

New Combinations of Asiatic *Aria* (Rosaceae-Maloideae-Sorbeae)

Hiroyoshi OHASHI^a and Hiroyuki IKETANI^b

^aBiological Institute, Faculty of Science, Tohoku University
Sendai, 980 JAPAN;

^bDivision of Breeding, Fruit Tree Research Station, Ministry of Agriculture,
Forestry and Fisheries, Tsukuba, 305 JAPAN

バラ科アズキナシ属の新学名

大橋広好^a, 池谷祐幸^b

^a東北大学理学部生物学教室 980 仙台市青葉区荒巻字青葉

^b農林水産省果樹試験場育種部 305 つくば市藤本 2-1

(Received on August 24, 1993)

Aria and *Micromeles* are united and the resulting genus *Aria* is recognized as distinct from *Sorbus*, though recently they are treated generally as sections or subgenera under *Sorbus*. For 34 species and three varieties known as members of *Aria* and *Micromeles* within *Sorbus* in Asia, 36 new combinations and one new name are proposed under *Aria*. The lectotypes of *Aria* and *Micromeles* are designated here for the first time.

Based on a comparative study of anatomical features of the fruit structure as well as traditional morphological characters of the tribe Sorbeae in Maloideae (Iketani and Ohashi 1991), we assumed that “*Micromeles* evolved from an ancestral type of Himalayan *Sorbus* subgenus *Aria* species” and “*Micromeles* and *Aria* may be monophyletic” (on page 341). The heterogeneous pulp is composed of clusters of large cells and basic parenchymatous cells. This structure is appeared only in *Aria* of *Sorbus*, *Micromeles* and *Chamaemespilus* among the genera of Maloideae, and it is inferred as a synapomorphy. Traditionally, *Aria* is said to have free styles and partially inferior ovary and, on the contrary, *Micromeles* fused styles and completely inferior ovary. However, both groups generally have fused styles and

some species of *Aria* have completely inferior ovary. Degree of fusion of carpels, hypanthia and styles is shown in *Aria* (including *Micromeles*), *Chamaemespilus* and *Torminalis* (Table 1). Thus, it can be assumed that connation, i.e., the fusion of carpels (Robertson et al. 1991) and adnation, i.e., the fusion of ovaries to hypanthium (Robertson et al. l.c.), occurred not only once in a lineage of *Aria* and *Micromeles*. The connation and the adnation may have evolved parallelly and many times from an ancestral species group of *Aria* to *Micromeles*. The deciduous calyx of *Micromeles*, the other diagnostic characteristic of the genus, is probably resulted from the completely inferior ovary. We considered, accordingly, *Micromeles* and *Aria* should be united into a genus that is distinct from the typical *Sorbus*.

Table 1. Adnation and connation of floral organs of *Aria*, *Chamaemespilus*, and *Torminalis*

Species ¹⁾	Adnation of carpels to the hypanthium ²⁾	Connation of capels ³⁾		Connation at the base of styles ³⁾	
		center	lateral	inside	outside
<i>Aria alnifolia</i> ⁴⁾	1.0+	+	+	+	+
<i>A. corymbifera</i> ⁴⁾	1.0	+	+	+	+
<i>A. crenata</i>	0.8	+	+	+	+
<i>A. cuspidata</i>	1.0+	+	+	+	+
<i>A. japonica</i> ⁴⁾	1.0+	+	+	+	+
<i>A. keissler</i> ⁴⁾	1.0+	+	+	+	+
<i>A. lanata</i>	1.0	+	+	+	+
<i>A. zahlbruckeri</i>	0.6	+	+	+	-
<i>Chamaemespilus alpina</i>	0.9	+	+	+	+
<i>Torminalis clusii</i>	0.9	+	+	-	-

¹⁾ Examined specimens are listed in Appendix.

²⁾ Expressed as L1/L2. L1: the length from the base of locule to the point of adnation of carpels to the hypanthium, L2: the height of locule. These expressions show almost the same contents as that of Sterling (1964).

³⁾ Fuse completely (+), free or incompletely fuse as the epidermis layers remain (-).

⁴⁾ Formerly belongs to *Micromeles*.

Hahnia published in 1793 is the oldest name for the genus containing *Aria* and *Micromeles*, but the name is illegitimate by including, as synonyms, such earlier, validly published generic names as *Aronia* Medic. (1789), *Chamaemespilus* Medic. (1789) and *Torminalis* Medic. (1789). *Chamaemespilus* is closely related to *Aria* in the pulp structure (Decaisne 1874, Iketani and Ohashi 1991) and have often been united into *Aria* (Decaisne 1874, Koehne 1890) or into one group within *Sorbus* (Rehder 1927), but they differ in flowers as mentioned in Robertson et al. (1991). We recognize *Chamaemespilus* as a distinct genus. We inferred that "*Torminalis* (as *Torminalia* of *Sorbus*) was differentiated from the ancestor of *Aria* (of *Sorbus*)" in our previous paper (on page 344). We recognize it also as a distinct genus. Accordingly, we use *Aria* for the generic name embracing *Aria* and *Micromeles*.

The generic concept same with us was proposed by Robertson et al. (1991). We expressed our supports for their treatment on *Aria* (Iketani and Ohashi 1991). Since no combinations for the species of

Micromeles are made, new combinations under the resulting genus *Aria* are proposed in this paper. We treat here such species that are previously recognized as members of *Aria* and *Micromeles* in Asia. Most of them are treated by Yü and Lu (1974) in the Rosaceae for the flora of China. Several species known in other regions in Asia or those described recently in China are also included. Bibliography for each species is mostly omitted in this paper except for Yü and Lu (1974) and Phipps et al. (1990), because important works for the species are cited in these papers.

Aria (Pers.) Host, Fl. Austriac. 2: 7 (1831) [Lectotype (designated here): *Aria nivea* Host]; M.J. Roemer, Fam. Nat. Syn. Monogr. 3: 124 (1847); Decne. in Nouv. Arch. Mus. Paris 10: 160 (1874); Koehne, Gatt. Pomac. 17 (1890); Robertson et al. in Syst. Bot. 16: 389 (1991); H. Ohashi, Rosaceae in Fl. Taiwan ed. 2 (1993).

Hahnia Medic. Gesch. Bot. 8 (1793), nom. illegit. *Sorbus* sect. *Aria* Pers., Syn. Pl. 2: 38 (1806) [Type: *Sorbus aria* (L.) Crantz (= *Crataegus aria* L.)];

Yü et Lu in Fl. Reip. Pop. Sin. **36**: 290 (1974), p.p., excl. *Pyrus* sect. *Torminaria* DC.; Phipps, Robertson, P.G. Smith et Rohrer in Can. J. Bot. **68**: 2244 (1990).

Pyrus sect. *Aria* (Pers.) DC., Prodr. **2**: 635 (1825).

Micromeles Decne. in Nouv. Arch. Mus. Paris **10**: 168 (1874) [Lectotype (designated here): *Micromeles rhamnoides* Decne.]; Koehne, Gatt. Pomac. 20 (1890); Schneid., Ill. Handb. Laubh. **1**: 700 (1906); Kalkman in Blumea **21**: 437 (1973); Kovanda et Challice in Fol. Geobot. Phytot. **16**: 181 (1981); Iketani et H. Ohashi in J. Jpn. Bot. **66**: 323 (1991).

Sorbus sect. *Micromeles* (Decne.) Rehd., Man. Cult. Tr. Shr. 382 (1927); Yü et Lu, l. c. 297 (1974).

Sorbus subg. *Micromeles* (Decne.) Phipps, Robertson et Spongberg ex Phipps et al., l. c. 2244 (1990).

1. ***Aria aronioides*** (Rehd.) H. Ohashi et Iketani, comb. nov.

Sorbus aronioides Rehd. in Sarg., Pl. Wils. **2**: 268 (1915); Yü et Lu in Fl. Reip. Pop. Sin. **36**: 304 (1974); Phipps et al. in Can. J. Bot. **68**: 2244 (1990).

Micromeles aronioides (Rehd.) Kovanda et Challice in Fol. Geobot. Phyt. **16**: 191 (1981).

Distr.: China (Sichuan, Guizhou, Guangxi) and N. Burma.

2. ***Aria astateria*** (Card.) H. Ohashi et Iketani, comb. nov.

Pirus astateria Card. in Lecomte, Not. Syst. **3**: 348 (1918).

Sorbus astateria (Card.) Hand.-Mazz., Symb. Sin. **7**: 466 (1933); Yü et Lu, l. c. 310 (1974); Phipps et al., l. c. 2244 (1990).

Distr.: China (NE. Yunnan) and Tibet.

3. ***Aria brevipetiolata*** (N.T. Kh'ep et Yakovl.) H. Ohashi et Iketani, comb. nov.

Sorbus brevipetiolata N.T. Kh'ep et Yakovl. in Bot. Zhurn. (SSSR) **66**: 1189 (1981); Phipps et al., l. c. 2244 (1990).

Distr.: Vietnam.

4. ***Aria caloneura*** (Stapf) H. Ohashi et Iketani, comb.

nov.

4-1. var. ***caloneura***.

Micromeles caloneura Stapf in Kew Bull. **1910**: 192 (1910), in Curtis Bot. Mag. **136**: t. 8335 (1910).

Pyrus caloneura Bean, Tr. Shr. Brit. Isl. **2**: 279 (1914).

Sorbus caloneura (Stapf) Rehd. in Sarg., Pl. Wils. **2**: 269 (1915); Yü et Lu, l. c. 299 (1974); Phipps et al., l. c. 2244 (1990).

Distr.: China (Hubei, Hunan, Sichuan, Guizhou, Yunnan, Fujian, Guangdong, Guangxi) and N. Vietnam.

4-2. var. ***kwangtungensis*** (Yü) H. Ohashi et Iketani, comb. nov.

S. caloneura var. *kwangtungensis* Yü in Acta Phyt. Sin. **8**: 223 (1963); Yü et Lu, l. c. 300 (1974).

Distr.: China (Guangdong).

5. ***Aria carpinifolia*** (Yü et Lu) H. Ohashi et Iketani, comb. nov.

Sorbus carpinifolia Yü et Lu in Acta Phyt. Sin. **23**: 215 (1985); Phipps et al., l. c. 2241 (1990).

Distr.: China (Yunnan).

6. ***Aria chengii*** (C.J. Qi) H. Ohashi et Iketani, comb. nov.

Sorbus chengii C.J. Qi in J. Nanjing Techn. Coll. Forest Prod. **1981**(3): 124 (1981); Phipps et al., l. c. 2244 (1990).

Distr.: China.

7. ***Aria coronata*** (Card.) H. Ohashi et Iketani, comb. nov.

Sorbus coronata Yü et Tsai in Bull. Fan Mem. Inst. Biol. Bot. ser. **7**: 120 (1936); Yü et Lu, l. c. 296 (1974); Phipps et al. 2242 (1990).

Pyrus coronata Card. in Lecomte, Not. Syst. **3**: 348 (1918).

Distr.: China (Guizhou, Yunnan) and Tibet.

8. ***Aria corymbifera*** (Miq.) H. Ohashi et Iketani, comb. nov.

8-1. var. ***corymbifera***.

Vaccinium? *corymbiferum* Miq., Fl. Ind. Bat.,

Suppl. 1: 588 (1861).

Pyrus granulosa Bertol. in Mem. Acad. Sci. Bolog. ser. 2, 4: 312 (1864).

Sorbus sikkimensis Wenz. in Linnaea 38: 58 (1874), p.p.

Micromeles castaneifolia Decne. in Nour. Arch. Mus. Paris 10: 169 (1874).

M. khasiana Decne., l. c. 169 (1874), p.p.

M. granulosa Schneid., Ill. Handb. Laubh. 1: 700 (1906); in Fedde, Repert. Sp. Nov. 3: 151 (1906).

Sorbus granulosa (Bertol.) Rehd. in Sarg., Pl. Wils. 2: 274 (1915); Vidal in Fl. Camb. Laos Vietn. 6: 26 (1968), for further synonyms; Yü et Lu, l. c. 302 (1974).

Pyrus candidissima Chev. in Rev. Bot. Appl. 22: 374 (1942).

M. corymbifera (Miq.) Kalkman in Blumea 21: 437 (1973), for further synonyms.

S. corymbifera (Miq.) N. T. Kh'ep et Yakovl. in Bot. Zhurn. (SSSR) 66: 1189 (1981); Phipps et al., l. c. 2244 (1990).

Distr.: China (Guizhou, Yunnan, Guangdong, Guangxi), Vietnam, Laos, Cambodia, Thailand, Burma, Malaysia, Sumatra and E. India (Assam).
8-2. var. **turbinata** (Card.) H. Ohashi et Iketani, comb. nov.

Pyrus granulosa var. *turbinata* Card. in Lecomte, Not. Syst. 3: 347 (1914).

Sorbus corymbifera var. *turbinata* (Card.) N. T. Kh'ep et Yakov., l. c. 1188 (1981).

Distr.: Vietnam, Cambodia, Thailand, Burma, Malaysia and Sumatra.

9. **Aria detergibilis** (Merr.) H. Ohashi et Iketani, comb. nov.

Sorbus detergibilis Merr. in Brittonia 4: 76 (1941); Phipps et al., l. c. 2244 (1990).

Distr.: Burma.

10. **Aria dunnii** (Rehd.) H. Ohashi et Iketani, comb. nov.

Sorbus dunnii Rehd. in Sarg., Pl. Wils. 2: 273

(1915); Yü et Lu, l. c. 309 (1974); Phipps et al., l. c. 2244 (1990).

Distr.: China (Anhui, Zejiang, Fujian, Guizhou, Yunnan, Guangxi).

11. **Aria epidendron** (Hand.-Mazz.) H. Ohashi et Iketani, comb. nov.

Sorbus epidendron Hand.-Mazz. in Anzeig. Akad. Wiss. Wien. Math.-Naturw. Kl. 60: 135 (1923); Yü et Lu, l. c. 311 (1974); Phipps et al., l. c. 2244 (1990).

Micromeles epidendron (Hand.-Mazz.) Kovanda et Challice in Fol. Geobot. Phyt. 16: 192 (1981).

Distr.: China (Yunnan), N. Vietnam, and N. Burma.

12. **Aria ferruginea** (Wenzig) H. Ohashi et Iketani, comb. nov.

Sorbus sikkimensis Wenzig *δ. ferruginea* Wenzig in Linnaea 38: 60 (1874).

Pyrus ferruginea Hook. f., Fl. Brit. Ind. 2: 379 (1878).

Micromeles ferruginea (Wenzig) Koehne, Gatt. Pomac. 21 (1890).

Sorbus ferruginea (Wenzig) Rehd. in Sarg., Pl. Wils. 2: 277 (1915); Yü et Lu, l. c. 311 (1976); Phipps et al., l. c. 2244 (1990).

Distr.: China (Yunnan) and Bhutan.

13. **Aria folgneri** (Schneid.) H. Ohashi et Iketani, comb. nov.

Micromeles folgneri Schneid. in Bull. Herb. Boiss. ser. 2. 6: 318 (1906) et Ill. Handb. Laubh. 1: 704 (1906).

Pyrus folgneri Bean in Kew Bull. 1910: 175 (1910).

Sorbus folgneri (Schneid.) Rehd. in Sarg., Pl. Wils. 2: 271 (1915); Yü et Lu, l. c. 306 (1974); Phipps et al., l. c. 2244 (1990).

S. nubium Hand.-Mazz. in Anzeig. Akad. Wiss. Wien. Math.-Naturw. Kl. 58: 147 (1921).

Distr.: China (Shaanxi, Gansu, Henan, Hubei, Hunan, Anhui, Jiangxi, Fujian, Guangdong, Guangxi, Sichuan, Guizhou, Yunnan).

14. **Aria globosa** (Yü et Tsai) H. Ohashi et Iketani,

comb. nov.

Sorbus globosa Yü et Tsai in Bull. Fan Mem. Inst. Biol. bot. ser. 7: 121 (1936); Yü et Lu, l. c. 303 (1974); Phipps et al., l. c. 2244 (1990).

Distr.: China (Guizhou, Yunnan, Guangxi).

15. *Aria griffithii* (Decne.) H. Ohashi et Iketani, comb. nov.

Micromeles griffithii Decne. in Nouv. Arch. Mus. Paris 10: 170 (1874).

Pyrus griffithii (Decne.) Hook. f., Fl. Brit. Ind. 2: 377 (1878).

Sorbus griffithii (Decne.) Rehd. in Sarg., Pl. Wils. 2: 277 (1915); Phipps et al., l. c. 2244 (1990).

Distr. China (Yunnan), Bhutan and Sikkim.

16. *Aria hemsleyi* (Schneid.) H. Ohashi et Iketani, comb. nov.

Micromeles hemsleyi Schneid., Ill. Handb. Laubh. 1: 704 (1906) et in Fedde, Repert. Sp. Nov. 3: 152 (1906).

Micromeles schwerinii Schneid., Ill. Handb. Laubh. 1: 702 (1906) et in Fedde, Repert. Sp. Nov. 3: 15 (1906).

Sorbus hemsleyi (Schneid.) Rehd. in Sarg., Pl. Wils. 2: 276 (1915); Yü et Lu, l. c. 308 (1974); Phipps et al., l. c. 2242 (1990).

S. henryi Rehd. in Sarg., Pl. Wils. 2: 274 (1915); Phipps et al., l. c. 2242 (1990).

Distr.: China (Hubei, Hunan, Anhui, Zhejiang, Fujian, Jiangxi, Sichuan, Guizhou, Yunnan, Guangxi).

17. *Aria hunanica* (C.J. Qi) H. Ohashi et Iketani, comb. nov.

Sorbus hunanica C.J. Qi in J. Nanjing Techn. Coll. Forest Prod. 1981(3): 125 (1981); Phipps et al., l. c. 2244 (1990).

Distr.: China (Hunan).

18. *Aria keissleri* (Schneid.) H. Ohashi et Iketani, comb. nov.

Micromeles keissleri Schneid., Ill. Handb. Laubh. 1: 701 (1906).

M. decaisneana var. *keissleri* (Schneid.) Schneid.

in Fedde, Repert. Sp. Nov. 3: 151 (1906).

Sorbus keissleri (Schneid.) Rehd. in Sarg., Pl. Wils. 2: 269 (1915); Yü et Lu, l. c. 305 (1974); Phipps et al., l. c. 2244 (1990).

Pyrus keissleri (Schneid.) Lévl., Fl. Kouy-Tchéou 351 (1915).

Distr.: China (Hubei, Hunan, Jiangxi, Sichuan, Guizhou, Yunnan, Guangxi) and Tibet.

19. *Aria ligustrifolia* (Chev.) H. Ohashi et Iketani, comb. nov.

Sorbus ligustrifolia (Chev.) Vidal in Fl. Camb. Laos Viet. 6: 34 (1968); Phipps et al., l. c. 2244 (1990).

Distr.: N. Vietnam.

20. *Aria megalocarpa* (Rehd.) H. Ohashi et Iketani, comb. nov.

20-1. var *megalocarpa*.

Sorbus megalocarpa Rehd. in Sarg., Pl. Wils. 2: 266 (1915); Yü and Lu, l. c. 290 (1974); Phipps et al., l. c. 2241 (1990).

Pyrus megalocarpa (Rehd.) Bean, Trees & Shrubs Brit. Isl. 3: 325 (1933).

Distr.: China (Hubei, Hunan, Sichuan, Yunnan, Guangxi).

20-2. var. *cuneata* (Rehd.) H. Ohashi et Iketani, comb. nov.

Sorbus megalocarpa var. *cuneata* Rehd. in Sarg., Pl. Wils. 2: 267 (1915); Yü et Lu, l. c. 292 (1974).

Distr.: China (Sichuan, Guizhou).

21. *Aria meliosmifolia* (Rehd.) H. Ohashi et Iketani, comb. nov.

Sorbus meliosmifolia Rehd. in Sarg., Pl. Wils. 2: 270 (1915); Yü et Lu, l. c. 302 (1974); Phipps et al., l. c. 2244 (1990).

Pyrus meliosmifolia Bean, Trees & Shrubs Brit. Isles 3: 326 (1933).

Micromeles meliosmifolia (Rehd.) Kovanda et Challice in Fol. Geobot. Phytot. 16: 191 (1981).

Distr.: China (Sichuan, Yunnan, Guangxi).

22. *Aria ochracea* (Hand.-Mazz.) H. Ohashi et Iketani,

comb. nov.

Eriobotrya ochracea Hand.-Mazz., Symb. Sin. 7: 476 (1933).

Sorbus rubiginosa Yü in Acta Phyt. Sin. 8: 223 (1963); Phipps et al., l. c. 2244 (1990).

S. ochracea (Hand.-Mazz.) Vidal in Adansonia 5: 577 (1965); Yü et Lu, l. c. 309 (1974); Phipps et al., l. c. 2244 (1990).

Distr.: China (Yunnan).

23. *Aria pallenscens* (Rehd.) H. Ohashi et Iketani, comb. nov.

Sorbus pallescens Rehd. in Sarg., Pl. Wils. 2: 266 (1915); Yü et Lu, l. c. 295 (1974).

S. orchrocarpa Rehd. in Bailey, Stand. Cycl. Hort. 6: 3198 (1917).

Distr.: China (Sichuan, Yunnan) Tibet.

24. *Aria paucinerva* (Merr.) H. Ohashi et Iketani, comb. nov.

Sorbus paucinerva Merr. in Brittonia 4: 75 (1941); Phipps et al., l. c. 2244 (1990).

Distr. Burma.

25. *Aria rhamnoides* (Decne.) H. Ohashi et Iketani, comb. nov.

Micromeles rhamnoides Decne. in Nouv. Arch. Mus. Paris 10: 169 (1874).

Pyrus rhamnoides (Decne.) Hook. f., Fl. Brit. Ind. 2: 377 (1878).

Sorbus rhamnoides (Decne.) Rehd. in Sarg., Pl. Wils. 2: 278 (1915); Yü et Lu, l. c. 300 (1974); Phipps et al., l. c. 2244 (1990).

S. paniculata Yü et Tsai in Bull. Fan Mem. Inst. Biol. bot. ser. 7: 122 (1936); Phipps et al., l. c. 2244 (1990).

Distr.: China (Guizhou, Yunnan), Burma, Bhutan, Sikkim and E. Nepal.

26. *Aria subochracea* (Yü & Lu) H. Ohashi et Iketani, comb. nov.

Sorbus subochracea Yü et Lu in Acta Phyt. Sin. 18: 494 (1980); Phipps et al., l. c. 2244 (1990).

Distr.: Tibet.

27. *Aria subulata* (Vidal) H. Ohashi et Iketani, comb. nov.

Sorbus verrucosa var. *subulata* Vidal in Fl. Camb. Laos Vietn. 6: 32 (1968).

S. subulata (Vidal) N. T. Kh'ep et Yakovl. in Bot. Zh. (SSSR) 66: 1189 (1981); Phipps et al., l. c. 2245 (1990).

Distr.: N. Vietnam.

28. *Aria thibetica* (Card.) H. Ohashi et Iketani, comb. nov.

Pirus thibetica Card. in Lecomte, Not. Syst. 3: 349 (1918).

Sorbus thibetica (Card.) Hand.-Mazz., Symb. Sin. 7: 467 (1933); Yü et Lu, l. c. 294 (1974).

Sorbus atosanguinea Yü et Tsai in Bull. Fan. Mem. Inst. Biol. Bot. ser. 7: 119 (1936); Phipps et al., l. c. 2241 (1990).

S. wardii Merr. in Brittonia 4: 75 (1941); Phipps et al., l. c. 2242 (1990).

Distr.: China (Yunnan), Tibet and E. Nepal.

29. *Aria thomsonii* (Hook. f.) H. Ohashi et Iketani, comb. nov.

Pyrus thomsonii King ex Hook. f., Fl. Brit. Ind. 2: 379 (1878).

Sorbus thomsonii (Hook. f.) Rehd. in Sarg., Pl. Wils. 2: 277 (1915); Yü et Lu, l. c. 304 (1974); Phipps et al., l. c. 2245 (1990).

Distr.: China (Sichuan, Yunnan), Tibet, Burma, Bhutan, Sikkim and E. Nepal.

30. *Aria tsinlingensis* (C.C. Tang) H. Ohashi et Iketani, comb. nov.

Sorbus tsinlingensis C.L. Tang, Fl. Tsinling. 1: 608 (1974); Phipps et al., l. c. 2245 (1990).

Distr.: China (Shaanxi).

31. *Aria xanthoneura* (Rehd.) H. Ohashi et Iketani, comb. nov.

Sorbus xanthoneura Rehd. in Sarg., Pl. Wils. 2: 272 (1915); Yü et Lu, l. c. 295 (1974).

Distr.: China (Shaanxi, Guansu, Hubei, Sichuan, Guizhou).

32. *Aria yuana* (Spongberg) H. Ohashi et Iketani, comb. nov.

Sorbus yuana Spongberg in J. Arn. Arb. **67**: 257 (1986); Phipps et al., l. c. 2242 (1990).

Distr.: China (Hubei).

33. *Aria yuarguta* H. Ohashi et Iketani, nom. nov.

Sorbus arguta Yü in Acta Phyt. Sin. **8**: 223 (1963); Yü et Lu, l. c. 292 (1974); Phipps et al., 2241 (1990).

Distr.: China (Sichuan, Yunnan).

Aria arguta M.J. Roem. was published in 1847 for another species.

34. *Aria zahlbruckneri* (Schneid.) H. Ohashi et Iketani, comb. nov.

Sorbus zahlbruckneri Schneid. in Bull. Herb. Boiss. ser. 2, **6**: 318 (1906), Ill. Handb. Laubh. **1**: 685 (1906); Yü et Lu, l. c. 292 (1974); Phipps et al., l. c. 2245 (1990).

Distr.: China (Hubei, Sichuan, Guizhou, Guangxi).

References

- Decaisne M. J. 1874. Mémoires sur le famille des Pomacées. Nouv. Arch. Mus. Hist. Nat. Paris **10**: 113–192.
- Iketani H. and Ohashi H. 1991. Anatomical structure of Fruits and Evolution of the tribe Sorbeae in the subfamily Maloideae (Rosaceae). J. Jpn. Bot. **66**: 319–351.
- Koehne E. 1890. Die Gattungen der Pomaceen. Wissenschaftliche Beilage zum Programm des Falk-Realgymnasiums zu Berlin. Ostern 1980.
- Phipps J. B., Robertson K. R., Smith P. G. and Rohrer J. R. 1990. A checklist of the subfamily Maloideae (Rosaceae). Can. J. Bot. **68**: 2209–2269.
- Rehder A. 1927. Manual of cultivated trees and shrubs. Macmillan, New York.
- Robertson K., Phipps J. B., Rohrer J. R. and Smith P. G. 1991. A synopsis of genera in Maloideae (Rosaceae). Systematic Botany **16**: 376–394.
- Sterling C. 1964. Comparative morphology of the carpel in the Rosaceae. III. Pomoideae: *Crataegus*, *Hesperomeles*, *Mespilus*, *Osteomeles*. Amer. J. Bot. **51**: 705–712.
- Yü T. T. and Lu L. T. 1974. *Sorbus*. In Yü T. T. (ed.), Rosaceae. Flora Reipublicae Popularis Sinicae **36**: 283–344.

要 旨

ナシ亜科の属をどのように設定すればよいか、古くからの難問とされている。ナナカマド属の範囲の設定もその問題の一つである。近年世界のフ

ローラではこの属の範囲を大きく採る考えがふつうに受け入れられていて、日本でも同様である。この考えではアズキナシ属はナナカマド属に含められる。しかし、両属をそれぞれ独立属と認める見解を支持する意見も少なくない。

別属とする場合にはアズキナシ属の学名は *Micromeles* とされている。池谷と大橋 (1991) はバラ科ナシ亜科の果実の解剖学的な形質を比較し、属間の系統関係を推定した。アズキナシ属を独立属と認め、この属とナナカマド属 *Aria* 亜属は非常に近縁であると考え、両群は単系統群であろうと推定した。さらに、両群を同一属とする Robertson et al. (1991) によって発表されたばかりの見解を支持した。すなわち、アズキナシ属はナナカマド属と異なる独立属であり、その属名は *Aria* (Pers.) Host である、とする見解である。本論文では、これまでアズキナシ属 (あるいはナナカマド属アズキナシ亜属) に含められていた種およびナナカマド属 *Aria* 亜属に含められていた種の中から、アジアに分布する 34 種 3 変種について、それらの学名を新属名 *Aria* (新概念によるアズキナシ属) の下に移し、新組合せを行った。これらの分類群の分布域も示した。また、*Aria* と *Micromeles* のレクトタイプを新しく指定した。

Appendix. Voucher specimens for Table 1

- Aria alnifolia* (Sieb. et Zucc.) Decne.: Japan. cultivated in Sendai, Iketani 1716 (TUS).
- A. crenata* (D. Don) Decne.: India. Darjeeling, Hara et al. 6086 (TI).
- A. corymbifera* (Miq.) H. Ohashi et Iketani: Sumatra. Atjeh, Iwatsuki et al. S.1530 (TI).
- A. cuspidata* (Spach) Decne.: England. cultivated in Kew, Meyer 3320 (BH); Nepal. Rambrong ridge, Stainton et al. 5108 (TI).
- A. japonica* Decne.: Japan. Sendai, Iketani 1467 (TUS).
- A. keissleri* (Schneid.) H. Ohashi et Iketani: S.E. Tibet. Pemakochung, Ludlaw et al. 13604 (BH).
- A. lanata* (D. Don) Decne.: Nepal. Punga Lekh, Polunin et al. 791 (TI).
- A. zahlbruckneri* (Schneid.) H. Ohashi et Iketani: China. W. Hubei. Shennongjia Forest, 1980 Sino-American Expedition no. 155 (KYO).
- Chamaemespilus alpina* (Mill.) Robertson et Phipps: 18 June 1911, Collector unknown (TNS).
- Torminalis clusii* (Roem.) Robertson et Phipps: Oberneder 2595 (TNS).