

## 有効に発表されていない日本産カンアオイ類

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Sumihiko HATUSIMA\*\* and Eiji YAMAHATA\*\* :  
 Illegitimately Published Taxa of *Asarum* from Japan

初島住彦\*\*・山幡英示\*\* : 有効に発表されていない日本産カンアオイ類

1. *Asarum gelasinum* (F. MAEK.) HATUSIMA, Fl. Ryukyus rev. ed. (1975) 876, color f.3, nom. nud., descr. jap.; HATUSIMA and K. NAKAJIMA, Flow. Ryu. Isls. (1979) 35, f.55, nom. nud., descr. jap.

*Asarum dissectum* sensu HATUSIMA, Fl. Ryukyus (1971) 245, non F. MAEK., p.p. quoad pl. ex Isl. Iriomote.

*Geotaenium gelasinum* F. MAEK. in Nature & Plants 6<sup>4</sup> (1972) 5, f. A-5-6, nom. nud.; TAWADA & TAKARA, Okinawa no sanya no hana (1975) 97, f., nom. nud.

*Heterotropa gelasina* (F. MAEK.) F. MAEK. in Kokudo & Kyoiku 34<sup>11</sup> (1975) 34, nom. nud.; La Kromosomo II-1 (1976) 11, f. 4,11, t.2, nom. nud.; Science 10<sup>6</sup> (1980) 84, f., nom. nud.; SAIKI & al. in Yakugaku Zasshi 107<sup>3</sup> (1987) 224, t. V, nom. nud.

Rhizoma abbreviatum repens vel ascendens. Folia 2, sempervirentia, ovato-cordata, 6-11 cm longa et 4-9 cm lata, coriacea, supra glabra, atroviridia albido-maculata, subtus ad costam et nervas curvulato-hirsuta, margine hirsuta, apice acuto-obtusa, basi cordata. Petiolus usque ad 17 cm longus glaber. Tubus calycis cyrindricus 1.2 cm longus et 8 mm latus extus glaber cinereo-viridescens dense purpureo-punctulatus, intus glaber tessellato-reticulatus, reticulis valde elevatis atro-purpureis, fauce nunquam annulatus; limbus 3-sectus, lobis late ovato-deltaoideis ca. 8 mm longis et latis, supra sordide purpurascens dense hirsutis, infra 2-3-costatis, costis rubro-purpurascens. Ovarium superum valde depressum; stylus 3 erectus. Stamina 6.

Hab. Ryukyus: Isl. Iriomote: along Urauchi River, alt. 5 m, HATUSIMA 18579; OKA 13819; SATOMI, s.n.; NAITO, s.n.; NIRO, s.n. (holotype, in HK), HATUSIMA, s.n. (cult. in Kagoshima city); Mt. Komi, YAMAHATA, s.n.;

Distr. Endemic.

This is easily distinguishable from the other species by its shorter calyx-tubes without annular

rings and its pubescent leaves with purpur undersurfaces.

2. *Asarum dissitum* F. MAEK. (sub *Heterotropa*) ex HATUSIMA, Fl. Ryukyus (1971) 114, excl. descr.; rev. ed. (1975) 96, f., descr. jap.; TAWADA & TAKARA, l.c. 96, f. nom. nud.

*Heterotropa dissita* F. MAEK. in Nature & Plants 6<sup>4</sup> (1972) 5, B-4, nom. nud. et Encyc. Hort. 8 (1976) 114, f, descr. jap.; Science 10<sup>6</sup> (1980) f, 6, nom. nud.: SAIKI & al., l.c. (1987) 223, t. IV, 230, f. 1, nom. nud.

Rhizoma abbreviatum repens vel ascendens. Folia 2, sempervirentia, coriacea, ovato-cordata, 5-10 cm longa, apice obtusiuscula, basi profunde cordata, saepe lobis basilaribus imbricatis, supra flavido-viridia primo hirsuta pallide viridomaculata, subtus pallida ad nervas hirsuta, margine hirsuta. Petiolus 5-10 cm longus primo crispato-hirsutus. Flos (Fig. 1, f-j, k-o) pedunculatus, ca. 1.5 cm in diam., pedunculus ca. 3 mm longus. Cataphylla late ovata 13 mm longa et lata. Tubus calycis tubulosus ca. 1 cm longus et 7-8 mm latus prope ad medium paulo constrictus, extus flavo-viridescens glaber, intus ca. supra 1/3 tessellato-reticulatus, reticulis elevatis atropurpurascens; limbus 3-sectus, lobis late ovato-deltaoideis acutis ca. 1 cm longis et 1.3-1.5 cm latis, margine recurvatis, intus purpureo-flavescentibus. Ovarium superum valde depressum; stylus 3 superne recurvatus apice stigmatate coronatus. Stamina 6.

Hab. Ryukyus: Isl. Ishigaki: Mt. Omoto, NIRO, s.n. (holotype, in HK); MORIMOTO, s.n.; KAWAGOE, s.n.; HATUSIMA, s.n. (cult. in Kagoshima city), 22911; MORIMOTO, s.n.; Isl. Iriomote: Mt. Komi, MORIMOTO, s.n.

Distr. Endemic.

This is well characterized by its calyx-tubes constricted at the upper 1/3, on the inner surface

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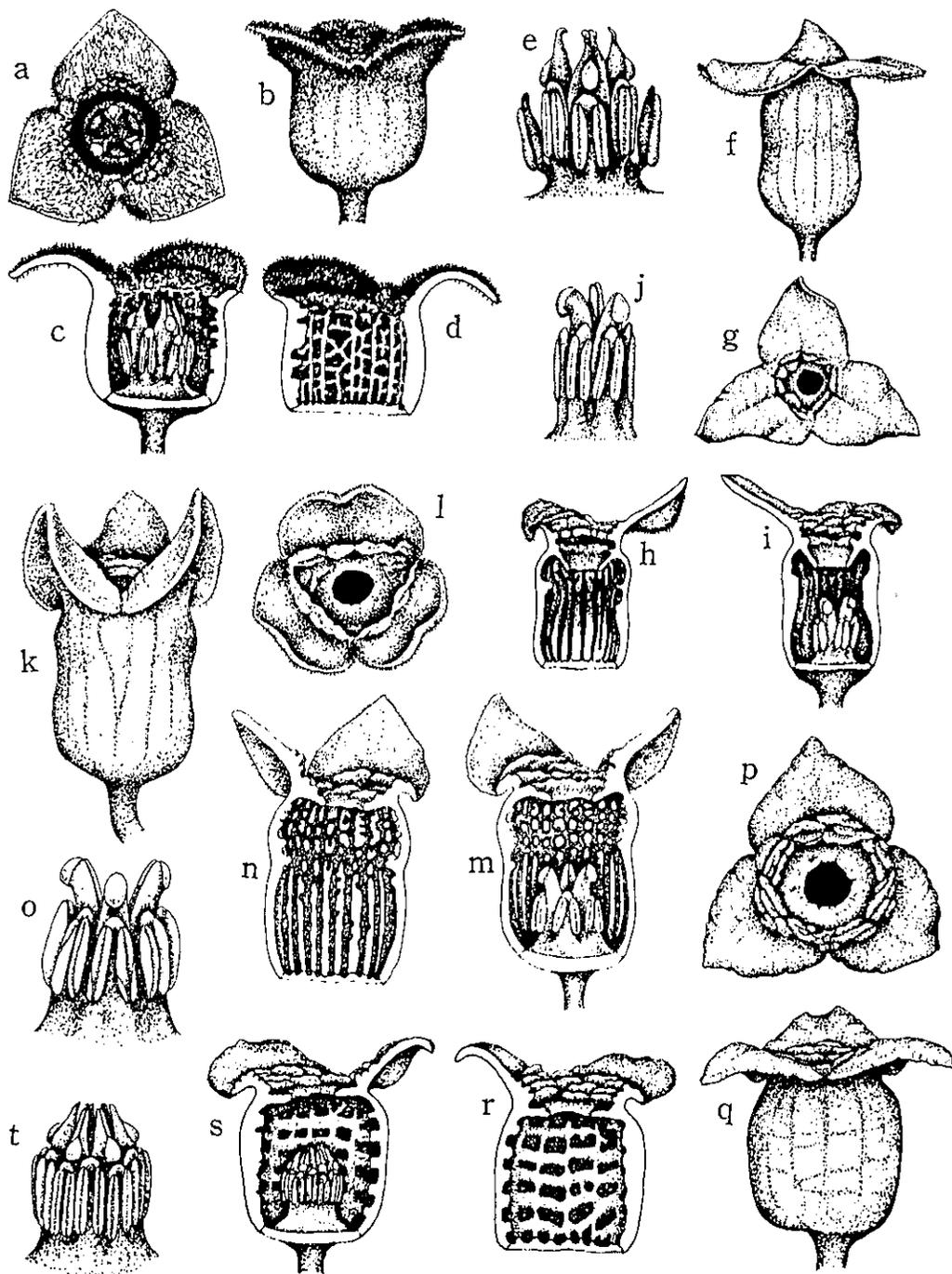


Fig. 1. a-e *Asarum gelasinum* : a-b two views of flower  $\times 2$ ; c-d inner views of the same  $\times 2$ ; e pistils and stamens  $\times 4$ -f-j *A. dissitum* from Mt. Komi, Isl. Iriomote : f-g views of flower  $\times 2$ ; h-i inner views of the same  $\times 2$ ; j pistils and stamens  $\times 4$ -k-o *A. dissitum* from Isl. Ishigaki : k-l two views of flower  $\times 2$ ; m-n inner views of the same  $\times 2$ ; o pistils and stamens  $\times 4$ -p-t *A. celsum* : p-q two views of flower  $\times 2$ ; r-s inner views of the same  $\times 2$ ; t pistils and stamens  $\times 4$ .

of which have tessellate reticulations at the upper 1/3 and longitudinal septates at the lower 2/3, its 3 recurved styles with apical stigmas, and its 6 stamens.

3. *Asarum celsum* F. MAEK. ex HATUSIMA & HAMADA in Amat. Herb. 24<sup>1-2</sup>(1963) 1, photo 1-3, nom. nud., descr. jap.; HATUSIMA, Fl. Ryukyus (1971) 245; rev. ed. (1975) 145, nom. nud., descr. jap.

*Heterotropa celsa* F. MAEK. in Nature & Plants 6<sup>4</sup> (1972) 5, f. B-3, nom. nud.; Ann. Rept. Evol. Biol. Inst. I(1975) 73, f. 25, nom. nud., descr. jap.; La Kuromosoma II-1 (1976) 11, f. 12, 15, t.2, nom. nud.

Rhizoma abbreviatum repens vel ascendens. Folia 2, sempervirentia, ovata, 5-8 cm longa et 3-6 cm lata, coriacea, apice obtusiucula, basi cordata, supra atro-viridia, glabra, immaculata, margine glabra, subtus pallida glabra ad costam sparse pilosa. Petiolus 5-9 cm longus glaber. Flos (Fig. 1, p-t, Fig. 2, k-p) pedunculatus, pedunculus 5-10 mm longus glaber. Tubus calycis ca. 11 mm longus et 10 mm latus, extus cinereo-viridescens purpureo-punctatus, intus atro-purpureus tessellato-reticulatus, reticulis valde elevatis; limbus 3-sectus, lobis late ovato-deltaideis 8 mm longis et 10 mm latis, margine recurvatis, utrinque glabris, intus cinereo-purpureis. Ovarium inferum valde depressum; stylus 6. Stamina 12.

Hab. Ryukyus: Isl. Amami-oshima: Mt. Yuwan, alt. 690 m, HATUSIMA & SAKO 21800 (holotype, in HK); SAKO 5296; YAMAHATA, s. n.; Mt. Ogoda, YAMAHATA, s.n. Mt. Yakuza-chobsi, YAMAHATA, s.n.

Distr. Endemic.

This is well characterized by its small glabrous flowers with revolute calyx-lobes. This is related to *A. kiusianum* and *A. simile*.

4. *Asarum hatsushimae* F. MAEK. ex HATUSIMA & HAMADA, l.c. (1963) 1, f. 1-A, photo 2, nom. nud., descr. jap.; HATUSIMA, Fl. Ryukyus (1971) 245 et rev. ed. (1975) 245, nom. nud.

*Heterotropa hatsumiae* F. MAEK. in Nature & Plants 6<sup>5</sup> (1972) 5, f. B-1, nom. nud.; F. MAEK. & YUASA in La Kromosoma II-1 (1976) 11, f. 10, t.2; Saiki & al. l.c. (1987) 222, t.III et 229, tl, nom. nud.

*Heterotropa turbinata* F. MAEK., l.c. (1972) 5, f.B-

1, nom. nud.

Rhizoma abbreviatum. Folia 2, sempervirentia, coriacea, ovata vel ovato-deltaidea, apice acuta, basi profunde cordata, ca. 10 cm longa et 5-6 cm lata, supra atro-viridia nunquam albo-maculata, prope marginem dense, ad nervas primariis sparse strigilloso-ciliata, subtus primo ad nervas atque costam dense ciliata, margine densiuscule longiciliata. Petiolus 2-3 cm longus sparse ciliatus. Flos (Fig. 2, a-e) pedunculatus, pedunculus 2-3 cm longus ciliatus. Tubus-calycis cylindricus ca. 2 cm longus et 1.5 cm latus, dilute purpurascens, intus supra medium purpureus, infra medium albescens. Ovarium superum depressum; stylus 6. Stamina 12.

Hab. Ryukyus: Isl. Tokunoshima: Mt. Amagidake, alt. 600 m (cult. in Kagoshima city), Feb. 26, 1960, HATUSIMA, s.n. (holotype, in HK), 19108.

Distr. Endemic.

This is well characterized by its longer peducles, its long calyx-tubes constricted at the top, and its small patent calyx-lobes being densely ciliate beneath. This is related to *A. fudsinoi*.

5. *Asarum simile* (F. MAEK.) HATUSIMA, List Pl. Kagoshima Pref., rev. ed. (1986), nom. nud.

*Heterotropa turbinata* F. MAEK. in Nature & Plants 6<sup>5</sup> (1972) 5, excl. f. B.

*Heterotropa hatsumiae* F. MAEK., l.c. (1972) 5, excl. f. B-1, nom. nud.

*Heterotropa similis* F. MAEK. in La Kromosoma II-1 (1976) 11, f. 9, nom. nud.

*Asarum turbinatum* (F. Maek.) YAMAHATA in Minehana 30 (1983) 71, f. 34, nom. nud.

Rhizoma abbreviatum. Folia 2, sempervirentia, coriacea, ovata vel ovato-oblonga, 7-11 cm longa et 5.5 cm lata, apice acuta, basi profunde cordata, supra nunquam albo-maculata, atro-viridia, margine glabra, subtus glabra praeter ad costam atque nervas sparse pilosa. Petiolus ca. 7 cm longus glaber. Flos (Fig. 2, f-j) pedunculatus, pedunculus ca. 5 mm longus. Tubus calycis tympaniformis 12 mm longus et 14 mm latus, extus cinereo-viridescens erythro-purpureo-punctatus, intus rubro-purpureus albo-reticulatus, lobis ±recurvatis intus glabris purpureis. Ovarium depressum; stylus 6. Stamina 12.

Hab. Ryukyus: Isl. Tokunoshima: Mt.

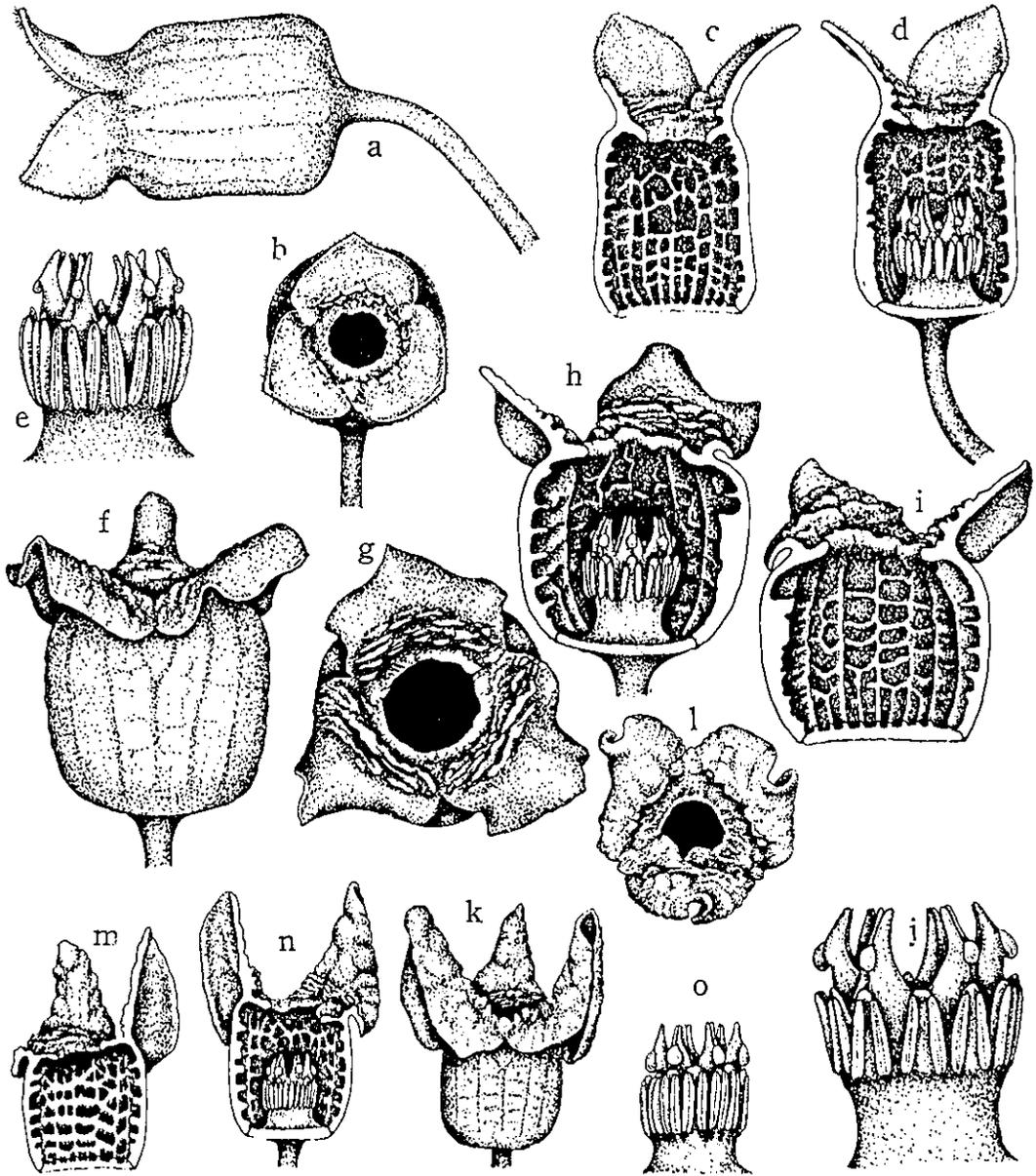


Fig. 2. a-e *Asarum hatsushimae*: a-b two views of flower  $\times 2$ ; c-d inner views of the same  $\times 2$ ; e pistils and stamens  $\times 4$ —f-j *A. simile*: f-g two views of flower  $\times 2$ ; h-i inner views of the same  $\times 2$ ; j pistils and stamens  $\times 4$ —k-p *A. celsum*: k-l two views of flower  $\times 2$ ; m-n inner views of the same  $\times 4$ ; o pistils and stamens.

Inokawa-dake, alt. 600 m, YAMAHATA (cult. in Osaka, holotype, in HK); T. OBA 18447; OKA 15541; SAKO 7830; Agon, Isen-cho, HATUSIMA 39710.

Distr. Endemic.

This is characterized by its relatively large flowers with reticulated purpur inner surfaces of the calyx-tubes. This is related to *A. kiusianum*

and *A. celsum*.

6. *Asarum trinacriforme* (F. MAEK.) YAMAHATA in Minehana 28 (1981) 52, f. 12; 29 (1982) 61, f. 12, nom. tantum.

*Heterotropa trinacriformis* F. MAEK. in Science 10<sup>9</sup> (1980), nom. nud. cum diagn. jap. in textu.

Rhizoma abbreviatum. Folia 2, sempervirentia,

ovato-hastata, ca. 5 cm longa et 3 cm lata, apice obtusiuscula, basi cordata, coriacea, supra atro-viridia opaca primo sparse prope marginem dense ciliata saepe pallide virideo-maculata, subtus pallida primo ad nervas primariis atque costam sparse ciliata, margine subdense ciliata. Petiolus 5-7 cm longus sordide purpureus sparse ciliatus. Flos (Fig. 3, a-e) ca. 1.5 cm in diametro pedunculatus, pedunculus ca. 5 cm longus. Tubus calycis tubulosus 6-9 mm longus et 6-10 mm latus, extus cinereo-viridescens punctis purpureis dense vestitus glaber, intus atro-purpureus albo-vel pallide purpureo-tesselato reticulatus, reticulis elevatis flavescenti-albis; limbus 3-sectus, lobis late ovato-deltaeideis ca. 7 mm longis et 8 mm latis  $\pm$  acutis recurvatis, margine undulatis, intus flavo-brunneis punctis rubro-purpurascensibus  $\pm$  dense vestitis glabris. Fauce annulo albido-flavescente verruculoso instructus. Ovarium superum valde depressum, stylus 3 erectus. Stamina 6.

Hab. Ryukyus: Isl. Amami-oshima: Mt. Kanakawadake Sumiyoson, Yamahata, s.n.; Torigamine, Yamahata, s.n. (holotype, in HK); Isl. Kakeroma and Isl. Ukesima (according to F. Maekawa); Isl. Yorojima (according to Tabata).

Distr. Endemic.

Remarkable for its small leaves and flowers. This is closely related to *A. celsum* F. MAEK.; from which it differs in having 3 styles and 6 stamens instead of 6 styles and 12 stamens.

7. *Asarum gusk* (F. MAEK.) YAMAHATA in Minehana 28 (1981) 53, f. 13; 29 (1982) 61, f. 13, nom. tantum.

*Heterotropa gusk* F. MAEK. ex F. MAEK. & YUASA in La Kromosomo II-1 (1976) 11, f. 11; 15, t.2, nom. nud.; SAIKI & al., l.c. (1987) 221, f.2, t. II, nom. nud.

Rhizoma abbreviatum. Folia 2, sempervirentia, ovato-hastata, 8-9 cm longa et 4.5-5 cm lata, apice acuta, basi cordata, coriacea, supra atro-viridia immaculata, primo utrinque ad costam atque nervas hirsuta. Petiolus 5-7 cm longus sparse hirsutus. Flos (Fig. 3, f-j, p-t) ca. 16 mm in diametro pedunculatus, pedunculus ca. 5 mm longus glaber. Tubus calycis urceolatus 11 mm longus et 8-9 mm latus, extus cinereo-viridescens purpureo-punctatus, intus atro-purpureus im-

perfecte tessellato-reticulatus. Calycis limbus 3-sectus; lobis late ovato-deltaeideis acutis 7 mm longis et 9 mm latis, supra sordide rubropurpureis glabris, margine pallide flavo-brunneis ad basim purpureis. Ovarium superum valde depressum, stylus 6. Stamina 12.

Hab. Ryukyus: Isl. Amami-oshima: Mt. Takinohama, Sumiyoson, YAMAHATA, s.n. (holotype, in HK)

Distr. Endemic

Remarkable for its urceolate calyx-tubes with imperfectly reticulated inner surfaces.

8. *Asarum pellucidum* HATUSIMA & YAMAHATA, sp. nov.

*Heterotropa gusk* var. *minor* F. MAEK. in sched.

Rhizoma abbreviatum. Folia 2, sempervirentia, ovata, 6-7 cm longa et 3-4 cm lata, apice acuto-obtusa, basi profunde cordata, margine  $\pm$  undulata glabra, supra atro-viridia sparse hirsuta glabra, subtus pallida primo ad costam sparse strigillosa. Petiolus 5-7 cm longus primo sparse strigillosus. Flos (Fig. 3, k-o, p-t) pedunculatus, pedunculus ca. 3 mm longus glaber. Tubus calycis urceolatus 8 mm longus ad basim 8 mm latus superne sparse pilosus, fauce intus annulo integro ca. 2 mm lato dispositus, cinereo-viridescens sparse purpureo-punctatus, intus atro-purpureus glaber grosse tessellato-reticulatus, reticulis valde elevatis; limbus tripartitus, lobis deltaeideo-ovatis 6-7 mm longis, intus pallide flavo-viridis dense ciliolatis pellucidis, extus sparse ciliolatis. Ovarium valde depressum; stylus 3, parte libera pauce recurvus. Stamina 6.

Hab. Ryukyus: Isl. Amami-oshima: Torigamine, Sumiyoson, alt. 200 m, YAMAHATA, s.n., Jan. 25, 1987 (cult. in Osaka, holotype, in HK).

Distr. Endemic.

This species resembles *A. gusk* from which it differs by its smaller flowers with calyx-lobes being densely ciliolate and transparent above, and its 3 styles and 6 stamens.

9. *Asarum tokarense* HATUSIMA, List Pl. Kagoshima Pref. (1978) 44, nom. nud.

*Asarum yakushimense* MASAM. var. *glabrum* HATUSIMA in Amat. Herb. 23' (1962) 4, f. 2-B, photo 2.

Rhizoma abbreviatum. Folia 2, sempervirentia,

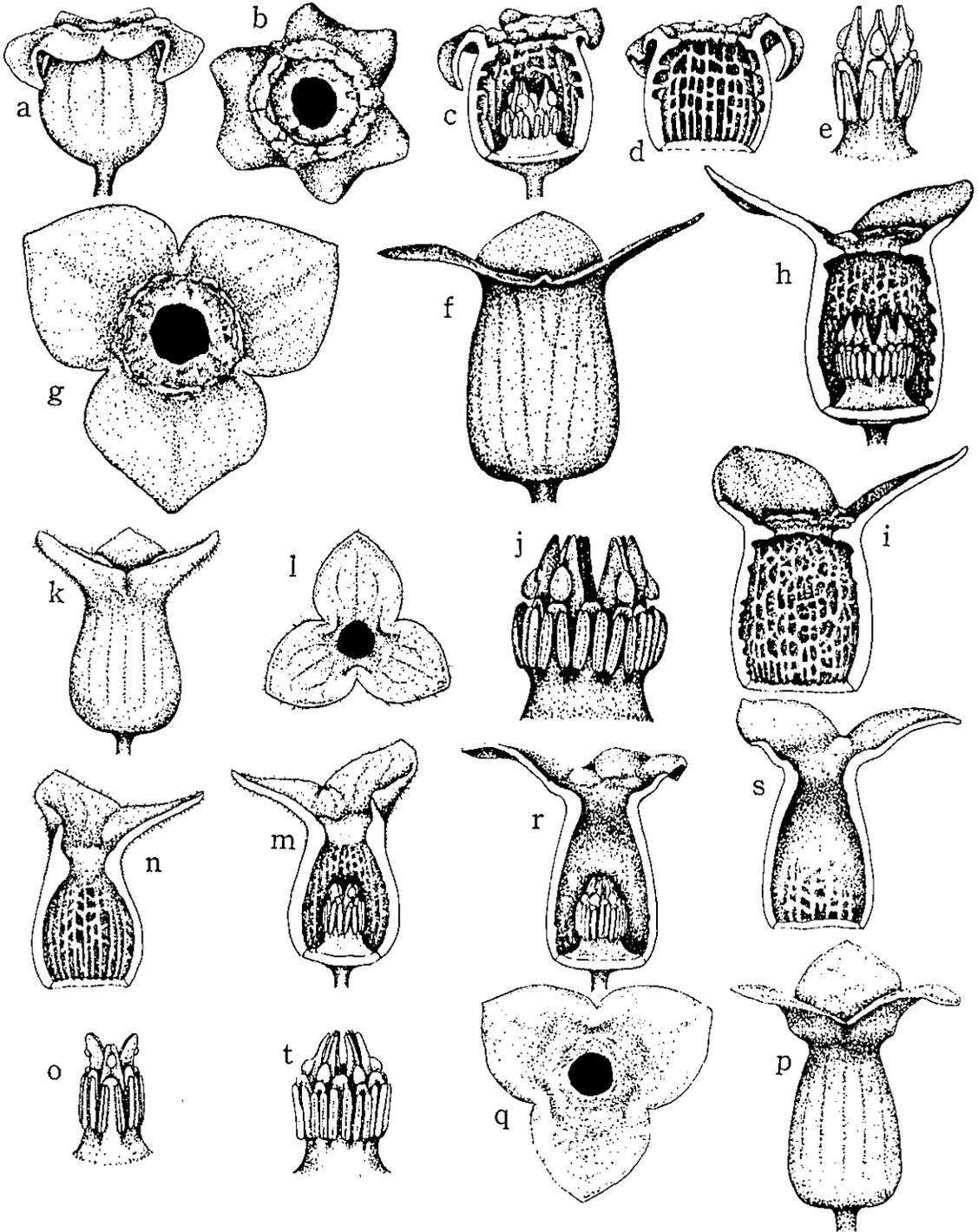


Fig. 3. a-e *Asarum trinacriforme*: a-b two views of flower  $\times 2$ ; c-d inner views of the same  $\times 2$ ; e pistils and stamens  $\times 4$ —f-j *A. gusk*: f-g two views of flower  $\times 2$ ; h-i inner views of the same  $\times 2$ ; j pistils and stamens  $\times 4$ —k-o *A. pellucidum*: k-l two views of flower  $\times 2$ ; m-n inner views of the same  $\times 2$ ; o pistils and stamens  $\times 4$ —p-t *A. gusk*: p-q two views of flower  $\times 2$ ; r-s inner views of the same  $\times 2$ ; t pistils and stamens  $\times 4$ .

crasse coriacea, 10-15 cm longa et 10-17 cm lata, apice acuta vel breviter acuminata, basi cordata, supra atro-viridia nitidissima glaberrima immaculata rarius albido-punctata, subtus glabra. Petiolus 25-35 cm longus in sicco 5 mm crassus. Flos (Fig. 4, f-j) pedunculatus, pedunculus ca. 1 cm longus glaber. Tubus calycis tubulosus 11 cm longus et latus, extus atro-purpureus basi viridescens sparse strigillosus, intus elevato-reticulatus roseo-purpureus basi flavo-albescens, fauce cum annulo albo horizontali dispositus. Calycis limbus fere 3-sectus, logis ovatis acutis crassis ca. 13 mm longis et latis, intus atro-purpureis basi margineque sordide flavo-albescentibus dense strigillois ad basim adnatum nodulosis extus cinereo-viridescens sparse strigillosus. Ovarium depressum, stylus 6. Stamina 12.

Hab. Ryukyus: Tokara Islands: Isl. Kuroshima, K. MARUNO, s.n.; HATUSIMA 13464, 13438; OZAKI, s.n.; Isl. Kuchino-shima, SAKO 7140 (holotype, in HK), YASUE, s.n.; Isl. Kuchierabu, YASUE 141, HATUSIMA 13497; Isl. Nakano-shima, H. NAKAYAMA, s.n., SAKO & KAWANABE 1939, T. NAITO, s.n., HATUSIMA 15774.

Distr. Endemic.

This is closely related to *A. lutchuense* H. ITO and *A. yakusimense* MASAM. (= *A. kumageanum* MASAM.) in its flowers with undulate calyx-lobes and three nodules at the annulus of the calyx-tubes, but it differs from the first by its broadly ovate, larger and thicker leaves with immaculate, glabrous and shining upper surfaces, and from the second by its broadly ovate, larger and thicker leaves with glabrous shining upper surfaces.

Remarks: HK=Herbarium of Facult. Agric. Kagoshima Univ.

#### 摘 要

故前川文夫博士は1936年以来正規の記事をとまなわぬ多数のカンアオイ類の新種または新変種を裸名のまま発表されている。多分博士は日本産のカンアオイ総ての種類を解明した後一括して正規の記事を加えるつもりであったかもしれないが、完成を見ずに亡くなられてしまったのは学界のためまことに残念である。しかしカンアオイ類は薬学方面や園芸関係の文献にもしばしば取扱われているので、どうしても正規の記事をとまなわぬ学名が必要になっ

ている。以上の点から筆者の一人初島は前川博士亡きあとは日本でもっとも熱心にカンアオイ類を集めて研究している山幡君と相談の結果とりあえず南西諸島関係のものについて完全な記載を加えて発表することにした。

1. エクボサイシン *Asarum gelasinum* (F. MAEK.) HATS.

本種は琉球の西表島の固有種で莖筒に口環がない点で前川博士は *Geotaenium* (タカサゴサイシン属) に入れたことがある。葉の下面は淡紫色で葉縁に屈毛があるので直に区別できる。また子葉が一枚であるのも特長である。西表島では海拔5m位のところから470mの山頂まで分布している。

2. オモロカンアオイ *A. dissitum* F. MAEK. ex HATS.

本種は琉球の石垣島のオモト岳と西表島の古見岳の高地に分布する。本種の莖筒は上方から1/3位のところで軽くくびれ、このくびれたところに口環があるのと、雌蕊と雄蕊が3+6で半減しているのが特長である。

3. ミヤビカンアオイ *A. celsum* F. MAEK. ex HATS.

本種は奄美大島の特産で湯湾岳、およびその周辺、名瀬市の金作原などに知られている。やや小型のカンアオイで花も小さい。萼片基部にうね状隆起が発達し、萼筒内部の網状突起は横脈が広い。

4. ハツシマカンアオイ *A. hatsushimae* F. MAEK. ex HATS.

本種は徳之島の特産で天城岳周辺に見られる。花梗が長く、花は横向きで、萼裂片は比較的短く、緑辺に長い毛があるのが特長である。フジノカンアオイに類縁がある。

5. トクノシマカンアオイ *A. simile* (F. MAEK.) HATS.

本種は徳之島の特産で井之川岳の頂上と伊仙町の阿権方面だけに知られている。中型のカンアオイで花は一見ウンゼンアオイなどに似ている。前川博士は琉球列島では総てのカンアオイは海拔280m以上の山地に限られていると述べているが(1976年)、上記の阿権では海拔50mそこそこの石灰岩地帯に生えている。

6. カケロマカンアオイ *A. trinacriforme* (F. MAEK.) YAMAHATA

本種は奄美大島の固有種で加計呂麻島、請島、与路島、奄美本島南部などに知られている。小型のカンアオイでミヤビカンアオイに似ているが、雌蕊が3+6で半減しているので直に区別できる。

7. グスクカンアオイ *A. gusk* (F. MAEK.)

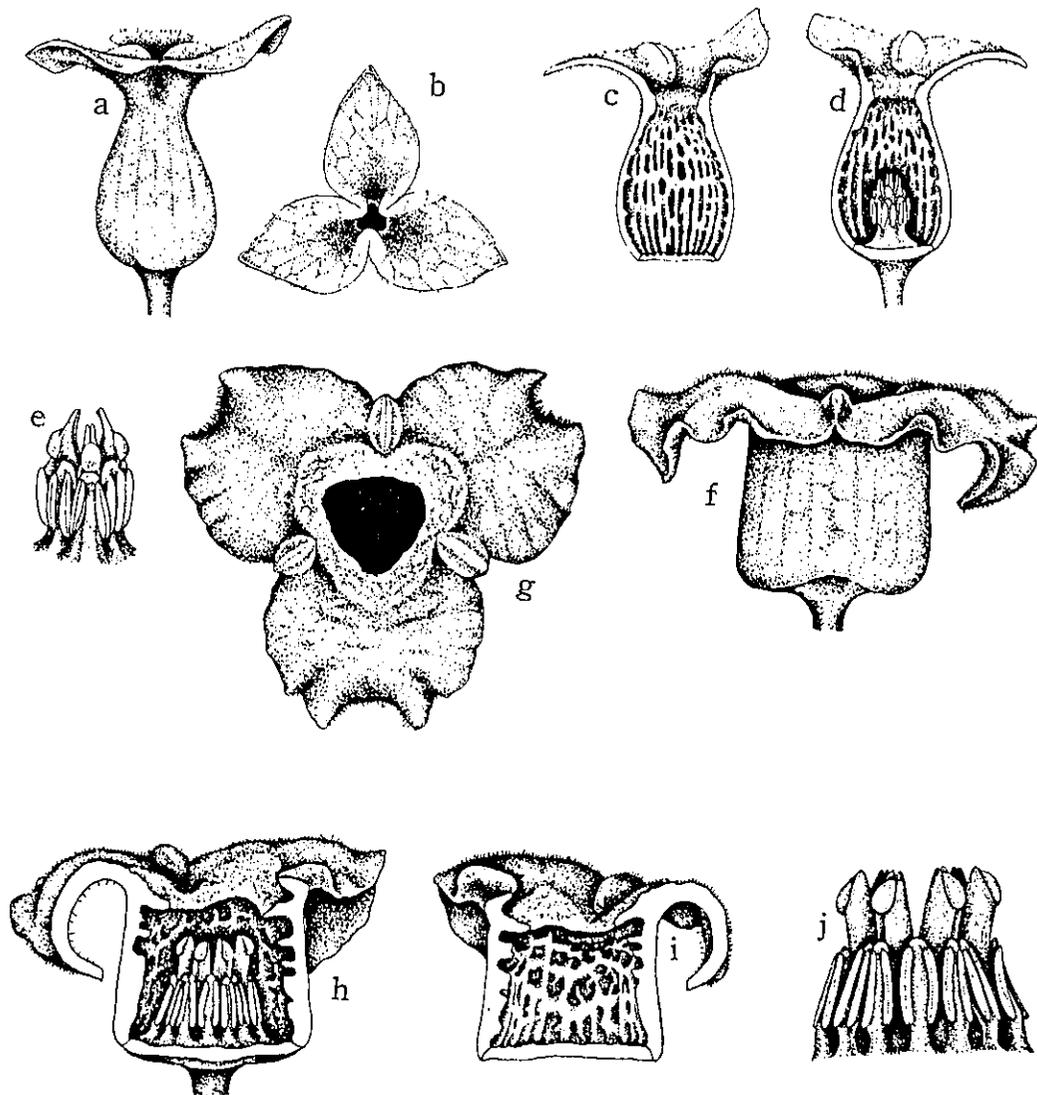


Fig. 4. a-e *Asarum pellucidum*: a-b two views of flower  $\times 2$ ; c-d inner views of the same  $\times 2$ ; e pistils and stamens  $\times 4$ —f-j *A. tokarense*: f-g two views of flower  $\times 2$ ; h-i inner views of the same  $\times 2$ ; j pistils and stamens  $\times 4$ .

#### YAMAHATA

本種は奄美大島の固有種で最初住用村の城で発見されたものである。花はつぼ状で萼筒内部の網状突起があまり発達していないのが特長である。

#### 8. トリガミネカンアオイ *A. pellucidum* HATS. & YAMAHATA

本種は奄美大島の固有種で住用村の鳥ヶ峰で発見されたものである。一見上記のグスクカンアオイに似ているが、花はやや小さく、萼裂片は上面が緑色でやや透明に見え、毛が多く、雌蕊と雄蕊が3+6で

半減し口環がほとんどないので直に区別できる。

#### 9. トカラカンアオイ *A. tokarense* HATS.

本種はトカラ列島(黒島, 口永良部島, 口之島, 中之島)の固有種で、かなり低地から山地まで分布する。花はヤクシマアオイ(クワイバアオイ), 奄美大島のオオバカンアオイに似ているが、葉は広卵形で大きく、厚く、全く無毛で表面は光沢が強く、白斑がなく、脈は往々凹入しているので区別できる。

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