriff* & *Elliot* 15591 (BM).

A. lavandulaefolia DC., Prodr. 6 : 110. 1837.

A. vulgaris auct. non L. 1753 : C. B. Clarke, Compos. Ind. 161. 1876, p.p.; Hook. f., Fl. Brit. India 3 : 325. 1881, p.p.

quoad syn. *A. dubia* Wall. ex Bess. var. *multiflora* Pamp. in Nuov. Giorn. Bot. Ital. n.s. 36 : 382. 1929, p.p. quoad Pl. Ind. Occ. India (W & NE Parts), China, Korea, Japan, Mongolia, C.I.S.

Specimens examined : INDIA, *Jacquemont* 19 (P); Khasia, *Griffith s.n.* (L).

A. nilagirica (C. B. Clarke) Pamp. in Nuov. Giorn. Bot. Ital. n.s. 33 : 452. 1926. *A. vulgaris* L. var. *nilagirica* C. B. Clarke Compos. Ind. 162. 1876.

India (along Western India from North to South), China (SW), Myanmar (?).

Specimens examined : INDIA : Bombay *Young s.n.* (BM); N. *A. Dalzell s.n.* (K); *Khandala*, *Santapau* 3778 (K); Nilgiris, C. B. Clarke 11246 (BM); Madras, *Bourne* 1556 (K); Punjab, *Stewart* 891.

A. robusta (Pamp.) Ling & Y. R. Ling. **comb. nov.**

A. strongylcephala Pamp. var. *sinensis* Pamp. forma *robusta* Pamp. in Nuov. Giorn. Bot. Ital. n.s. 34 : 178. 1927. *A. dubia* Wall. ex Bess. var. *myriantha* (Wall. ex Bess.) Pamp. in Nuov. Giorn. Bot. Ital. n.s. 36 : 381. 1929, p.p.

India (Jammu & Kashmir, Uttar Pradesh), Nepal, Bhutan, China (SW).

Specimens examined : NEPAL : *Polunin* 5526, 8456 (E); *Stainton* 7454, 3910 (E). BHUTAN, *Cooper* 3360 (E); *Sinclair* 5550 (E).

A. roxburghiana Wall. ex Bess. in Bull. Soc. Nat. Mosc. 9 : 57. 1836; Hook. f., Fl. Brit. India 3 : 326. 1881; Nasir & Ali, Fl. W. Pakistan 718. 1972; Y. R. Ling in J. Nanj. Tech. Coll. Forest Prod. 1 : 83. 1981 & Fl. Xizang. 4 : 766. 1985.

var. ***roxburghiana***

A. dubia Wall. ex Bess. var. *jacquemontiana* Pamp. in Nuov. Giorn. Bot. Ital. n.s. 33 : 454. 1926, p.p. incl. formae, *A. eriocephala* Pamp. l.c. 33 : 454. 1926, p.p. *A. indica* Willd. var. *exilis* Pamp. l.c. 33 : 459. 1926.

A. roxburghiana Wall. ex Bess. var. *acutloba* Pamp. l.c. 36 : 29. 1930 incl. forma *vestita*.

India (Jammu & Kashmir, Himachal Pradesh, Uttar Pradesh), China (W. Parts), Thailand, Afghanistan.

Specimens examined : INDIA : W. Himalaya, Duthie 21863a (K) ; Kumaon, Strachey 3, 7, 13 (BM) ; Simla, Thomson s.n. (K) ; on C. B. Clarke 31043, 31566b (BM), Strachey & Winterbottom 9 (BM) ; Barbour s.n. (BM) ; Richardson 277, 278, 279, 280 (BM) ; Ludlow, Sheriff & Taylor 5482, 6230, 7160 (BM) ; Ludlow, Sheriff & Hicks 17261 (BM) ; Edgeworth 113 (K) ; Wallich, Cat. No. 3290a (CGE) ; Coll. ? 164 (CIMAP).

var. **grata** Hook. f., Fl. Brit. India 3 : 326. 1881 ; Nasir & Ali, Fl. W. Pakistan 718. 1972. *A. grata* Wall. ex Bess. in Mem. Soc. Nat. Mosc. 3 : 57. 1834. p.p. *A. hypoleuca* Edgew. in Trans. Linn. Soc. 20 : 71. 1846 ; C. B. Clarke, Compos. Ind. 164. 1876. *A. dubia* Wall. ex Bess var. *myriantha* (Wall. ex Bess.) Pamp. in Nuov. Giorn. Bot. Ital. 33 : 450. 1926. p.p.

India (Kashmir to Kumaon), Nepal, Pakistan.

var. **purpurascens** (Jacquem. ex Bess.) Hook. f., Fl. Brit. India 3 : 326. 1881. Nasir & Ali, Fl. W. Pakistan 718. 1972. *A. purpurascens* Jacquem. ex Bess. in Bull. Soc. Nat. Mosc. 9 : 60. 1836. *A. revoluta* Edgew. in Trans. Linn. Soc. 20 : 71. 1846. *A. stronglylocephala* Pamp. in Nuov. Giorn. Bot. Ital. 34 : 176. 1927.

India (Kashmir to Kumaon), Nepal, China (SW), Pakistan.

Specimens examined : Himalayas, Thomson s.n. (K).

A. tainingensis Hand.-Mazz. in Act. Hort. Goethob. 12 : 277. 1938 ; Y. R. Ling in J. Nanj. Tech. Coll. For. Prod. 1 : 83. 1981 & Fl. Xizang. 4 : 766. 1985.

var. **tainingensis**

A. campbellii Hook. f. & Thomson ex C. B. Clarke var. *limprichtii* Pamp. in Nuov.

Giorn. Bot. Ital. n.s. 34 : 642. 1927. p.p. China (SW & Qinghai).

Specimens examined : TIBET : Ludlow 9916 (E).

var. **nitida** (Pamp.) Y. R. Ling, **comb. nov.**

A. moorcroftiana Wall. ex DC. forma *nitida* Pamp. in Nuov. Giorn. Bot. Ital. n.s. 34 : 681. 1927. *A. moorcroftiana* Wall. ex DC. var. *nitida* (Pamp.) Ling & Y. R. Ling in Act. Phytotax. Sin. 18 : 505. 1980 ; Y. R. Ling in J. Nanj. Tech. Coll. For. Prod. 1 : 83. 1981 & Fl. Xizang. 4 : 762. 1985.

India (Kashmir), China (SW).

Specimens examined : TIBET : Strachey & Winterbottom 12 (K).

A. tukuchaensis Kitam. in Act. Phytotax. Geobot. 30 : 127. 1979.

Nepal.

Specimens examined : NEPAL : Stainton 7465 (BM), Polunin 5526 (BM).

A. velutina Pamp. in Nuov. Giorn. Bot. Ital. n.s. 36 : 413. 1930 ; Y. R. Ling in J. Nanj. Tech. Coll. For. Prod. 1 : 83. 1981 & Fl. Xizang. 4 : 770. 1985.

India (Jammu & Kashmir, Uttar Pradesh), China (SW, C & S).

Specimens examined : INDIA : Kashmir, Thomson s.n. (BM) ; Kumaon, Wallich, Cat. No. 3239b/403 (K-W) ; Rashid 25726 (BM).

A. verlotoium Lamotte in Mem. Ass. Franc. Cong. Clerm.-Ferr. 511. 1879. *A. leptostachya* auct. non D. Don, 1825 : DC., Prodr. 6 : 113. 1837. *A. vulgaris* auct. non L. 1753 : C. B. Clarke, Compos. Ind. 161. 1876. quoad var. *vulgaris*, p.p. Hook. f., Fl. Brit. India 3 : 325. 1881, quoad syn. *A. leptostachya* DC. : Nasir & Ali, Fl. W. Pakistan 720. 1972, p.p. *A. dubia* Wall. ex Bess. var. *legitima* (Bess.) Pamp. in Nuov. Giorn. Bot. Ital. 36 : 435-438. 1930. incl. forma *dubia* subforma *puberula*, forma *communis* subforma *intermedia*, var. *acuminata* forma *leptostachya* & var.

orientalis. *A. dubia* auct. non Wall. ex Bess. 1836 : Kitam. in Act. Phytotax. Geobot. 23 : 11. 1968 quoad pl. Nepal. *A. indica* auct. non Willd. 1803 : Kitam. in Act. Phytotax. Geobot. 23 : 12. 1968. quoad pl. Nepal & Bhutan. Eurasia (except North), E. & N. Africa.

Specimens examined : INDIA : NW Himalaya, *Edgeworth* 110 (K) ; Kumaon, *Wallich*, Cat. 3293/403 (K-W). NEPAL : *A. Anderson* 1914 (E), *Polunin* 5745 (E, BM) ; *Stainton* 4309 (BM), 8445 (BM, E), 7485 (BM) ; 6553 (BM) ; *Zimmermann* 1655 (BM) ; *Kasulan* 8445 (BM) ; *Sharma* 135 (BM) ; *Warber* 448, 600 (BM) ; *Norkett* 7115 (BM) ; E. Himalaya, *Hara* 2043 (BM).

A. wallichiana Bess. in Nuov. Mem. Nat. Mosc. 3 : 69. 1834. *A. moorcroftiana* Wall. ex DC., Prodr. 6 : 117. 1838 : Hook. f., Fl. Brit. India 3 : 327. 1881 ; Nasir & Ali, Fl. W. Pakistan 717. 1972 ; Y. R. Ling in J. Nanj. Tech. Coll. For. Prod. 1 : 83. 1981 & Fl. Xizang 4 : 759. 1985. *A. hypoleuca* auct. non Edgew. 1846 : Hook. f., Fl. Brit. India 3 : 326. 1881. *pro syn.* *A. stronglylocephala* Pamp. var. *cachemirica* Pamp. in Nuov. Giorn. Bot. Ital. n.s. 34 : 176. 1927 & 36 : 432. 1930. *A. brunnea* Pamp. in Rend. Sem. Fac. Univ. Cagliari 8 : 168. 1938.

India (Kashmir to Kumaon), Nepal, Bhutan, China (NW & SW), Pakistan.

Specimens examined : INDIA : Kashmir, *Pinfold* 372 (BM) ; *Thomson s.n.* (K, CGE) ; *Duthie* 13943 (K). NEPAL : *Dhwoj* 337 (BM) ; *Stainton* 6589, 1102 (BM) ; *Polunin* 5319 (BM) ; *Kingdon-ward* 10058 (BM) ; *Miehne* 1030 (BM) ; Bhutan, *Bedi* 765 (BM).

Sect. **Viscidipubes** Y. R. Ling.

A. myriantha Wall. ex Bess. in Nuov. Mem. Soc. Nat. Mosc. 3 : 51. 1834 ; Y. R. Ling in Kew Bull. 42 : 446. 1987.

var. **myriantha**

A. vulgaris L. var. *myriantha* (Wall. ex

Bess.) C. B. Clarke, Compos. Ind. 162. 1876 excl. syn. *A. paniculata* Roxb. *A. vulgaris* auct. non L. 1753 : Hook. f., Fl. Brit. India 3 : 325. 1881, p.p. *A. dubia* auct. non Wall. ex Boiss. 1834 ; Pamp. in Nuov. Giorn. Bot. Ital. n.s. 33 : 447. 1926 ; 34 : 653. 1927 ; 36 : 434. 1930 ; 46 : 562. 1939 incl. var. *legitima* forma *genuina* forma *communis* subforma *intermedia*, var. *acuminata*, var. *longeracemulosa* & var. *grata* (p.p.), *A. burmanica* Pamp. in Nuov. Giorn. Bot. Ital. n.s. 33 : 455. 1926. excl. forma *latiloba*. *A. pleiocephala* Pamp. var. *pleiocephala* forma *yunnanensis* in Nuov. Giorn. Bot. Ital. n.s. 36 : 446. 1930.

India (Jammu & Kashmir), Nepal, Bhutan, China (SW & Qinghai), Myanmar.

Specimens examined : INDIA : Simla, *Collet* 863 (K) ; Kumaon, *Strachey* 2, 8 (K). NEPAL : *Hara* 6304104 (BM) ; *Stainton* 4309 (E). BHUTAN : *Bedi* 1098 (K). MYANMAR : *Lace* 4385 (K).

Sect. **Albibractea** Y. R. Ling.

A. lactiflora Wall. ex DC., Prodr. 6 : 115. 1837 : Pamp. in Nuov. Giorn. Bot. Ital. n.s. 34 : 674-675. 1927 incl. formae *lactiflora* (Genuina), *septemlobata* & *henryana*. India (NE Parts), China (S, C, SW & SE), Thailand, Indo-China, Indonesia.

Subgen : **Dracunculus** (Bess.) Peterm.

Sect. : **Dracunculus** Bess., s.s. excl. sect. *litolobus* Y. R. Ling.

A. demissa Krasch. in Act. Inst. Bot. Acad. Sci. USSR 1 (3) : 348. 1936 ; Y. R. Ling in J. Nanj. Tech. Coll. For. Prod. 1 : 84. 1981 & Fl. Xizang. 4 : 777. 1985. Nepal, China (N, W. & Xizang).

Specimen examined : NEPAL : *Warber* 200 (BM).

A. dracunculus L., Sp. Pl. 849. 1753 ; C. B. Clarke, Compos. Ind. 157. 1876 ; Hook. f., Fl. Brit. India 3 : 321. 1881, p.p. : Nasir & Ali, Fl. W. Pakistan 716. 1972.

var. **dracunculus**

A. glauca auct. non Pall. ex Willd. 1804 : Hook. f., Fl. Brit. India 3 : 322. 1981 ; Nasir & Ali, Fl. W. Pakistan 721. 1972. *Oligosporus dracunculus* (L.) Poljak. in Mat. Fl. Veg. Kaschg. 11 : 166. 1961.

India (Jammu & Kashmir, Himachal Pradesh, Sikkim), China (W, NE & NW), Mongolia, C.I.S., Afghanistan, Pakistan, E. Europe, W. Africa.

Specimens examined : INDIA : Kashmir, Thomson s.n. (BM) ; Schlaginweit Cat. No. 9459 (E). Ladakh, Ludlow 585 (BM) ; W. Himalaya Duthie 25656 (K) ; Punjab, Drummond 1491 (BM) ; Cooper 5287 (E) ; Sikkim, Hooker f., s.n. (L). TIBET : Thomson s.n. (CGE).

var. **pamirica** (C. Winkl.) Y. R. Ling & C. J. Humphries **comb. nov.**

A. pamirica C. Winkl. in Act. Hort. Petrop. 11 : 329. 1890 incl. var. *aschurbazewi* ; Ostent. & Pauls. in S. Hedin, S. Tibet. 6 : 40, 1922 ; Nasir & Ali, Fl. W. Pakistan 721. 1972 ; Y. R. Ling in J. Nanj. Tech. Coll. For. Prod. 1 : 84. 1981 & Fl. Xizang. 4 : 781. 1985. *A. simplicifolia* Pamp. in Nuov. Giorn. Bot. Ital. n.s. 46 : 589. 1939 ; Nasir & Ali Fl. W. Pakistan 720. 1972. *Oligosporus pamiricus* (C. Winkl.) Poljak. in Mat. Fl. Veg. Kaschg. 11 : 166. 1961.

India (Jammu & Kashmir), China (Xizang & Xinjiang), Pakistan, Afghanistan, C.I.S.

Specimen examined : INDIA : Kashmir, Duthie 12138 (P).

A. edgeworthii Balakr. in J. Bombay Nat. Hist. Soc. 63 : 329. 1967 ; Y. R. Ling in J. Nanj. Tech. Coll. For. Prod. 1 : 84. 1981 & Fl. Xizang 4 : 780. 1985. *A. stricta* Edgew. in Trans. Linn. Soc. 20 : 73. 1846 non Heyne ex DC. 1838 ; Pamp. in Nuov. Giorn. Bot. Ital. n.s. 34 : 705. 1927 incl. forma var. **edgeworthii**.

India (Jammu & Kashmir, Himachal Pradesh, Uttar Pradesh, Sikkim), Nepal, Bhutan, China (SW).

Specimens examined : INDIA, Kashmir, Koelz 2921 (E) ; Kumaon, Strachey 11 (K) ; Sikkim, Hooker f., s.n. (K) ; Smith 2116 (E). NEPAL : Sharma 273 (BM) ; Zimmermann 1972 (BM), Dobremez 1026 (BM) ; Stainton 8188 (E). BHUTAN, Sinclair 5371 (E). TIBET : Thomson s.n. (K, CGE).

var. **diffusa** (Pamp.) Ling & Y. R. Ling in Act. Phytotax. Sin. 18 : 509. 1980 ; Y. R. Ling in J. Nanj. Tech. Coll. For. Prod. 1 : 84. 1981 & Fl. Xizang. 4 : 705. 1927. *A. stricta* Edgew. forma *diffusa* Pamp. in Nuov. Giorn. Bot. Ital. n.s. 34 : 705. 1927.

India (Jammu & Kashmir, Himachal Pradesh, Uttar Pradesh, Sikkim), Nepal, China (SW).

Specimen examined : SIKKIM : Hooker f., s.n. (L).

A. falconeri C. B. Clarke ex Hook. f., Fl. Brit. India 3 : 328. 1881. *A. salsoloides* auct. non Willd. 1804 ; C. B. Clarke, Compos. Ind. 157. 1876, p.p. ; Hook. f., Fl. Brit. India 3 : 321. 1881, p.p. ; incl. Nasir & Ali, Fl. W. Pakistan 719. 1881, p.p. *A. wellbyi* Hemsley & Pears. ex Deasy [Tibet Chin. Turk. 397. 1901, *nom. nud.*] in J. Linn. Soc. 35 : 183. 1902 ; Y. R. Ling in J. Nanj. Tech. Coll. For. Prod. 1 : 84. 1981 & Fl. Xizang. 4 : 789. 1985. *A. salsoloides* Willd. var. *wellbyi* (Hemsley & Pears. ex Deasy) Ostenf. & Pauls. in Hedin, S. Tibet 6 (3) : 40. 1992 ; Nasir & Ali, Fl. W. Pakistan 719. 1972. *Oligosporus wellbyi* (Hemsley & Pears. ex Deasy) Poljak. in Mat. pl. Veg. Kaschg. 11 : 169. 1961.

India (Jammu & Kashmir, Himachal Pradesh, Sikkim), China (Xizang).

Specimens examined : INDIA : Kashmir, Koelz 2432 (E) ; Chamba, Younghusband 107 (A) ; Lahul, Bor 16478 (K) ; Sikkim, Smith & Cave 2139 (K). TIBET : Thomson s.n. (BM, CGE, K, P) ; Strachey & Winterbottom 16 (K), Stewart s.n. (P).

A. scoparia Waldst. & Kit., Pl. Rar. Hung. 1 : 66, t. 65. 1802 ; C. B. Clarke, Compos.

Ind. 158. 1878; Hook. f., Fl. Brit. India 3 : 323. 1881; Nasir & Ali, Fl. W. Pakistan 719. 1972; Y. R. Ling in J. Nanj. Tech. Coll. For. Prod. 1 : 84. 1981 & Fl. Xizang. 4 : 779. 1985. *A. mollissima* D. Don, Prodr. Fl. Nep. 182. 1825; Hook. f., Fl. Brit. India 3 : 330. 1881. *A. elegans* Roxb., Fl. Ind. 3 : 421. 1832. *A. tricophylla* Wall. ex DC., Prodr. 6 : 100. 1837; C. B. Clarke, Compos. Ind. 158. 1876. *A. kohatica* Klatt in Sitzb. Akad. Muench. 91. 1878; Hook. f., Fl. Brit. India 3 : 330. 1881. *A. capillaris* Thunb. var. *scoparia* (Waldst. & Kit.) Pamp. in Nuov. Giorn. Bot. Ital. n.s. 34 : 642. 1927 incl. formae. *Oligosporus scoparius* (Waldst. & Kit.) Less. in Linnaea 9 : 191. 1834.

Widely distributed in Eurasia.

Specimens examined : INDIA : Kashmir, Thomson s.n. (K, BM); C. B. Clarke 29045, 22820B (BM); Ludlow 7952 (BM); N. W. Himalayas, Gamble 24999, 25617 (K); Simla, Rich 149 (K); Stewart 1636 (E); Kumaon, Wallich, Cat. No. 4350D, 4300/410 (CGE); Strachey & Winterbottom 1 (BM); Wallich Cat. No. 1830 (K); Strachey 1 (K); Punjab, Drummond 20593, 24087, 25438, 25440, 25442 (K); Lahne, Rohilcund 1845 (K); Edgeworth 101 (K); Thomson 828 (BM); Young s.n. (E), Sayers 3605 (BM). TIBET, Schlagintweit Cat. No. 1352, 2261, 5635, 7205, 7421 (K); Deasy 9, 10, 87 (BM); Thomson s.n. (K).

A. waltonii J. R. Drumm. ex Pamp. in Nuov. Giorn. Bot. Ital. n.s. 34 : 707. 1927; Y. R. Ling in J. Nanj. Tech. Coll. For. Prod. 1 : 84. 1981 & Fl. Xizang. 4 : 791. 1985. China (SW & Qinghai).

Specimen examined : CHINA, Gyangtse, Walton s.n. (L).

A. xigazeensis Ling & Y. R. Ling in Act. Phytotax. Sin. 18. 511. 1980; Y. R. Ling in J. Nanj. Tech. Coll. For. Prod. 1 : 84. 1981 & Fl. Xizang. 4 : 792. f. 347. 1985. *A. salsoloides* Willd. var. *salsoloides* Hook.

f., p.p. & var. *paniculata* Hook. f., Fl. Brit. India 3 : 321. 1881, p.p.

China (Xizang).

Specimen examined : TIBET (Xizang), Thomson s.n. (K, CGE).

Sect. **Latilobus** Y. R. Ling.

A. desertorum Sprengel, Syst. Veg. 3 : 490. 1826; Y. R. Ling in J. Nanj. Tech. Coll. For. Prod. 1 : 85. 1981 & Fl. Xizang 4 : 785. 1985.

var. **desertorum**

A. desertorum Sprengel var. *sprengeliana* Bess. in Bull. Soc. Nat. Mosc. 8 : 65. 1835. *Oligosporus desertorum* (Sprengel) Poljak. in Mat. Fl. Veg. Kaschg. 11 : 167. 1961.

India (Sikkim), Bhutan, China (SW, N & NE), Korea, Japan, Mongolia, C.I.S.

Specimens examined : INDIA : Sikkim, Spencer 124 (K), Bhutan, Dungboo 303 (K); TIBET : Soulie 390 (P).

var. **foetida** (Jacquem. ex DC.) Ling & Y. R. Ling, **comb. nov.**

A. foetida Jacquem. ex DC., Prodr. 6 : 98. 1837. *A. desertorum* auct. non Sprengel, 1826; C. B. Clarke, Compos. Ind. 158. 1876, p.p.; Nasir & Ali, Fl. W. Pakistan 715. 1972, p.p.

India (Jammu & Kashmir, Himachal Pradesh, Uttar Pradesh), Pakistan, Nepal, China (SW).

Specimen examined : TIBET : Thomson s.n. (BM).

var. **tongolensis** Pamp. in Nuov. Giorn. Bot. Ital. n.s. 34 : 651. 1927.

China (SW).

Specimen examined : TIBET : Soule 1013 (P).

A. dubia Wall. ex Bess. in Nuov. Mem. Soc. Nat. Mosc. 3 : 39. 1834; Y. R. Ling in Kew Bull. 42 : 443. 1987.

var. **dubia**

A. vulgaris auct. non L. 1753; Hook. f., Fl. Brit. India 3 : 325. 1881, p.p. *A. subdigi-*

tata Mattf. in Fedde Repert. Sp. Nov. 22 : 243. 1926, p.p. *A. dracunculus* L. var. *iriödora* auct. non Bess. 1843 : Pamp. in Nuov. Giorn. Bot. Ital. n.s. 34 : 653. 1927, p.p. quoad *C. B. Clarke* 3138. L & Thomson s.n. *A. thomsonii* C. B. Clarke ex Pamp. in Nuov. Giorn. Bot. Ital. n.s. 34 : 653. 1927 incl. forma *chinensis*, *A. dracunculus* L. var. *subdigitata* (Mattf.) Pamp. in Nuov. Giorn. Bot. Ital. n.s. 36 : 379. 1929. incl. forma *thomsonii*, *A. subdigitata* Mattf. var. *thomsonii* (C. B. Clarke ex Pamp.) S. Y. Hu in Quart. J. Taiwan Mus. 18 : 263. 1965; Y. R. Ling in J. Nanj. Tech. Coll. For. Prod. 1 : 85. 1981 & Fl. Xizang 4 : 783. 1985.

India (Jammu & Kashmir, Himachal Pradesh, Uttar Pradesh), Nepal, Bhutan, China (N, W & C), Korea, Japan.

Specimens examined : INDIA : Kashmir, C. B. Clarke 31238a, 31238c (K); Kumaon, Wallich, Cat. No. 3307a/417 (Blinksworth) (K). NEPAL : Stainton 1983 (BM), Polunin 3343 (CGE) E. Bengal (?) Griffith 128 (L.) BHUTAN : Ludlow 19634 (BM); Bedi 658 (K). TIBET : Thomson s.n. (K, CGE).

var. *subdigitata* (Mattf.) Y. R. Ling in Kew Bull. 42 : 445. 1987. *A. jacquemontiana* Bess. in Bull. Soc. Nat. Mosc. 8 : 61. 1835, p.p. incl. *A. glabra* Jacquem ex Bess. *A. cannabina* Jacque. ex Bess. in DC., Prodr. 6 : 97. 1838, pro syn. *A. desertorum* Sprengel var. *jacquemontiana* DC., Prodr. 6 : 98. 1838. *A. royaleana* DC., Prodr. 6 : 115. 1838; Hook. f., Fl. Brit. India 3 : 329. 1881. *A. desertorum* auct. non Sprengel, 1826 : C. B. Clarke, Compos. Ind. 158. 1876; Hook. f., Fl. Brit. India 3 : 332. 1881; Nasir & Ali, Fl. W. Pakistan 715. 1972. *A. glauca* auct. non Pall. ex Willd. 1804; Hook. f., Fl. Brit. India 3 : 332. 1881, p.p. *A. dubia* Wall. ex Bess. var. *jacquemontiana* (Bess.) Pamp. in Nuov. Giorn. Bot. Ital. n.s. 33 : 451. 1926. *A. subdigitata* Mattf. in Fedde Repert. Sp. Nov. 22 : 243. 1926, p.p. incl. var. *falciloba*, *A. foetida* auct. non Jacquem ex DC. 1837 :

Pamp. in Nuov. Giorn. Bot. Ital. n.s. 34 : 655. 1927, p.p. *A. dracunculus* L. var. *inodora* Bess. forma *pinnata* Pamp. in Nuov. Bot. Ital. 36 : 379. 1929 & var. *subdigitata* Pamp. l.c. 36 : 379-381. 1929. incl. formae *chinensis*, *falciloba*, *intermedia* & subforma *oblonga*. *Oligosporus jacquemontiana* (Bess.) Poljak. in Mat. Fl. Veg. Kaschg. 11 : 168. 1961.

India (Kashmir to Sikkim), Nepal, Bhutan, China (N, C & SW).

Specimens examined : INDIA : Kashmir, Stewart 22036 (K); Jacquemont 1149 (P). NW Himalayas, Punjab, Drummond 1797, 1802, 1808, 23823, 24086, 25441 (K), Gamble 6428a (K), Ellis 319 (K); Baden-Powell 184, 185 (K); Edgeworth 111 (K); Sikkim, Spencer 124 (K). NEPAL : Polunin 5277 (E, BM), 3343 (BM). BHUTAN : Dungboo 303 (K). TIBET : Thomson s.n. (BM).

Serphidium (Bess.) Poljak. in Mat. Fl. Veg. Kaschg. 11 : 171. 1961; Czerep., Add. Corr. Fl. URSS. 94. 1973; Y. R. Ling in Act. Phytotax. Sin. 18 : 512. 1980; in Bull. Bot. Res. 2 : 28. 1982 & Fl. Xizang 4 : 793. 1985. *Artemisia* L. sect. *Serphidium* Bess. in Bull. Soc. Nat. Mosc. 1 : 222. 1828. *Artemisia* L. subgen. *Serphidium* (Bess.) Peterm., Deutschl. Fl. 294. 1848.

S. ancheri (Boiss.) Ling & Y. R. Ling in Act. Phytotax. Sin. 18 : 513. 1980 & Y. R. Ling, Fl. Xizang. 4 : 794. 1985. *Artemisia ancheri* Boiss., Fl. Orient. 3 : 367. 1875; Nasir & Ali, Fl. W. Pakistan 715. 1972. *A. maritima* L. var. B C. B. Clarke, Compos. Ind. 159. 1876 incl. syn. *A. griffithiana*. *A. maritima* L. var. *ancheri* (Boiss.) Pamp. in Nuov. Giorn. Bot. Ital. n.s. 34 : 680. 1927. China (W. Xizang), Pakistan, Afghanistan, Iran.

Specimen examined : TIBET : Thomson s.n. (K, BM).

S. brevifolium (Wall. ex DC.) Ling ex Y. R. Ling in Act. Phytotax. Sin. 18 : 513. 1980 :

Y. R. Ling, Fl. xizang. 4 : 793. 1985. *Artemisia brevifolia* Wall. ex DC., Prodr. 6 : 103. 1837; Nasir & Ali, Fl. W. Pakistan 715. 1972. *A. maritima* L. var. C. B. Clarke, Compos. Ind. 159. 1876. *A. maritima* auct. non L. 1753 : Hook. f., Fl. Brit. India 3 : 323. 1881, p.p. Pamp. in Nuov. Giorn. Bot. Ital. n.s. 34 : 679. 1927 incl. var. *genuina* & forma *suberecta* Nasir & Ali, Fl. W. Pakistan 717. 1972 p.p. *A. maritima* L. var. *pauciflora* auct. non Ledeb. : Pamp. in Nuov. Giorn. Bot. Ital. 46 : 573. 1939.

India (Jammu & Kashmir, Uttar Pradesh), China (W. Xizang), Pakistan.

Specimens examined : INDIA : Kashmir, Ludlow 8566 (BM); Garhwal, Strachey & Winterbottom 5 (BM); Choudhuri 2891 (BM). TIBET : Schlagintweit Cat. No. 740, 5887 (P).

S. lehmannianum (Bunge) Poljak, in Mat. Fl. Veg. Kaschg. 11 : 175. 1961. *A. lehmanniana* Bunge in Mem. Acad. Sci. St. Petersb. 7 : 340. 1854. *A. maritima* auct. non L. 1753 : Hook. f., Fl. Brit. India 3 : 323. 1881, p.p.

India (Jammu & Kashmir), China (N. Xinjiang), Afghanistan, USSR.

Specimen examined : NW India, Stewart 1625 (E).

S. thomsonianum (C. B. Clarke) Ling & Y. R. Ling in Act. Phytotax. Sin. 18 : 513. 1980; Y. R. Ling, Fl. Xizang 4 : 794. 1985. *Artemisia maritima* L. var. *thomsonianum* C. B. Clarke, Compos. Ind. 160. 1876. *A. maritima* auct. non L. 1753; Hook. f., Fl. Brit. India 3 : 323. 1881, p.p. *A. lehmanniana* auct. non Bunge 1854 : Hook. f., Fl. Brit. India 3 : 323. 1881, pro syn. : Nasir & Ali, Fl. W. Pakistan 717. 1972, p.p. *A. herba-alba* auct. non Ass. : Nasir & Ali, F. W. Pakistan 716. 1972.

India (Jammu & Kashmir), China (W. Xizang), Pakistan, Afghanistan.

Specimens examined : INDIA : Kashmir, Coventry s.n. (BM); Ludlow 8221 (BM); Duthie 13954 (K). TIBET : Schlagintweit Cat. No. 6218 (BM); Thomson s.n. (CGE).

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