

中国小檗属新分类群*

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New taxa of *Berberis* Linn. (Berberidaceae) from China

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Key words Berberidaceae; *Berberis* Linn.; New taxa; China

关键词 小檗科; 小檗属; 新分类群; 中国

1 芒康小檗 新种 图 1:1~7

Berberis reticulinnervis Ying, sp. nov., Fig. 1:1~7

Species nova affinis *B. yunnanensis* Franch., a qua foliis oblanceolatis vel ellipticis, 0.7~2.1 cm longis, 3~8 mm latis, venis reticulatis utrinque conspicue elevatis, sepalis 3-seriatis, petalis ellipticis facile distinguenda.

Frutex 1~2 m altus. Ramuli vetustiores teretes, glabri, juveniles pallide cinerei, striato-angulati. Spinae trifidae, flavescentes, 1~2.5 cm longae. Folia decidua, chartacea, oblanceolata vel elliptica, 0.7~2.1 cm longa, 3~8 mm lata, apice acuta, basi acuminata, margine integra vel spinuloso-serrulata, spinulis utrinque 1~4 praedita, supra atro-viridia glabra, subtus pallide viridia haud albo-pruinosa, venis reticulatis utrinque conspicue elevatis; petioli subnulli. Flores flavi, 3~4 fasciculati; pedicelli graciles, laeves, 1~1.5 cm longi; sepala 3-seriata, exteriora lanceolato-oblonga, circiter 3 mm longa, 1 mm lata, mediana elliptica, 4 mm longa, 2 mm lata, interiora oblongo-elliptica, 5.5~6 mm longa, 2.5~2.7 mm lata; petala elliptica, apice acuta, incisa, lobis acutis, basi cuneata, glandulis 2 separatis praetida; stamina circiter 2.5 mm longa, connectivis apice productis obtusis; ovarium circiter 2.5 mm longum, ovulis 3, raro 2, funiculo brevissimo. Fructus nondum vidi. Fl. Jun. - Jul.. Fr. Aug. - Oct..

Xizang(Tibet 西藏): Markam(芒康), Dongshan(东山), on open slope, alt. 3800 m, 1976-06-22, Qinghai-Xizang Exped. (青藏科考队) 11937(holotype, PE); Markam, Yanjing(盐井), on forest edge, alt. 3800 m, Qinghai-Xizang Veget. Exped. (青藏植被科考队) 8265(PE). **Sichuan**(四川): Barkam(马尔康), alt. 3400 m, 1957-06-11, S. Li(李馨) 71410(PE).

落叶灌木, 高 1~2 m。老枝圆柱形, 无毛, 幼枝淡灰色, 具条棱; 茎刺三分叉, 淡黄色, 长 1~2.5 cm。叶纸质, 倒披针形或椭圆形, 长 0.7~2.1 cm, 宽 3~8 mm, 先端急尖, 基部

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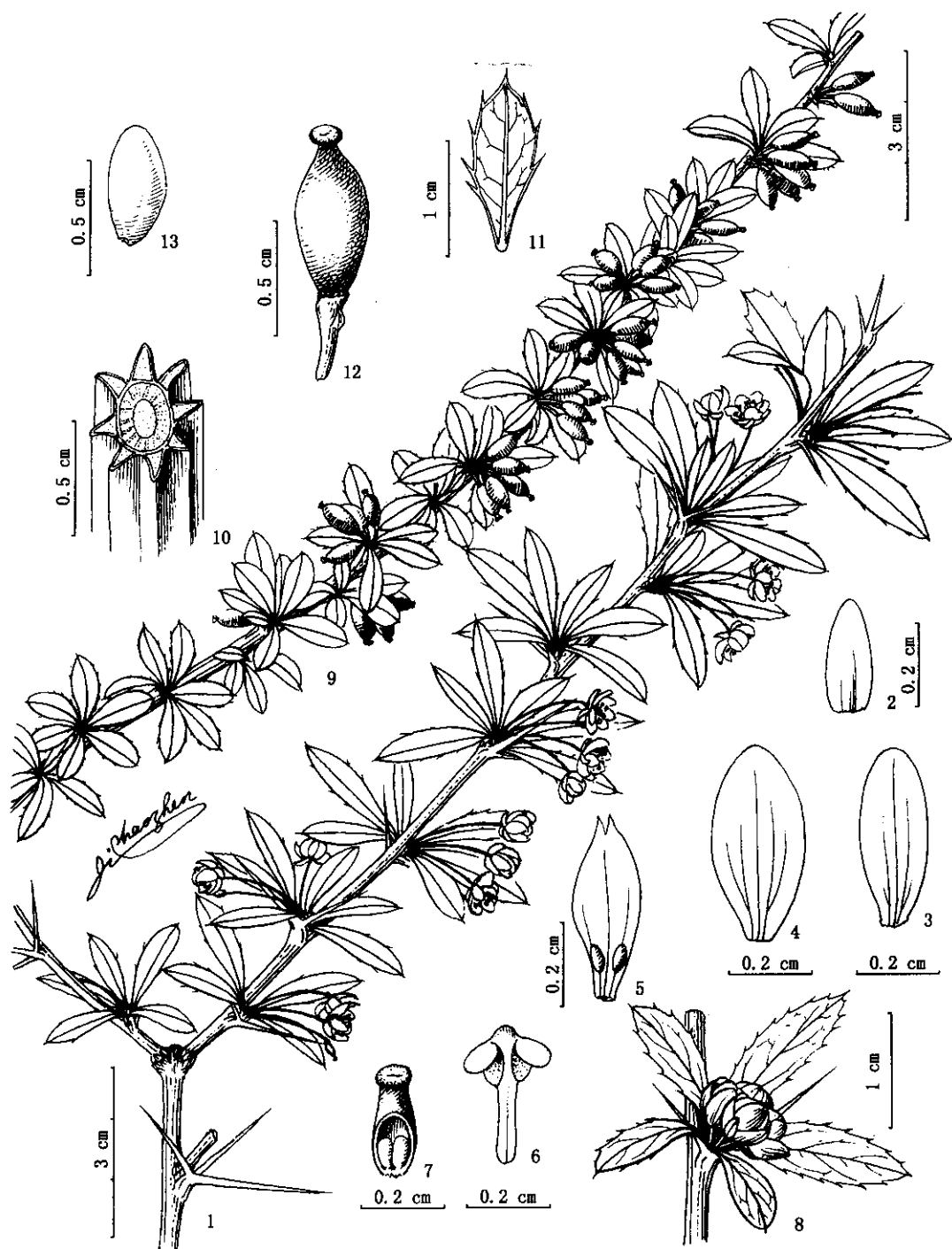


图1 1~7. 芒康小檗 1. 花枝; 2. 外萼片; 3. 中萼片; 4. 内萼片; 5. 花瓣; 6. 雄蕊; 7. 子房(示胚珠)。8. 无梗小檗: 花枝一部分。9~13. 永思小檗 9. 果枝; 10. 枝横切面; 11. 叶背面; 12. 果; 13. 种子。(冀朝桢 绘)

Fig. 1 1~7. *Berberis reticulineris* Ying 1. Flowering branch; 2. Outer sepal; 3. Median sepal; 4. Inner sepal; 5. Petal; 6. Stamen; 7. Ovary (showing ovules). 8. *B. reticulineris* var. *brevipedicellata* Ying; Part of flowering branch. 9~13. *B. tsienii* Ying 9. Fruiting branch; 10. Cross section of branch; 11. Under surface of leaf; 12. Fruit; 13. Seed.

渐狭,全缘或每边具1~4刺齿,上面暗绿色,无毛,背面淡绿色,不被白粉,两面网脉显著突起;近无柄。花黄色,3~4朵簇生;花梗细弱,光滑,长1~1.5 cm;萼片3轮,外萼片披针状长圆形,长约3 mm,宽1 mm,中萼片椭圆形,长4 mm,宽2 mm,内萼片长圆状椭圆形,长5.5~6 mm,宽2.5~2.7 mm;花瓣椭圆形,先端急尖,锐裂,裂片急尖,基部楔形,具2枚分离腺体;雄蕊长约2.5 mm,药隔先端延伸,圆钝;子房长约2.5 mm,含胚珠3枚,偶2枚,珠柄极短。果未见。花期6~7月,果期8~10月。

本种近似云南小檗 *B. yunnanensis* Franch., 但本种叶倒披针形或椭圆形,长0.7~2.1 cm,宽3~8 mm,两面网脉显著隆起,萼片3轮,花瓣椭圆形而易于区别。

2 无梗小檗 新变种 图 1:8

Berberis reticulineris var. *brevipedicellata* Ying, var. nov. Fig. 1:8

Gangsu(甘肃): Minxian(岷县), on open slopes, alt. 1600 m, 1959-05-23, S. Jiang and T. L. Chin(姜恕,金存礼)443(holotype, PE).

A var. *typica* pedicellis 1~2 mm longis, sepalis interioribus obovato-oblongis differt.

与原变种主要区别在于:花梗长1~2 mm;内轮萼片倒卵状长圆形。

3 永思小檗 新种 图 1:9~13

Berberis tsienii Ying, sp. nov., Fig. 1:9~13

Species nova caulibus et ramulis juvenilibus profunde sulcatis, foliis fructibusque minoribus, ovulis parvis, stipitibus fructuum vix 3~4 mm longis insignis.

Frutex circiter 1.5 m altus. Ramuli vetustiores juvenilesque distincte sulcati, intense fusci, glabri. Spinae debiles, flavescentes, trifidae, 2~5 mm longae. Folia decidua, chartacea, elliptica vel obovato-elliptica, nonnunquam obovata, 7~15 mm longa, 3~6 mm lata, apice acuta, basi cuneata, margine supra medium spinuloso-serrulata, spinulis utrinque 1~3, supra laete atro-viridia, nervatione obsoleta, supra flavo-viridia, costis leviter elevatis, nervis lateralibus et venis reticulatis obscuris, haud albo-pruinosa; petioli subnulli. Flores ignoti. Fructus 3~6-fasciculati; stipites fructuum 3~4 mm longi, purpurascens, glabri. Baccae ellipticae, 6~8 mm longae, circiter 3 mm diam., haud albo-pruinosa, stylis brevibus. Semen 1. Fl. Jun. - Jul. Fr. Jul. - Aug..

Guizhou(贵州): Panxian(盘县), Badashan(八大山), in thickets of valley, alt. 2100 m, 1959-08-23, Anshun Team(安顺队)962(holotype, PE).

落叶灌木,高约1.5 m。老枝及幼枝明显具槽,暗棕褐色,无毛;茎刺细弱,淡黄色,三分叉,长2~5 mm。叶纸质,椭圆形或倒卵状椭圆形,有时倒卵形,长7~15 mm,宽3~6 mm,先端急尖,基部楔形,叶缘中部以上每边具1~3细小刺齿,上面亮暗绿色,脉序不明显,背面黄绿色,中脉稍突起,侧脉和网脉不明显,不被白粉;近无柄。花未见。果序由果3~6颗簇生;果梗长3~4 mm,紫红色,无毛;浆果椭圆形,长6~8 mm,直径约3 mm,具短宿存花柱,不被白粉。种子1枚。花期6~7月,果期7~8月。

本种茎、幼枝具深槽、叶和果较小,胚珠1,果梗长仅3~4 mm,不同于该属其他落叶簇生种类。

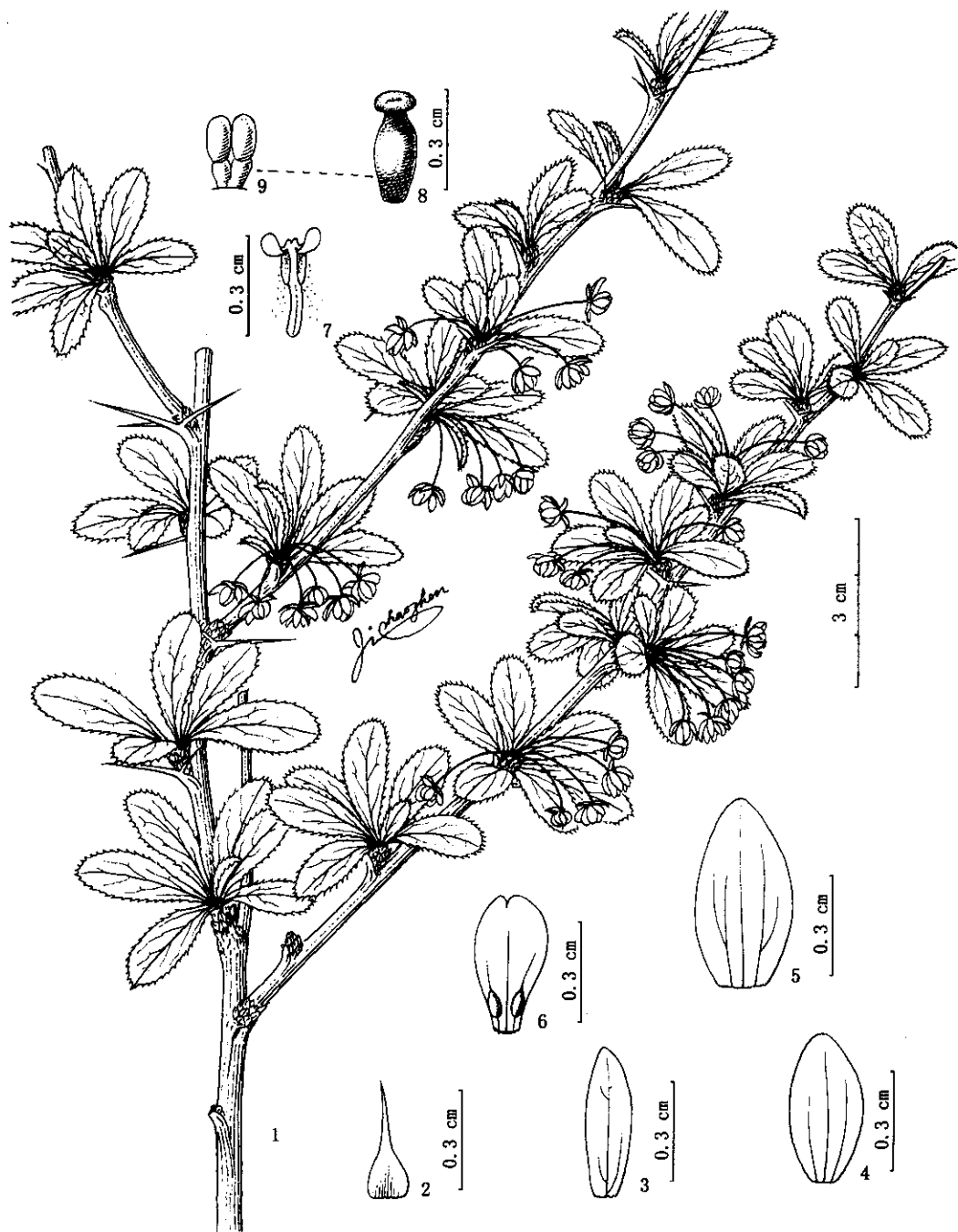


图2 德浚小檗 1. 花枝; 2. 小苞片; 3. 外萼片; 4. 中萼片; 5. 内萼片; 6. 花瓣; 7. 雄蕊; 8. 子房; 9. 胚珠。(冀朝楨 绘)

Fig. 2 *B. yuii* Ying 1. Flowering branch; 2. Bracteole; 3. Outer sepal; 4. Median sepal; 5. Inner sepal; 6. Petal; 7. Stamen; 8. Ovary; 9. Ovule.

4 德浚小檗 新种 图 2

Berberis yui Ying, sp. nov., Fig. 2

Species nova similis *B. diaphanae* Maxim., a qua differt foliis oblanceolatis, sepalis 3-seriatis, ovulis 2; a *B. reticulineri* Ying recedit petalis obovatis, apice incisis, sepalis medianis longioribus quam eis interioribus.

Frutex circiter 1.5 m altus. Ramuli vetustiores intense cinerei, non verrucosi, juveniles pallide cinerei, striato-angulati. Spinae trifidae, 0.5~1.6 cm longae, flavescentes. Folia tenuiter chartacea, oblanceolata vel obovato-elliptica, 1~2.5 cm longa, 4~9 mm lata, apice obtusa, raro acuta, basi acuminata, margine dense spinuloso-serrulata, spinulis utrinque 9~16, supra atro-viridia, subtus pallide viridia haud albo-pruinosa, venis reticulatis utrinque conspicue elevatis; petioli subnulli. Flores 5~8 fasciculati, flavidi; pedicelli 1.2~1.7 cm longi, glabri; bracteolae lanceolatae, 2.5 mm longae, 0.6 mm latae; sepala 3-seriata, exteriora lanceolata, 4.2 mm longa, 1.5 mm lata, mediana elliptica, 4.5 mm longa, 2 mm lata, interiora elliptica, 4 mm longa, 2 mm lata; petala obovata, 3.5 mm longa, 2 mm lata, apice incisa, basi in unguem sensim angustata, glandulis 2 separatis praedita; stamina circiter 2.5 mm longa, connectivis apice productis obtusis; ovarium 2.1 mm longum, ovulis 2 breve stipitatis. Fructus nondum vidi. Fl. Jun..

Sichuan(四川): Muli(木里), in thickets, alt. 3600~3700 m, 1937-06-21, T. T. Yu (俞德浚)6530(holotype, PE); Jiulong(九龙), Mengdongshan(蒙懂山), in forests, alt. 4200 m, 1960-06-20, T. S. Ying(应俊生)4066(PE); same locality, in thickets, alt. 4100 m, 1960-06-20, T. S. Ying 4067(PE).

落叶灌木, 高约 1.5 m。老枝深灰色, 无疣点。幼枝淡灰色, 具条棱; 茎刺三分叉, 长 0.5~1.6 cm, 淡黄色。叶薄纸质, 倒披针形或倒卵状椭圆形, 长 1~2.5 cm, 宽 4~9 mm, 先端圆钝, 偶急尖, 基部渐狭, 叶缘每边具 9~16 细密刺齿, 上面暗绿色, 下面淡绿色, 不被白粉, 两面网脉明显突起; 近无柄。花淡黄色, 5~8 朵簇生; 花梗长 1.2~1.7 cm, 无毛; 小苞片披针形, 长 2.5 mm, 宽 0.6 mm; 萼片 3 轮, 外萼片披针形, 长 4.2 mm, 宽 1.5 mm, 中萼片椭圆形, 长 4.5 mm, 宽 2 mm, 内萼片椭圆形, 长 4 mm, 宽 2 mm; 花瓣倒卵形, 长 3.5 mm, 宽 2 mm, 先端锐裂, 基部渐狭呈爪, 具 2 枚分离腺体; 雄蕊长约 2.5 mm, 药隔先端延伸, 圆钝; 子房长 2.1 mm, 含 2 枚具短柄胚珠。果未见。花期 6 月。

本种近似鲜黄小檗 *B. diaphana* Maxim., 但本种叶倒披针形, 萼片 3 轮, 胚珠 2 而相互区别。本种与网脉小檗 *B. reticulineri* Ying 的区别在于花瓣倒卵形, 先端锐裂, 中萼片长于内萼片。

5 多珠小檗 新种 图 3:10~20

Berberis multiovula Ying, sp. nov., Fig. 3:10~20

Species nova affinis *B. sanguineae* Franch., a qua differt foliis brevioribus, petalis ellipticis profunde emarginatis, connectivis productis apice truncatis, ovulis 5, stylis brevibus persistentibus; a *B. soulieana* Schneid. recedit foliis 3~5 mm latis, ovulis 5, fructibus haud albo-pruinosis.

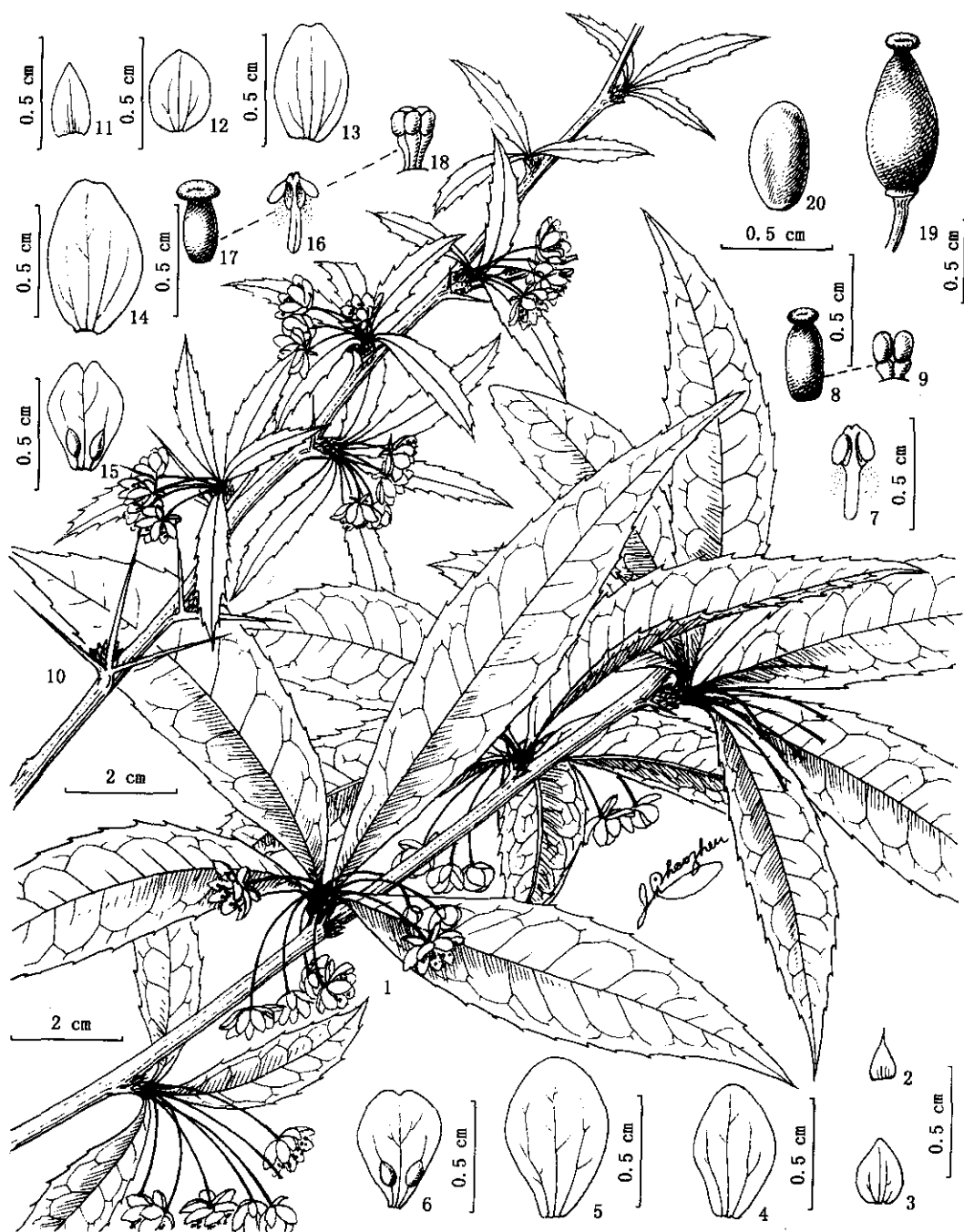


图3 1~9. 兴文小檗 1. 花枝; 2. 小苞片; 3. 外萼片; 4. 中萼片; 5. 内萼片; 6. 花瓣; 7. 雄蕊; 8. 子房; 9. 胚珠。
 10~20. 多珠小檗 10. 花枝; 11. 小苞片; 12. 外萼片; 13. 中萼片; 14. 内萼片; 15. 花瓣; 16. 雄蕊;
 17. 子房; 18. 胚珠; 19. 果; 20. 种子。(冀朝棣 绘)

Fig. 3 1~9. *B. xingwenensis* Ying 1. Flowering branch; 2. bracteole; 3. Outer sepal; 4. Median sepal; 5. Inner sepal;
 6. Petal; 7. Stamen; 8. Ovary; 9. Ovule. 10~20. *B. multiovula* Ying 10. Flowering branch; 11. Bracteole; 12. Outer
 sepal; 13. Median sepal; 14. Inner sepal; 15. Petal; 16. Stamen; 17. Ovary; 18. Ovule; 19. Fruit; 20. Seed.

Frutex sempervirens, circiter 1 m altus. Ramuli juveniles et vetustiores omnes cinerescens, angulato-sulcati. Spinae trifidae, flavescentes, 1~2.3 cm longae. Folia tenuiter coriacea, lineari-lanceolata vel anguste elliptica, 1.5~3 cm longa, 3~5 mm lata, apice mucronulata, basi abrupte angustata, supra atro-viridia, costis leviter elevatis, subtus pallide viridia, costis conspicue elevatis, nervis lateralibus et venis reticulatis obscuris, haud albo-pruinosa, margine spinuloso-serrulata, spinulis utrinque 3~7; petioli subnulli. Flores 2~4 fasciculati, flavi; pedicelli graciles, 5~11 mm longi, glabri; sepala 3-seriata, exteriora triangulo-ovata, circiter 3 mm longa, circiter 2 mm lata, mediana ovata, 4 mm longa, 3 mm lata, interiora obovata, 5.5 mm longa, 4 mm lata; petala elliptica vel oblonga, 4.1 mm longa, 2.2 mm lata, apice emarginata, lobis apice rotundatis, basi haud unguiculata, glandulis 2 separatis praedita; stamina circiter 3 mm longa, connectivis apice productis truncatis; ovarium circiter 3 mm longum, ovulis 5. Baccae ellipticae, 8~10 mm longae, 3~5 mm diam., stylis brevibus persistentibus, haud albo-pruinosa. Fl. Mai. Fr. Jun. - Jul.

Sichuan(四川): Baoxing(宝兴), Puxigou(蒲溪沟), on forest edge, alt. 2900 m, 1959-05-03, Yajiang Division, Sichuan Economic Plant Exped. (四川经济植物调查队雅江分队)293(holotype, PE); Baoxing, 1954, T. P. Soong(宋滋圃)38280, 39489(all PE); Tianquan(天全), alt. 2700 m, K. L. Chü(曲桂龄)2493(PE).

常绿灌木, 高约 1 m。老、幼枝均淡灰色, 具棱槽; 茎刺三分叉, 淡黄色, 长 1~2.3 cm。叶薄革质, 线状披针形或狭椭圆形, 长 1.5~3 cm, 宽 3~5 mm, 先端刺尖, 基部骤狭, 上面深绿色, 中脉微隆起, 背面浅绿色, 中脉明显隆起, 两面侧脉和网脉不显, 不被白粉, 叶缘每边具 3~7 刺齿; 近无柄。花 2~4 朵簇生; 花梗细弱, 长 5~11 mm, 无毛; 花黄色; 萼片 3 轮, 外萼片三角状卵形, 长约 3 mm, 宽约 2 mm, 中萼片卵形, 长 4 mm, 宽 3 mm, 内萼片倒卵形, 长 5.5 mm, 宽 4 mm; 花瓣椭圆形或矩圆形, 长 4.1 mm, 宽 2.2 mm, 先端断裂, 裂片先端圆形, 基部不呈爪, 具 2 枚分离腺体; 雄蕊长约 3 mm, 药隔先端延伸, 平截; 子房长约 3 mm, 含 5 枚胚珠。浆果椭圆形, 长 8~10 mm, 直径 3~5 mm, 具短宿存花柱, 不被白粉。花期 5 月, 果期 6~7 月。

本种与血红小檗 *B. sanguinea* Franch. 区别在于本种叶较短; 花瓣椭圆形、深断裂; 药隔延伸、先端平截; 胚珠 5 枚; 果具短宿存花柱。与假蚝猪刺 *B. soulieana* Schneid. 区别在于叶宽 3~5 mm; 胚珠 5 枚; 果不被白粉。

6 兴文小檗 新种 图 3:1~9

Berberis xingwenensis Ying, sp. nov., Fig. 3:1~9

Haec species affinis *B. veitchii* Schneid., sed differt petalis apice emarginatis, connectivis apice truncatis differt.

Frutex sempervirens, 1.2~2.5 m altus. Ramuli cinereo-brunnei, teretes, glabri. Spinae debiles, trifidae, flavo-brunneae, subtus compressae, usque ad 1 cm longae. Folia coriacea, elliptico-lanceolata vel lanceolata, 6~15 cm longa, 1.3~4 cm lata, apice acuminata, basi cuneata, supra atro-viridia nitida, costis leviter impressis, nervis lateralibus et venis reticulatis leviter elevatis, subtus flavo-viridia, costis et nervis lateralibus conspicue elevatis,

venis reticulatis distincte visibilibus, haud albo-pruinosa, margine supra medium spinuloso-serrulata, spinulis utrinque 10~15, subsessilia vel petiolis circiter 5 mm longis suffulata. Flores 5~16 fasciculati, rubri (e notis collectoris); pedicelli graciles, 2~2.7 cm longi; sepala 3-seriata interdum 4-seriata, exteriora ovata, 2.5~2.8 mm longa, 1.5~2 mm lata, apice acuta, mediana late elliptica, 4.5~5 mm longa, 4 mm lata, apice obtusa, interiora elliptica, 5~5.2(~6) mm longa, 3.5~4 mm lata, apice rotunda; petala obovata, 4.5~5.1 mm longa, 3.2~4 mm lata, apice emarginata, basi in unguem sensim angustata, glandulis 2 separatis praedita; stamina circiter 2.8 mm longa, connectivis productis apice truncatis; ovarium circiter 3 mm longum, ovulis 2. Baccae pyriformes, circiter 6 mm longae, circiter 3 mm diam., rubrae, apice stylis brevibus persistentibus praeditae, haud albo-pruinosa. Fl. Apr. - Mai. Fr. Jun. - Jul.

Sichuan(四川): Xingwen(兴文), Jianfengshan(尖峰山), in thickets on slope, alt. 1800 m, 1959-05-14, Yibin Division, Sichuan Economic Plant Exped. (四川经济植物调查队宜宾分队)437(holotype, PE); Xingwen, Xianfengxiang(仙峰乡), 1959-05-12, Yibin Division, Sichuan Economic Plant Exped. 342(PE); 1977-07-28, Xingwen Team(兴文队)77-267(SM); Junlian(筠连), Xiaoxueshan(小雪山), alt. 1600 m, 1959-04-26, Yibin Division, Sichuan Economic Plant Exped. 173(PE, SM); alt. 710 m, 1977-06-30, Junlian Team(筠连队)758(SM); alt. 1700 m, Junlian Team 567(SM); Pingshan(屏山), Xinsiqu(新市区), roadside on sunny slope, alt. 1400 m, 1959-06-21, Yibin Division, Sichuan Economic Plant Exped. 1129(CDBI).

常绿灌木,高1.2~2.5 m。枝灰褐色,圆柱形,无毛;茎刺较弱,三分叉,黄褐色,腹面扁,长达1 cm。叶革质,椭圆状披针形或披针形,长6~15 cm,宽1.3~4 cm,先端渐尖,基部楔形,上面暗绿色,有光泽,中脉微凹陷,侧脉和网脉微隆起,背面黄绿色,中脉和侧脉显著隆起,网脉明显,不被白粉,叶缘每边中部以上具10~15刺齿;叶柄长约5 mm或近无柄。花5~16朵簇生;花梗细弱,长2~2.7 cm;花红色(据野外记录);萼片3轮(有时4轮),外萼片卵形,长2.5~2.8 mm,宽1.5~2 mm,先端急尖,中萼片阔椭圆形,长4.5~5 mm,宽4 mm,先端钝,内萼片椭圆形,长5~5.2(~6) mm,宽3.5~4 mm,先端圆形;花瓣倒卵形,长4.5~5.1 mm,宽3.2~4 mm,先端缺裂,基部渐狭略呈爪,具2枚分离腺体;雄蕊长约2.8 mm,药隔延伸、先端平截;子房长约3 mm,含胚珠2枚。浆果梨形,长约6 mm,直径约3 mm,红色,顶端具短宿存花柱,不被白粉。花期4~5月。果期7~9月。

本种与巴东小檗 *B. veitchii* Schneid. 相近似,但本种花瓣先端缺裂,药隔先端平截,易于区别。

7 东川小檗 新种 图4:1~8

Berberis dongchuanensis Ying, sp. nov., Fig. 4:1~8

Haec species affinis *B. bergmanniae* var. *atanthophyllae* Schneid., a qua foliis supra dense albo-pruinosis, pedicellis usque ad 3.5 cm longis, ovulis 4 facile distinguenda.

Frutex sempervirens, 0.6~1 m altus. Ramuli teretes, fusci, non verrucosi. Spinae trifidae, flavescentes, usque ad 1 cm longae. Folia crasse coriacea, anguste elliptica, 3.5~8

cm longa, 1~2 cm lata, apice acuta, basi cuneata, supra flavo-viridia, costis conspicue impressis, nervis lateralibus leviter elevatis, subtus dense albo-pruinosa, costis elevatis, nervis lateralibus et venis inconspicuis, margine paullo revoluta spinuloso-serrulata, spinulis utrinque 1~3; petioli subnulli. Flores 3~5 fasciculati, flavi; pedicelli graciles, usque ad 3.5 cm longi, glabri; sepal 3-seriata, exteriora triangulo-ovata, circiter 2 mm longa, circiter 1.5 mm lata, apice acuminata, mediana ovato-elliptica, circiter 5.1 mm longa, circiter 3 mm lata, interiora late elliptica, circiter 6 mm longa, circiter 5 mm lata; petala obovata, circiter 5 mm longa, circiter 4 mm lata, apice integra rotunda, basi in unguem contracta, glandulis 2 separatis praedita; stamina circiter 3.5 mm longa, connectivis obtusis; ovarium 3.2 mm longum, ovulis 4, funiculo brevi. Fructus ignoti. Fl. Apr. - Mai. .

Yunnan(云南): Dongchuan(东川), at base of rockcliff, alt. 2600 m, 1984-04-23, S. B. Lan(蓝顺彬)665(holotype, PE).

常绿灌木, 高0.6~1m。老枝圆柱形, 暗灰色, 无疣点; 茎刺三分叉, 淡黄色, 长达1 cm。叶厚革质, 狭椭圆形, 长3.5~8 cm, 宽1~2 cm, 先端急尖, 基部楔形, 上面黄绿色, 中脉明显凹陷, 侧脉微显, 背面密被白粉, 中脉隆起, 侧脉和细脉不显, 叶缘略向背面反卷, 每边具1~3刺锯齿; 近无柄。花3~5朵簇生; 花梗纤细, 长达3.5 cm, 无毛; 花黄色; 萼片3轮, 外萼片三角状卵状形, 长约2 mm, 宽约1.5 mm, 先端渐尖, 中萼片卵状椭圆形, 长约5.1 mm, 宽约3 mm, 内萼片阔椭圆形, 长约6 mm, 宽约5 mm; 花瓣倒卵形, 长约5 mm, 宽约4 mm, 先端全缘, 圆形, 基部缢缩呈爪, 具2枚分离腺体; 雄蕊长约3.5 mm, 药隔先端圆钝; 子房长3.2 mm, 含胚珠4枚, 珠柄短。果未见。花期4~5月。

本种近似汶川小檗 *B. bergmannia* var. *acanthophylla* Schneid. 但叶背面密被白粉; 花梗长达3.5 cm; 胚珠4枚。易区别。

8 小瓣小檗 新种 图4:9~17

***Berberis micropetala* Ying, sp. nov., Fig. 4:9~17**

Haec species affinis *B. parapruiosae* Ying, a qua foliis margine paullo revolutis spinuloso-serrulatis spinulis utrinque 12~16, pedicellis 1~4 mm longis, ovulo unico facile distinguenda.

Frutex sempervirens, 0.3~1 m altus. Ramuli juveniles cinerei, distincte sulcati, non verrucosi. Spinae trifidae, teretes, flavescentes, 1~1.2 cm longae. Folia coriacea, elliptica vel anguste elliptica, 1.5~4.5 cm longa, 0.6~1.2 cm lata, apice acuta vel obtuso-rotunda, basi acuminata cuneata, supra atro-viridia, costis impressis, subtus brunnea, papillosa, costis conspicue elevatis, nervis lateralibus et venis reticulatis utrinque obscuris, haud albo-pruinosa, margine paullo revoluta spinuloso-serrulata, spinulis utrinque 12~16; petioli 2~3 mm longi. Flores 5 fasciculati, flavi; pedicelli validi, 1.2~1.4 mm longi, sed unus usque ad 3~4 mm longus; bracteolae ovatae, apice acuminatae, roseae; sepal 3-seriata, exteriora lanceolata, superne rosea, 2.1~3 mm longa, 1~1.1 mm lata, mediana ovato-elliptica, 4.1 mm longa, circiter 2 mm lata, margine pellucida, apice rosea, interiora obovato-elliptica, 4.3 mm longa, circiter 2 mm lata; petala obovata, 2.2~2.5 mm longa, 1~1.1 mm lata, apice

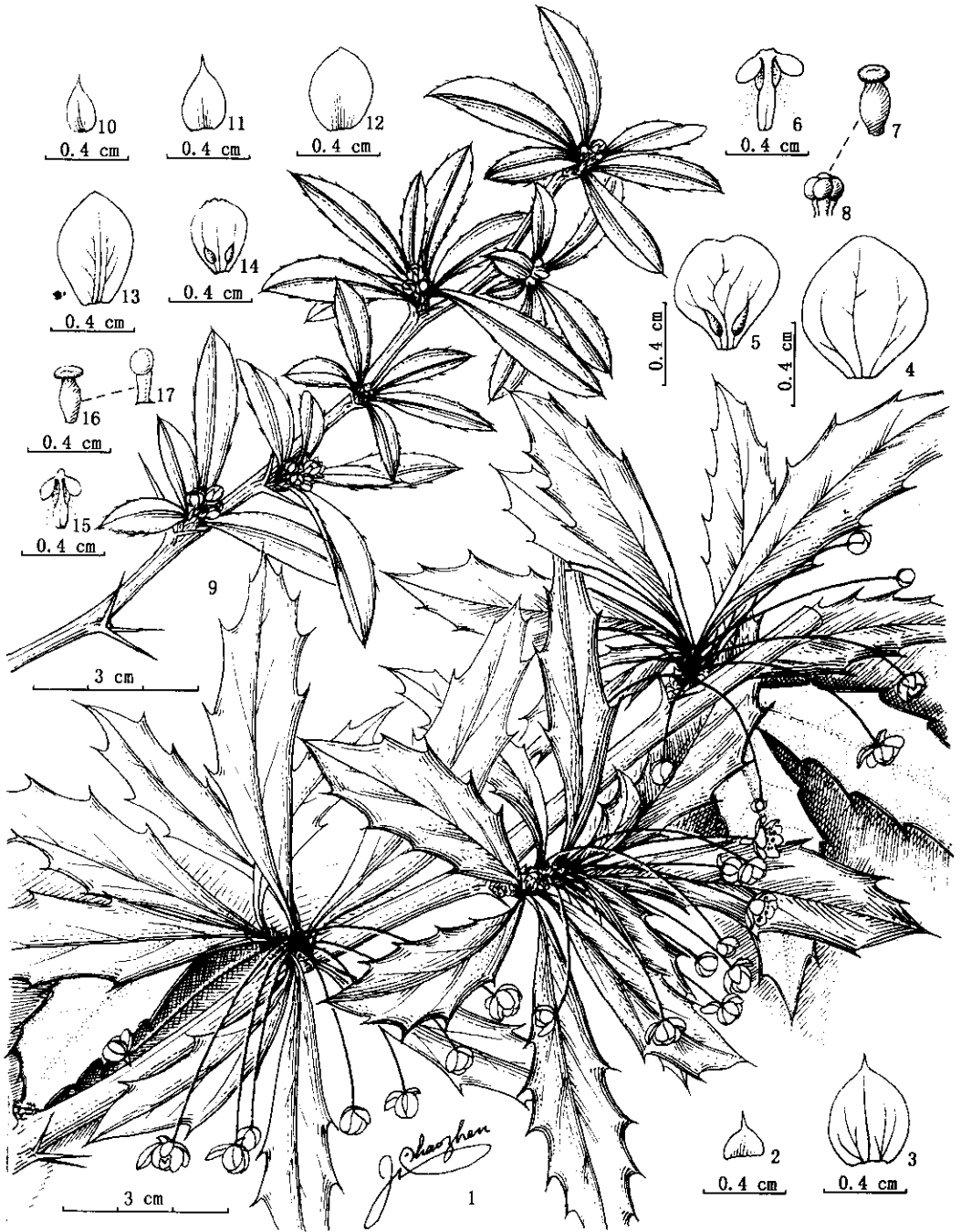


图4 1~8. 东川小檗 1. 花枝; 2. 外萼片; 3. 中萼片; 4. 内萼片; 5. 花瓣; 6. 雄蕊; 7. 子房; 8. 胚珠。9~17. 小檗
小檗 9. 花枝; 10. 小苞片; 11. 外萼片; 12. 中萼片; 13. 内萼片; 14. 花瓣;
15. 雄蕊; 16. 子房; 17. 胚珠。(冀朝桢 绘)

Fig. 4 1~8. *B. dongchuanensis* Ying 1. Flowering branch; 2. Outer sepal; 3. Median sepal; 4. Inner sepal; 5. Petal;
6. Stamen; 7. Ovary; 8. Ovule. 9~17. *B. micropetala* Ying 9. Flowering branch; 10. Bracteole; 11. Outer
sepal; 12. Median sepal; 13. Inner sepal; 14. Petal. 15. Stamen; 16. Ovary; 17. Ovule.

integra, basi in unguem contracta, glandulis 2 separatis oblongis praedita; stamina circiter 1.5 mm longa, connectivis apice distincte productis truncatis; ovarium circiter 2 mm longum, ovulo 1 stipitato. Fructus nondum vidi. Fl. Apr. .

Yunnan(云南): Dongchuan(东川), on sunny slope, alt. 2800 m, 1986-04-01, S. B. Lan(蓝顺彬)636(holotype, PE); Dongchuan, on sunny slope, in mixed forests, alt. 3200 m, 1985-04-07, S. B. Lan(蓝顺彬)348(PE).

常绿灌木, 高 0.3~1 m。幼枝灰色, 明显具槽, 无疣点; 茎刺三分叉, 圆柱形, 淡黄色, 长 1~1.2 cm。叶革质, 椭圆形或狭椭圆形, 长 1.5~4.5 cm, 宽 0.6~1.2 cm, 先端急尖或纯圆, 基部渐狭, 楔形, 上面暗绿色, 中脉凹陷, 背面棕褐色, 中脉明显隆起, 具乳突, 两面侧脉和网脉不显, 不被白粉, 叶缘微向背面反卷, 每边具 12~16 刺齿; 叶柄长 2~3 mm。花 5 朵簇生; 花梗粗壮, 长 1.2~1.4 mm, 其中 1 朵花梗长达 3~4 mm; 花黄色; 小苞片卵形, 先端渐尖, 粉红色; 萼片 3 轮, 外萼片披针形, 上部粉红色, 长 2.1~3 mm, 宽 1~1.1 mm, 中萼片卵状椭圆形, 长 4.1 mm, 宽约 2 mm, 边缘膜质透明, 先端粉红色, 内萼片倒卵状椭圆形, 长 4.3 mm, 宽约 2 mm; 花瓣倒卵形, 长 2.2~2.5 mm, 宽 1~1.1 mm, 先端全缘, 基部缢缩呈爪, 具 2 枚分离的长圆形腺体; 雄蕊长约 1.5 mm, 药隔先端明显延伸, 平截; 子房长约 2 mm, 胚珠 1 枚, 具柄。果未见, 花期 4 月。

本种近似拟粉小檗 *B. parapruinosa* Ying, 但叶缘略向背面反卷, 具 12~16 刺齿, 花梗长 1~4 mm, 胚珠 1 而易于区别。

9 淳安小檗 新种 图 5:9~16

***Berberis chunanensis* Ying, sp. nov., Fig. 5:9~16**

Haec species affinis *B. lempergianae* Ahrendt, a qua foliis ovato-ellipticis, 1.5~3.5 cm longis, margine spinuloso-serrulatis spinulis utrinque 3~7, sepalis 2-seriatis, petalis apice integris, connectivis apice rotundis facilliter distinguenda.

Frutex sempervirens, circiter 1 m altus. Ramuli vetustiores teretes, fusci, juveniles flavescens. Spinae trifidae, flavescens, 1.2~1.7 cm longae. Folia coriacea, ovato-elliptica, 1.5~3.5 cm longa, 0.5~1.3 cm lata, apice acuminata mucronulata, basi late cuneata, supra atro-viridia, costis paullo impressis, subtus flavescens, costis elevatis, nervis lateralibus utrinque conspicuis, venis reticulatis obscuris, haud albo-pruinosa, margine planopatentia spinuloso-serrulata, spinulis utrinque 3~7; petioli subnulli. Flores 4~8 fasciculati flavi et sapore praediti (e notis collectoris); pedicelli 12~20 mm longi, glabri, pallide brunneo-flavi; sepala biseriata, exteriora ovata vel ovato-elliptica, 2.1~3.2 mm longa, 1.1~2.2 mm lata, interiora elliptica, 6.5~7.2 mm longa, 4.2~5 mm lata; petala obovata, 6~6.5 mm longa, 3~3.5 mm lata, apice integra vel interdum emarginata, basi sensim angustata sed haud unguiculata, glandulis 2 separatis praedita; stamina circiter 5 mm longa, connectivis apice productis rotundis; ovarium 4.5 mm longum, ovulis 2~3 stipitatis. Stipites fructuum rubro-brunnei. Baccae ellipsoideae, 8~12 mm longae, 5~6 mm diam., albo-pruinosa, stylis persistentibus circiter 1 mm longis.

Zhejiang(浙江): Chunan(淳安), Wangfu(王埠), in forests, 1958-08-29, coll. un-

known 30227(PE).

常绿灌木, 高约1m。老枝圆柱形, 暗灰色, 幼枝淡黄色; 茎刺三分叉, 淡黄色, 长1.2~1.7 cm。叶革质, 卵状椭圆形, 长1.5~3.5 cm, 宽0.5~1.3 cm, 先端渐尖, 具刺尖头, 基部阔楔形, 上面暗绿色, 中脉微凹陷, 背面淡黄色, 中脉隆起, 两面侧脉显著, 网脉不显, 不被白粉, 叶缘平展, 每边具3~7刺齿; 近无柄。花4~8朵簇生; 花梗长12~20 mm, 无毛, 淡棕黄色; 花黄色(据记载; 花有味); 萼片2轮, 外萼片卵形或卵状椭圆形, 长2.1~3.2 mm, 宽1.1~2.2 mm, 内萼片椭圆形, 长6.5~7.2 mm, 宽4.2~5 mm; 花瓣倒卵形, 长6~6.5 mm, 宽3~3.5 mm, 先端全缘, 或有时微凹, 基部渐狭, 不呈爪, 具2枚分离腺体; 雄蕊长约5 mm, 药隔先端延伸, 圆形; 子房长4.5 mm, 含2~3枚胚珠, 具柄。果柄红褐色; 浆果椭圆形, 长8~12 mm, 直径5~6 mm, 被白粉, 宿存花柱长约1 mm。

本种近似长柱小檗 *B. lempergiana* Ahrendt., 但本种叶卵状椭圆形, 长1.5~3.5 cm, 每边3~7刺齿; 萼片2轮; 花瓣先端全缘; 药隔先端圆形。易于区别。

10 金佛山小檗 新种 图5:1~8

Berberis jinfoshanensis Ying, sp. nov., Fig. 5:1~8

Haec species affinis *B. lijiangensi* C. Y. Wu ex S. Y. Bao, a qua foliis margine spinuloso-serrulatis, spinulis utrinque 3~10, ovulis 2~3, stylis distincte persistentibus facile distinguenda.

Frutex sempervirens, 1.5~2 m altus. Ramuli vetustiores fusci, teretes, non verrucosi, juveniles straminei, laeves, glabri. Spinae trifidae, 1~2.5 cm longae, cum ramulis concolorae, subtus sulcatae. Folia coriacea, elliptica, 3~7 cm longa, 1.3~2.5 cm lata, apice acuta, basi cuneata, supra atro-viridia, costis inferne impressis, nervis lateralibus 5~7-jugis paullo elevatis, subtus cinereo-alba vel flavo-viridia leviter albo-pruinosa, costis conspicue elevatis, nervis lateralibus elevatis, venis reticulatis utrinque obscuris, margine plano-patentia spinuloso-serrulata, spinulis utrinque 3~10; petioli 2~4 mm longi. Flores 5~8 fasciculati, flavi; bracteae ovato-triangulares, 2 mm longae, 1 mm latae; pedicelli 1.5~2 cm longi glabri; bracteolae ovatae, 2 mm longae et latae; sepala biseriata, exteriora obovata, circiter 5 mm longa, circiter 3.5 mm lata, interiora oblonga, circiter 5.5 mm longa, circiter 4 mm lata; petala obovata, 5~6 mm longa, 4~5.5 mm lata, apice integra, basi in unguem contracta, glandulis 2 contiguis ovatis circiter 1.5 mm longis praedita; stamina 4.2~5 mm longa, connectivis paullo productis, apice obtusis; ovula 3, raro 2. Baccae non maturae ellipsoideae, 7~8 mm longae, 5~6 mm diam., nigrae, apice stylis distincte persistentibus, dense albo-pruinosa. Fl. Mar. - Apr. Fr. Mai. - Aug.

Sichuan(四川): Nanchuan(南川), Jinfoshan(金佛山), in mixed forests, alt. 1650 m, Z. Y. Liu(刘正宇)10913(holotype, PE); Nanchuan, Jinfoshan, Yangyuping(洋芋坪), roadside, on weedy slope, alt. 1650 m, 1978-08-13, Z. Y. Liu(刘正宇)784193.

常绿灌木, 高1.5~2 m。老枝暗灰色, 圆柱形, 无疣点, 幼枝禾秆黄色, 光滑无毛; 茎刺三分叉, 长1~2.5 cm, 与枝同色, 腹面具浅槽。叶革质, 椭圆形, 长3~7 cm, 宽1.3~2.5 cm, 先端急尖, 基部楔形, 上面暗绿色, 中脉下部凹陷, 侧脉5~7对, 微隆起, 背面灰白

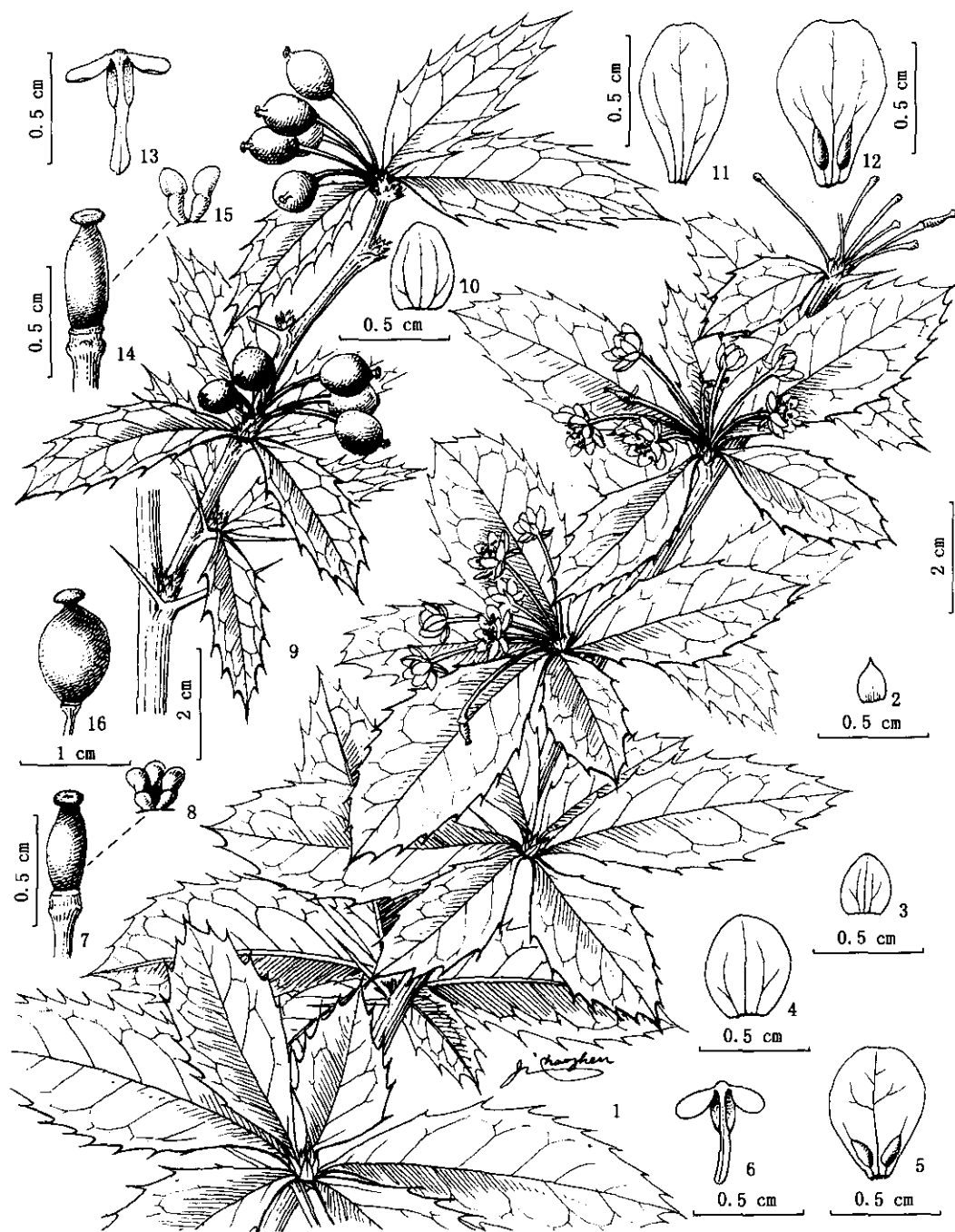


图5 1~8. 金佛山小檗 1. 花枝; 2. 小苞片; 3. 外萼片; 4. 内萼片; 5. 花瓣; 6. 雄蕊; 7. 子房; 8. 胚珠。9~16. 淳安小檗 9. 果枝; 10. 外萼片; 11. 内萼片; 12. 花瓣; 13. 雄蕊; 14. 子房; 15. 胚珠; 16. 果。(冀朝桢 绘)

Fig. 5 1~8. *B. jinshansensis* Ying 1. Flowering branch; 2. Bracteole; 3. Outer sepal; 4. Inner Sepal; 5. Petal; 6. Stamen; 7. Ovary; 8. Ovule. 9~16. *B. chunanensis* Ying 9. Fruiting branch; 10. Outer sepal; 11. Inner sepal; 12. Petal; 13. Stamen; 14. Ovary; 15. Ovule; 16. Fruit.

色或黄绿色,微被白粉,中脉明显隆起,侧脉隆起,两面网脉不显,叶缘平展,每边具3~10刺齿;叶柄长2~4 mm。花5~8朵簇生;苞片卵状三角形,长2 mm,宽1 mm;花梗长1.5~2 cm,无毛;花黄色;小苞片卵形,长和宽2 mm;萼片2轮,外萼片倒卵形,长约5 mm,宽约3.5 mm,内萼片长圆形,长约5.5 mm,宽约4 mm;花瓣倒卵形,长5~6 mm,宽4~5.5 mm,先端全缘,基部缢缩呈爪,具2枚紧靠的卵形腺体,长约1.5 mm;雄蕊长4.2~5 mm,药隔稍延伸,先端钝形,胚珠3枚,偶2枚。浆果椭圆形(未熟),长7~8 mm,直径5~6 mm,黑色,顶端具明显宿存花柱,密被白粉。花期3~4月,果期5~8月。

本种近丽江小檗 *B. lijiangensis* C. Y. Wu ex S. Y. Bao, 但本种叶缘具3~10刺齿;胚珠2~3枚;果具明显宿存花柱。易于区别。

11 老君山小檗 新种 图6:5~13

Berberis laojunshanensis Ying, sp. nov., Fig. 6:5~13

Haec species affinis *B. candidulae* Schneid., sed floribus 3~4 fasciculatis, sepalis interioribus ellipticis, petalis apice emarginatis, ramulis non verrucosis differt.

Frutex sempervirens, 50~100 cm altus. Ramuli vetustiores teretes, fusci, juveniles flavescens, non verrucosi. Spinae trifidae, flavescens, circiter 1 cm longae. Folia elliptica vel anguste elliptica, 1~2.3 cm longa, 4~7 mm lata, apice acuminata, 1-mucronulata, basi sensim angustata, supra atro-viridia, nervis obscuris, subtus albo-pruinosa, costis conspicue elevatis, nervis lateralibus paullo conspicuis, venis reticulatis obscuris, margine paullo revoluta spinuloso-serrulata, spinulis utrinque 5~7; petioli subnulli. Flores 3~4 fasciculati, flavi; pedicelli 1~1.5 cm longi, glabri; sepala 3-seriata, exteriora triangulo-ovata, 2.1 mm longa, 1.2 mm lata, mediana ovata, 4 mm longa, 2 mm lata, apice acuminata, interiora oblonga, 4.6~5 mm longa, 2.8~3.5 mm lata; petala obovata, 4 mm longa, 2 mm lata, apice emarginata, basi sensim angustata sed haud unguiculata, glandulis 2 contiguis praedita; stamina circiter 3 mm longa, connectivis apice truncatis; ovarium circiter 3 mm longum, ovulis 4. Fructus nondum vidi. Fl. Mai. - Jun. .

Hubei(湖北): Xingshan(兴山), Laojunshan(老君山), 1957-05-28, Y. Liu(刘瑛) 577(holotype, PE).

常绿灌木,高50~100 cm。老枝圆柱形,暗灰色,幼枝淡黄色,无疣点;茎刺三分叉,淡黄色,长约1 cm。叶椭圆形或狭椭圆形,长1~2.3 cm,宽4~7 mm,先端渐尖,具1刺尖头,基部渐狭,上面暗绿色,叶脉不显,背面被白粉,中脉明显隆起,侧脉微显,网脉不显;叶缘略向背面反卷,每边具5~7刺齿;近无柄。花3~4朵簇生;花梗长1~1.5 cm,无毛;花黄色;萼片3轮,外萼片三角状卵形,长2.1 mm,宽1.2 mm,中萼片卵形,长4 mm,宽2 mm,先端渐尖,内萼片长圆形,长4.6~5 mm,宽2.8~3.5 mm;花瓣倒卵形,长4 mm,宽2 mm,先端微凹,基部渐狭,不呈爪,具2枚邻接腺体;雄蕊长约3 mm,药隔先端平截;子房长约3 mm,胚珠4枚。果未见。花期5~6月。

本种近似单花小檗 *B. candidula* Schneid., 但本种花3~4朵簇生;内轮萼片椭圆形;花瓣先端微凹;枝无疣点而不同。

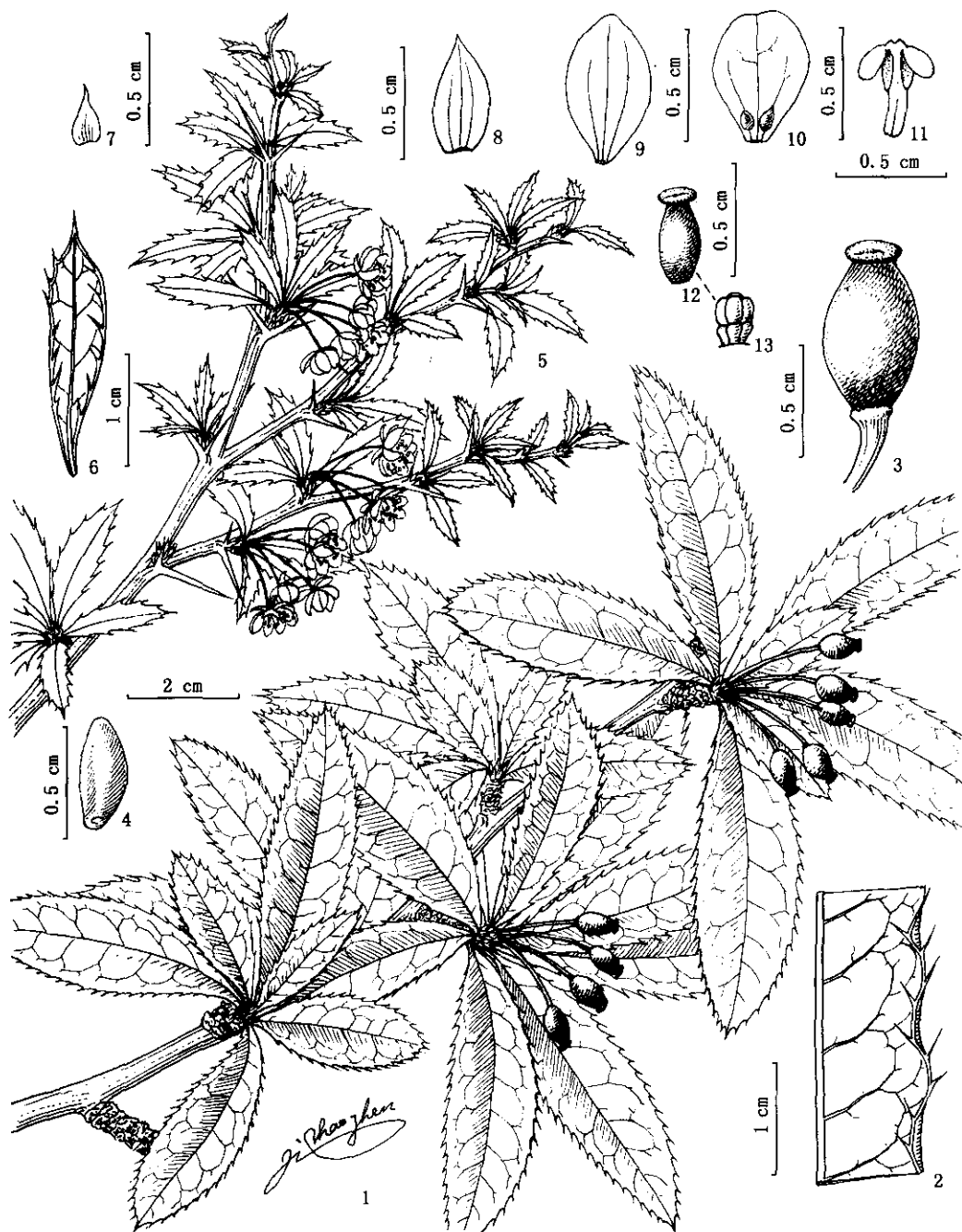


图 6 1~4. 毕节小檗 1. 果枝; 2. 叶一部分(示叶缘外卷); 3. 果; 4. 种子。5~13. 老君山小檗 5. 花枝; 6. 叶背面; 7. 外萼片; 8. 中萼片; 9. 内萼片; 10. 花瓣; 11. 雄蕊; 12. 子房; 13. 胚珠。(冀朝桢 绘)

Fig. 6 1~4. *B. guizhouensis* Ying 1. Fruiting branch; 2. Part of leaf (showing margins revolute); 3. Fruit; 4. Seed.

5~13. *B. laojunshanensis* Ying 5. Flowering branch; 6. Leaf (under surface); 7. Outer sepal; 8. Median sepal; 9. Inner sepal; 10. Petal; 11. Stamen; 12. Ovary; 13. Ovule.

12 毕节小檗 新种 图 6:1~4

Berberis guizhouensis Ying, sp. nov., Fig. 6:1~4

Haec species affinis *B. fallaciosae* Schneid., a qua foliis ellipticis vel oblongis margine conspicue revolutis profunde repandis, ovulis 3~4, baccis ellipsoideis facile distinguenda.

Frutex sempervirens, circiter 1.2 m altus. Ramuli vetustiores teretes, cinereo-nigri, non verrucosi, juveniles angulato-sulcati, pallide cinerei, glabri. Spinae plerumque absentes in ramulis vetustioribus sed presentes in eis juvenilibus, trifidae, circiter 1.2 cm longae, flavescentes. Folia coriacea, elliptica, anguste elliptica vel oblonga, 2~6.5 cm longa, 8~16 mm lata, apice acuta vel subacuminata, basi cuneata, supra atro-viridia, costis impressis, nervis lateralibus et venis reticulatis leviter elevatis, subtus in sicco brunnea haud albo-pruinosa, costis et nervis lateralibus conspicue elevatis, venis reticulatis paullo conspicuis, margine distincte revoluta profunde repanda spinuloso-serrulata, spinulis utrinque 13~20; petioli 2~3 mm longi. Flores 3~6 fasciculati, ignoti. Fructuum stipites 1~1.5 cm longi, in sicco brunnei, glabri. Baccae ellipsoideae, 7~9 mm longae, 4~4.5 mm diam., stylis nullis, haud albo-pruinosa; semina 3~4.

Guizhou(贵州): Bijie(毕节), in thickets on slope, alt. 1350 m, 1957-09-02, P. H. Yu(禹平华)214(holotype, PE); Bijie, dry place, in thickets, alt. 1350 m, 1957-09-02, P. H. Yu 200(PE).

常绿灌木, 高约 1.2 m。老枝圆柱形, 灰黑色, 无疣点, 幼枝具棱槽, 淡灰色, 无毛; 通常老枝无刺, 幼枝具刺, 三分叉, 长约 1.2 cm, 淡黄色。叶革质, 椭圆形, 狭椭圆形或矩圆形, 长 2~6.5 cm, 宽 8~16 mm, 先端急尖或近渐尖, 基部楔形, 上面暗绿色, 中脉凹陷, 侧脉和网脉微显, 背面干后褐色, 不被白粉, 中脉和侧脉明显隆起, 网脉微显; 叶缘明显向背面反卷, 呈深波状, 每边具 13~20 刺齿; 叶柄长 2~3 mm。花 3~6 朵簇生, 花未见。果柄长 1~1.5 cm, 干后棕褐色, 无毛; 浆果椭圆形, 长 7~9 mm, 直径 4~4.5 mm, 顶端无宿存花柱, 不被白粉; 含种子 3~4 枚。

本种近南川小檗 *B. fallaciosa* Schneid. 但本种叶椭圆形或矩圆形, 叶缘明显向背面反卷呈深波状; 胚珠 3~4 枚; 浆果椭圆形, 易于区别。

13 九龙小檗 新种 图 7:1~9

Berberis jiulongensis Ying, sp. nov., Fig. 7:1~9

Species nova affinis *B. contractae* Ying, a qua foliis margine integris, sepalis 3-seriatis, petalis apice emarginatis, ovulis 3~4 facile distinguenda.

Frutex sempervirens, 1~2 m altus. Ramuli vetustiores fusci, striato-angulati, juveniles purpurei, sparse nigro-verrucosi. Spinae simplices, 0.5~1 cm longae, purpurei. Folia tenuiter coriacea, obovato-lanceolata vel anguste obovata, 1.5~3.5 cm longa, 5~8 mm lata, apice obtusa, 1-mucronulata, basi sensim angustata, supra viridia, costis et nervis lateralibus obscuris, subtus pallide viridia, haud albo-pruinosa, costis conspicue elevatis, nervis lateralibus conspicuis, venis reticulatis utrinque conspicue elevatis, margine plano-patentia, integra; petioli breves. Inflorescentiae corymbo-paniculatae, 20~30-florae, 4~10 cm longae,

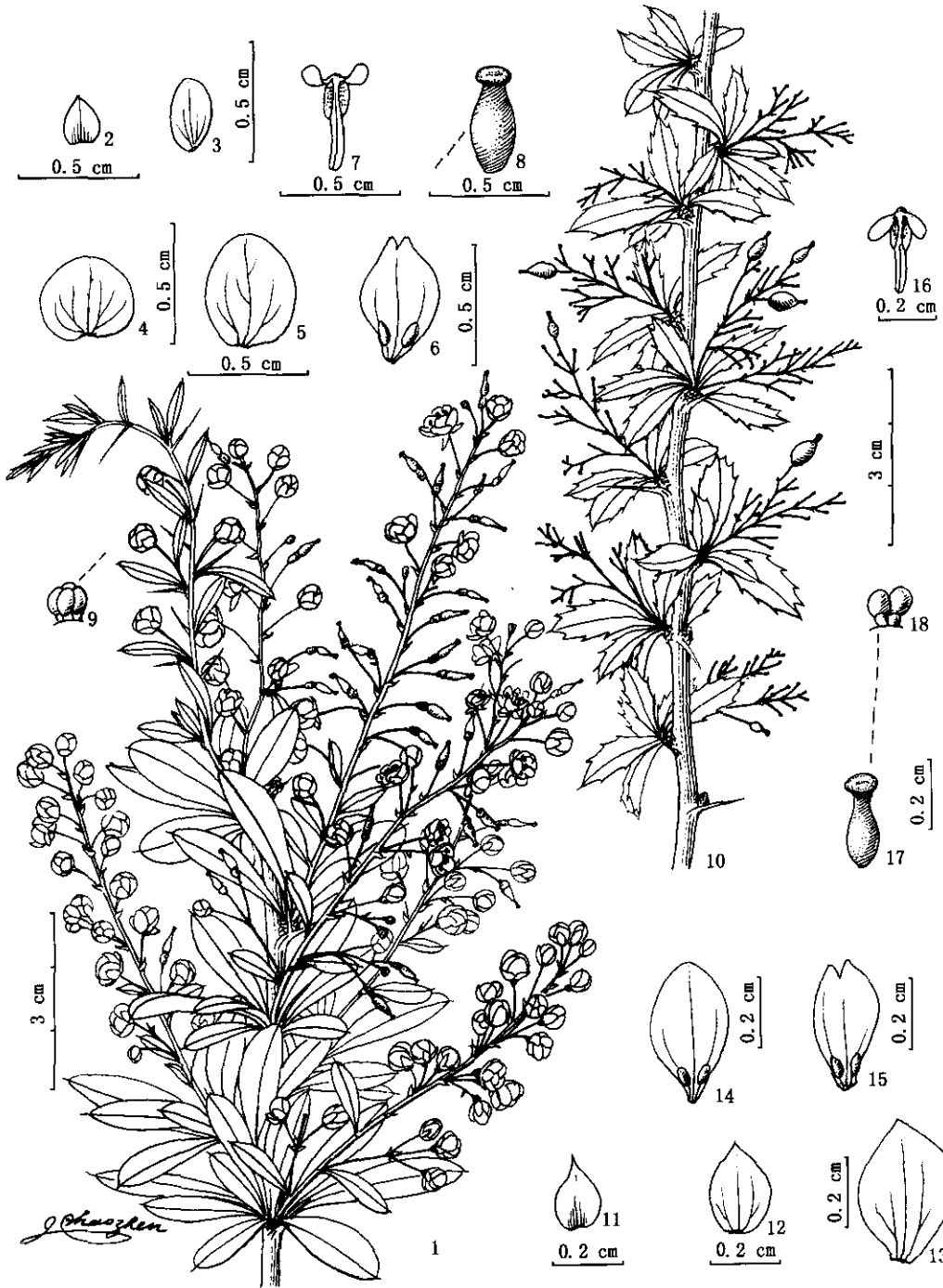


图7 1~9. 九龙小檗 1. 花枝; 2. 小苞片; 3. 外萼片; 4. 中萼片; 5. 内萼片; 6. 花瓣; 7. 雄蕊; 8. 子房; 9. 胚珠。
10~18. 德钦小檗 10. 果枝; 11. 小苞片; 12. 外萼片; 13. 内萼片; 14, 15. 花瓣;
16. 雄蕊; 17. 子房; 18. 胚珠。(冀朝桢 绘)

Fig. 7 1~9. *B. julongensis* Ying 1. Flowering branch; 2. Bract; 3. Outer sepal; 4. Median sepal; 5. Inner sepal; 6. Petal; 7. Stamen; 8. Ovary; 9. Ovule. 10~18. *B. contracta* Ying 10. Fruiting branch; 11. Bract; 12. Outer sepal; 13. Inner sepal; 14, 15. Petal; 16. Stamen; 17. Ovary; 18. Ovule.

basi racemis 1~3 fasciculatis praeditae, apice floribus verticillatis instructae; bracteae foliaceae, circiter 10 mm longae; pedicelli circiter 8 mm longi, glabri; bracteolae ovatae, apice longe acuminatae, circiter 2 mm longae. Flores flavi; sepala 3-seriata, exteriora triangulo-ovata vel ovata, 2~2.5 mm longa, 1.6~2 mm lata, mediana late elliptica vel suborbicularia, circiter 3.2 mm longa, 2.8~3 mm lata, interiora late obovata, 4.5~5 mm longa, 4.1~4.5 mm lata; petala obovata vel obovato-elliptica, 4~4.5 mm longa, 3~3.5 mm lata, apice emarginata, basi in unguem contracta, glandulis 2 separatis praedita; stamina 3.5~4 mm longa, connectivis apice productis obtusis vel truncatis; ovula 3~4, breve stipitata. Fructus ignoti. Fl. Jun..

Sichuan(四川): Jiulong(九龙), Naiqugongshe(乃渠公社), flood land, on slope, alt. 2500 m, 1974-06-22, F. Y. Qiu(邱发英)4660(PE); same locality, Miutilung(麦地龙), in thickets, alt. 2300 m, 1937-06-03, T. T. Yu(俞德浚)6706(PE); same locality, in valley, alt. 2450 m, 1984-06-18, W. L. Chen and J. R. Chen(陈伟烈, 陈家瑞)6436(PE).

常绿灌木, 高 1~2 m。老枝暗灰色, 具条棱, 幼枝紫红色, 具稀疏黑色疣点; 茎刺单生, 长 0.5~1 cm, 紫红色。叶薄革质, 倒卵状披针形或狭倒卵形, 长 1.5~3.5 cm, 宽 5~8 mm, 先端圆钝, 具 1 刺尖头, 基部渐狭, 上面绿色, 中脉和侧脉不显, 背面淡绿色, 不被白粉, 中脉明显隆起, 侧脉显著, 两面网脉明显隆起, 叶缘平展, 全缘; 具短柄。伞房状圆锥花序具 20~30 朵花, 长 4~10 cm, 花序基部有 1~3 总状花序簇生, 花序顶部花常轮列; 苞片叶状, 长约 10 mm; 花梗长约 8 mm, 无毛; 小苞片卵形, 先端长渐尖, 长约 2 mm; 花黄色; 萼片 3 轮, 外萼片三角状卵形或卵形, 长 2~2.5 mm, 宽 1.6~2 mm, 中萼片阔椭圆形或近圆形, 长约 3.2 mm, 宽 2.8~3 mm, 内萼片阔倒卵形, 长 4.5~5 mm, 宽 4.1~4.5 mm; 花瓣倒卵形或倒卵状椭圆形, 长 4~4.5 mm, 宽 3~3.5 mm, 先端开裂, 基部缢缩呈爪, 具 2 枚分离腺体; 雄蕊长 3.5~4 mm, 药隔先端延伸, 圆钝或平截; 胚珠 3~4 枚, 具短柄。果未见。花期 6 月。

本种近似德钦小檗 *B. contracta* Ying, 但本种叶全缘; 萼片 3 轮; 花瓣先端开裂; 胚珠 3~4 而易于区别。

14 德钦小檗 新种 图 7:10~18

Berberis contracta Ying, sp. nov., Fig. 7:10~18

Haec species affinis *B. jiulongensis* Ying, a qua foliis margine utrinque spinulis 1~4 praeditis, sepalis 2-seriatis, petalis apice integris, ovulo unico facile distinguenda.

Frutex 0.8~2 m altus. Ramuli vetustiores cinerei, teretes, nigro-verrucosi. Spinae simplices vel trifidae, 1~2 cm longae, flavescentes. Folia decidua, chartacea, anguste elliptica, 1~3.5 cm longa, 5~10 mm lata, apice acuta vel obtusa, basi cuneata, supra viridia, costis planis nervis lateralibus 3~5-jugis, subtus pallide viridia, haud albo-pruinosa, glabra, costis et nervis lateralibus elevatis, venis reticulatis utrinque conspicue elevatis, margine plano-patentia spinuloso-serrulata, spinulis utrinque 1~4, raro integra; petioli subnulli. Inflorescentiae corymbo-paniculatae, 15~20-florae, cum pedunculis 3~12 mm longis 1.5~5 cm longae, interdum basi racemis 1~2 fasciculatis praeditae; pedicelli debiles, 2~5 mm

longi; bracteae triangulo-ovatae, circiter 1 mm longae, apice acuminatae; bracteolae lanceolatae, circiter 1.3 mm longae. Flores flavi; sepala biseriata, exteriora ovato-lanceolata, circiter 2 mm longa, circiter 1 mm lata, interiora oblonga, pellucida, circiter 3 mm longa, circiter 2 mm lata; petala obovato-elliptica, pellucida, circiter 2.5 mm longa, 1.3 mm lata, apice integra, basi in unguem contracta, glandulis 2 separatis inconspicuis praedita; stamina circiter 2 mm longa, connectivis apice paullo productis obtusis; ovulum unicum sessile. Baccae oblongae, 7~8 mm longae, 2.5~3 mm diam., apice stylis conspicue persistentibus praeditae, paullo albo-pruinosa; semen unicum. Fl. Jun. . Fr. Jul. - Sept. .

Yunnan(云南): Degen(德钦), roadside, in thickets, alt. 3000 m, 1981-07-09, Qinghai-Xizhang Exped. (青藏科考队)2530(holotype, PE); Degen, by Lancang River(澜沧江), in thickets, alt. 2500 m, 1981-07-17, Qinghai-Xizhang Exped. 2879(PE).

落叶灌木, 高0.8~2m。老枝灰色, 圆柱形, 具黑色疣点; 茎刺单生或三分叉, 长1~2 cm, 淡黄色, 叶纸质, 狭椭圆形, 长1~3.5 cm, 宽5~10 mm, 先端急尖或圆钝, 基部楔形, 上面绿色, 中脉扁平, 侧脉3~5对, 背面淡绿色, 不被白粉, 无毛, 中脉和侧脉隆起, 两面网脉明显隆起, 叶缘平展, 每边中部以上具1~4刺锯齿, 偶全缘; 近无柄。伞房状圆锥花序由15~20朵花组成, 长1.5~5 cm, 包括总梗长3~12 mm, 有时花序基部有1~2总状花序簇生; 花梗细弱, 长2~5 mm; 苞片三角状卵形, 长约1 mm, 先端渐尖; 花黄色; 小苞片披针形, 长约1.3 mm; 萼片2轮, 外萼片卵状披针形, 长约2 mm; 宽约1 mm, 内萼片长圆形, 透明, 长约3 mm, 宽约2 mm; 花瓣倒卵状椭圆形, 透明, 长约2.5 mm, 宽约1.3 mm, 先端全缘, 基部缢缩呈爪, 具2枚分离的不显著腺体; 雄蕊长约2 mm, 药隔先端稍延伸, 圆钝; 子房含胚珠1枚, 无柄。浆果长圆形, 长7~8 mm, 直径2.5~3 mm, 顶端具明显宿存花柱, 微被白粉; 含种子1枚。花期6月, 果期7~9月。

本种近似九龙小檗 *Berberis jiulongensis* Ying, 但本种叶缘具1~4刺锯齿; 萼片2轮; 花瓣先端全缘; 胚珠1枚, 易于区别。

15 炉霍小檗 新种 图 8:9~17

Berberis luhuoensis Ying, sp. nov., Fig. 8:9~17

Haec species affinis *B. francisci-ferdinandi* Schneid., sed rhachibus inflorescentiarum pedunculisque pubescentibus, petalis apice emarginatis, baccis oblongis paullo albo-pruinosis differt.

Frutex circiter 1.2 m altus. Ramuli fusci, striato-angulati, parce nigro-verrucosi. Spinae simplices vel trifidae, circiter 1 cm longae, flavo-brunneae, interdum absentes. Folia decidua, chartacea, obovata vel obovato-elliptica, (1.5~)2~4 cm longa, 0.8~2 cm lata, apice rotunda vel obtusa, basi sensim angustata, supra atro-viridia, costis leviter impressis, nervis lateralibus paullo elevatis, subtus flavo-viridia haud albo-pruinosa, costis et nervis lateralibus conspicue elevatis, venis reticulatis utrinque conspicue elevatis, margine plano-patentia spinuloso-serrulata, spinulis utrinque 2~16, interdum integra; petioli 2~6 mm longi. Inflorescentiae paniculatae, 30~60-florae, cum pedunculis circiter 4.5 cm longis usque ad 13 cm longae, interdum basi floribus nonnullis fasciculatis praeditae, rhachibus inflorescen-

tiarum pedunculisque pubescentibus; pedicelli 2~3 mm longi, glabri. Flores flavi; bracteolae lanceolatae, 2.5~3.2 mm longae; sepala 3-seriata, exteriora anguste elliptica, 2.8~3.1 mm longa, 1.2~1.5 mm lata, mediana elliptica, circiter 4 mm longa, circiter 2.3 mm lata, interiora suborbicularia, circiter 4 mm longa, circiter 3.1 mm lata; petala elliptica, apice emarginata, lobis acutis, basi in unguem contracta, glandulis 2 separatis ellipticis praedita; stamina circiter 2.2 mm longa, connectivis apice non productis, truncatis; ovula 2, breve stipitata. Baccae oblongae, 7~8 mm longae, 2~2.1 mm diam., apice stylis nullis, paullo albo-pruinosa. Fl. Jul.. Fr. Aug..

Sichuan(四川): Luhuo(炉霍), Jiabangou(夹板沟), on slope, alt. 3100 m, 1960-08-11, T. S. Ying(应俊生)4627(holotype, PE); Luding(泸定), Xinxing(新兴), Eastern slope of Mt. Gonggar(贡嘎山东坡), alt. 2100 m, in valley, 1982-07-07, K. Y. Lang and L. Q. Li(郎楷永, 李良千)539(PE).

落叶灌木, 高约1.2m。枝暗灰色, 具条棱, 生稀疏黑疣点; 茎刺单一或三分叉, 长约1 cm, 黄褐色, 有时缺如。叶纸质, 倒卵形或倒卵状椭圆形, 长(1.5~)2~4 cm, 宽0.8~2 cm, 先端圆形或钝, 基部渐狭, 上面深绿色, 中脉微凹陷, 侧脉微隆起, 背面黄绿色, 不被白粉, 中脉和侧脉明显隆起, 两面网脉显著, 叶缘平展, 每边具2~16刺齿, 有时全缘; 叶柄长2~6 mm。圆锥花序由30~60朵花组成, 连同总梗(约4.5 cm)长达13 cm, 有时花序基部有数花簇生, 花序轴及总梗被短柔毛; 花梗长2~3 mm, 无毛; 花黄色; 小苞片披针形, 长2.5~3.2 mm; 萼片3轮, 外萼片狭椭圆形, 长2.8~3.1 mm, 宽1.2~1.5 mm, 中萼片椭圆形, 长约4 mm, 宽约2.3 mm, 内萼片近圆形, 长约4 mm, 宽约3.1 mm; 花瓣椭圆形, 先端断裂, 裂片锐尖, 基部缢缩呈爪, 具2枚分离椭圆状腺体; 雄蕊长约2.2 mm, 药隔先端不延伸, 平截; 胚珠2枚, 具短柄。浆果长圆形, 长7~8 mm, 直径2~2.1 mm, 顶端无宿存花柱, 微被白粉。花期7月, 果期8月。

本种近似大黄小檗 *B. francisci-ferdinandi* Schneid., 但本种花序轴和总梗被短柔毛; 花瓣先端断裂; 浆果长圆形, 微被白粉而不同。

16 北京小檗 新种 图8:1~8

Berberis beijingsensis Ying, sp. nov., Fig.8:1~8

Haec species aspectu simillissima *B. poiretii* Schneid., a qua inflorescentiis paniculatis, petalis apice integris facile distinguenda.

Frutex circiter 1 m altus. Ramuli angulato-sulcati, e brunneo straminei, glabri, parce nigro-verrucosi. Spinae simplices, raro trifidae, 5~8 mm longae, subtus sulcatae, cum ramulis concolorae. Folia decidua, tenuiter chartacea, anguste oblanceolata, 1~4 cm longa, 3~6 mm lata, apice acuta, basi sensim angustata, supra viridia, costis leviter elevatis, subtus pallide viridia, glabra, haud albo-pruinosa, costis conspicue elevatis, nervis lateralibus et venis reticulatis conspicue elevatis, margine plano-patentia integra; petioli subnulli. Inflorescentiae paniculatae, 15~30-florae, cum pedunculis 1~1.5 cm longis 3~7 cm longae, glabrae; bractae lanceolatae, 2~3.5 mm longae; pedicelli 2~5 mm longi, laeves, glabri.

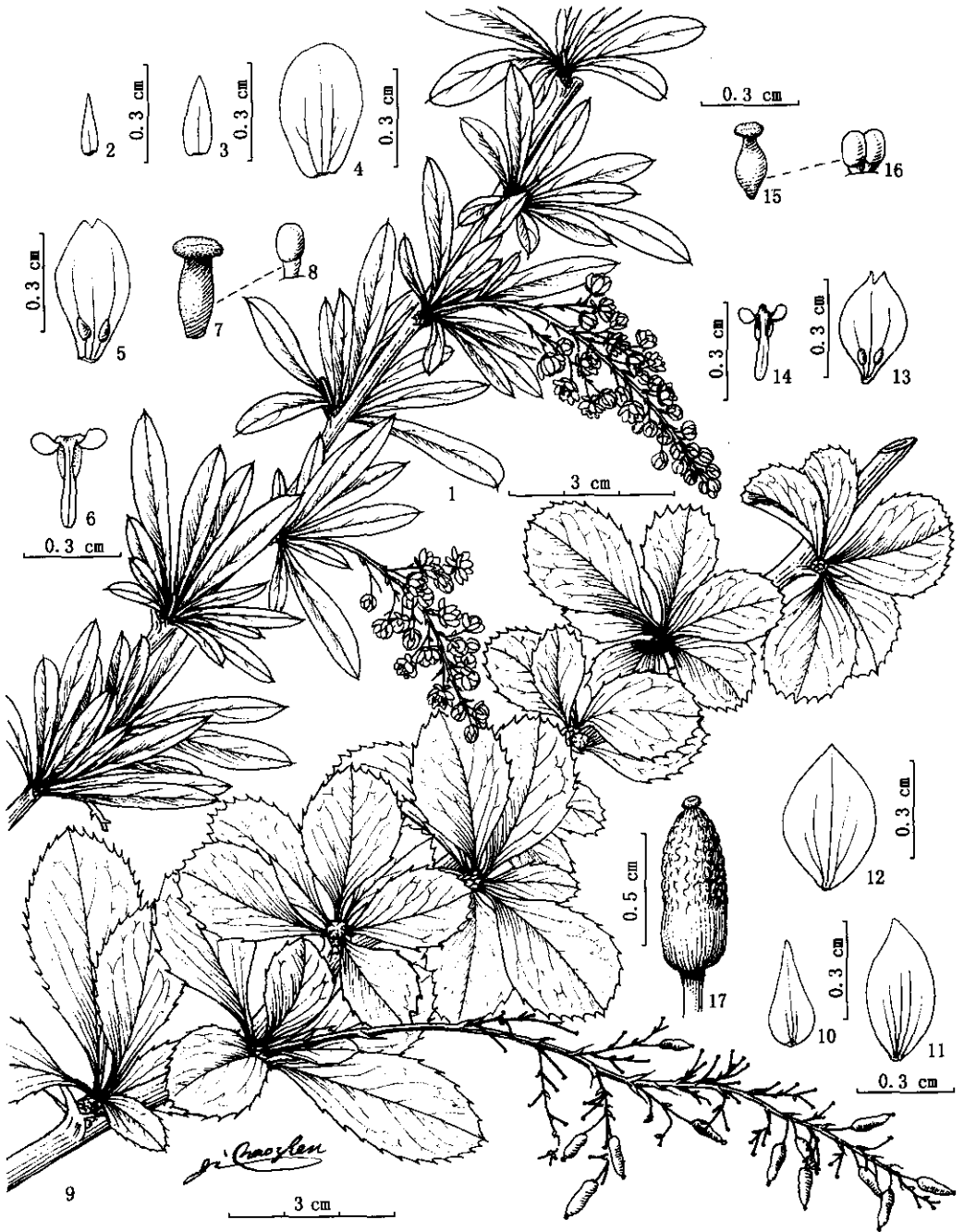


图 8 1~8. 北京小檗 1. 花枝; 2. 小苞片; 3. 外萼片; 4. 内萼片; 5. 花瓣; 6. 雄蕊; 7. 子房; 8. 胚珠。9~17. 炉霍小檗 9. 果枝; 10. 外萼片; 11. 中萼片; 12. 内萼片; 13. 花瓣; 14. 雄蕊; 15. 子房; 16. 胚珠; 17. 果。(冀朝桢 绘)

Fig. 8 1~8. *B. beijingensis* Ying 1. Flowering branch; 2. Bracteole; 3. Outer sepal; 4. Inner sepal; 5. Petal; 6. Stamen; 7. Ovary; 8. Ovule. 9~17. *B. lukhuensis* Ying 9. Fruiting branch; 10. Outer sepal; 11. Median sepal; 12. Inner sepal; 13. Petal; 14. Stamen; 15. Ovary; 16. Ovule; 17. Fruit.

Flores flavi; bracteolae lanceolatae, circiter 2 mm longae; sepala biseriata, exteriora elliptica, 2~2.5 mm longa, 1~1.3 mm lata, interiora obovata, 3~3.5 mm longa, 1.5~1.8

mm lata; petala elliptica, 3~3.2 mm longa, 1.2~1.5 mm lata, apice integra vel emarginata, basi cuneata, glandulis 2 separatis praedita; stamina circiter 2.1 mm longa, connectivis non productis, apice truncatis; ovulum unicum, stipitatum. Fructus nondum vidi. Fl. Mai. - Jun. .

Beijing(北京): West Hill(西山), 1930-05-09, H. F. Chow(周汉蕃) 40202(holotype, PE). **Shandong**(山东): Laoshan(崂山), coll., number and date unknown(采集人、采集号及日期不详), (PE).

落叶灌木, 高约 1 m。枝具棱槽, 禾秆黄色或带淡棕褐色, 无毛, 具稀疏黑色疣点; 茎刺单生, 偶三分叉, 长 5~8 mm, 腹面具浅槽, 与枝同色。叶薄纸质, 狭倒披针形, 长 1~4 cm, 宽 3~6 mm, 先端急尖, 基部渐狭, 上面绿色, 中脉微隆起, 背面淡绿色, 无毛, 不被白粉, 中脉明显隆起, 两面侧脉和网脉明显隆起, 叶缘平展, 全缘; 近无柄。圆锥花序具花 15~30 朵, 长 3~7 cm, 包括总梗长 1~1.5 cm, 无毛; 苞片披针形, 长 2~3.5 mm; 花梗长 2~5 mm, 光滑无毛; 花黄色; 小苞片披针形, 长约 2 mm; 萼片 2 轮, 外萼片椭圆形, 长 2~2.5 mm, 宽 1~1.3 mm, 内萼片倒卵形, 长 3~3.5 mm, 宽 1.5~1.8 mm; 花瓣椭圆形, 长 3~3.2 mm, 宽 1.2~1.5 mm, 先端全缘或微断裂, 基部楔形, 具 2 枚分离腺体; 雄蕊长约 2.1 mm, 药隔不延伸, 先端平截; 胚珠单生, 具柄。果未见。花期 5~6 月。

本种外形极近细叶小檗 *Berberis poiretii* Schneid., 但本种具圆锥花序; 花瓣先端全缘或微断裂, 易于区别。

17 威宁小檗 新种 图 9:1~11

Berberis weiningensis Ying, sp. nov., Fig. 9:1~11

Haec species affinis *B. leboensi* Ying, a qua ramulis juvenilibus flavescentibus dense pubescentibus, petalis obovatis basi glandulis lanceolatis praeditis, ovulis 3 facile distinguenda.

Frutex sempervirens, circiter 1 m altus. Ramuli vetustiores cinereo-brunnei, juveniles flavescentes striato-angulati dense pubescentes. Spinae debiles, trifidae, 5~10 mm longae, flavescentes. Folia chartacea, anguste obovato-elliptica, anguste elliptica vel obovata, 4~20 mm longa, 2~5 mm lata, apice acuta vel obtusa, 1-mucronulata, basi cuneata, supra atroviridia, costis et nervis lateralibus elevatis, venis reticulatis obscuris, haud albo-pruinosa, margine incrassata paullo revoluta integra vel spinuloso-serrulata, spinulis utrinque 1~6; petioli subnulli. Inflorescentiae subumbellatae, 4~6-florae, cum pedunculis 1.3~2.3 cm longis 2~3 cm longae; bracteae ovatae, apice longe lanceolatae vel 3-lobato-dentatae; petioli graciles, 3~4 mm longi, glabri. Flores aurei, 4~5 mm diam.; bracteolae triangulo-ovatae, 1~1.7 mm longae, 0.8~1.1 mm latae; sepala biseriata, exteriora elliptica, 3.2 mm longa, circiter 2.5 mm lata, interiora late obovata, 3.5 mm longa, 3.2 mm lata; petala obovata, 3.1 mm longa, 2 mm lata, apice incisa, lobis acutis, basi sensim angustata, non unguiculata, glandulis 2 separatis lanceolatis praedita; stamina circiter 2.5 mm longa, connectivis productis, apice rotundis; ovula 3 subsessilia. Baccae juveniles virides demum rubescentes, ovoideo-oblongae, 7~9 mm longae, 4~6 mm diam., apice stylis persistentibus 0.5 mm longis praeditae, non albo-pruinosa. Fl. Mai. . Fr. Jul. - Sept. .

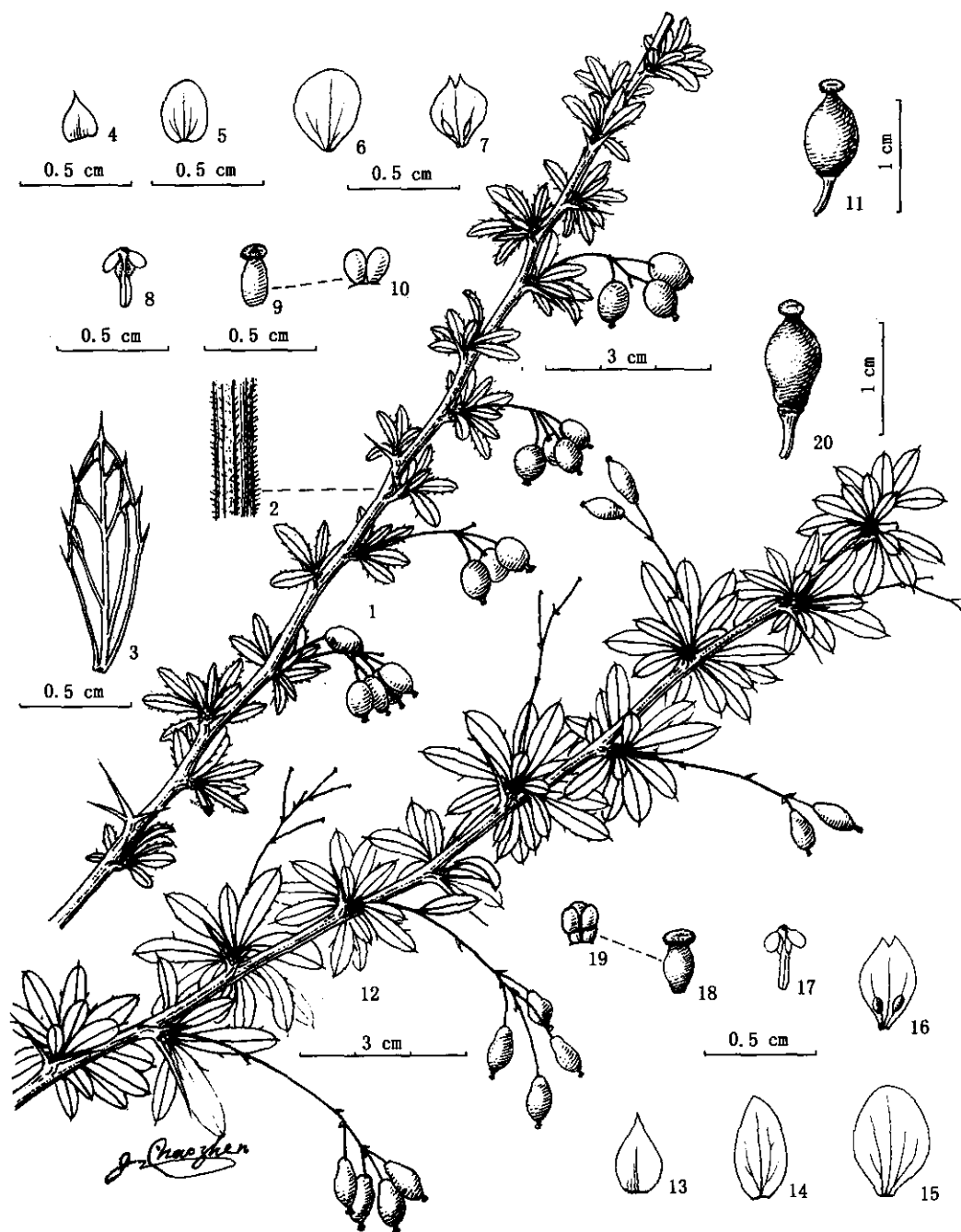


图9 1~11. 威宁小檗 1. 果枝; 2. 枝一部分; 3. 叶; 4. 小苞片; 5. 外萼片; 6. 内萼片; 7. 花瓣; 8. 雄蕊; 9. 子房; 10. 胚珠; 11. 果。12~20. 雷波小檗 12. 果枝; 13. 小苞片; 14. 外萼片; 15. 内萼片; 16. 花瓣; 17. 雄蕊; 18. 子房; 19. 胚珠; 20. 果。(冀朝桢 绘)

Fig. 9 1~11. *B. weiningensis* Ying 1. Fruiting branch; 2. Part of branch; 3. Leaf; 4. Bracteole; 5. Outer sepal; 6. Inner sepal; 7. Petal; 8. Stamen; 9. Ovary; 10. Ovules; 11. Fruit. 12~20. *B. leboensis* Ying 12. Fruiting branch; 13. Bracteole; 14. Outer sepal; 15. Inner sepal; 16. Petal; 17. Stamen; 18. Ovary; 19. Ovules; 20. Fruit.

Guizhou(贵州): Weining(威宁), Yanjiaping(岩家坪), 1929-09-19, P. C. Tsoong(钟补勤)1817(holotype, PE); Weining, Gelixiang(嘎利乡), Mabadashan(马摆大山), weedy places at mountain-top, alt. 2500 m, 1959-07-09, Beijie Team(毕节队)139(PE); on shady slope, alt. 2100 m, 1985-05-16, S. Z. He and M. X. Nan(何顺志, 冉懋雄) s. n. (PE).

常绿灌木, 高约 1 m。老枝灰褐色, 幼枝淡黄色, 具条棱, 密被短柔毛; 茎刺细弱, 三叉, 长 5~10 mm, 淡黄色。叶纸质, 狭倒卵状椭圆形, 狭椭圆形或倒卵形, 长 4~20 mm, 宽 2~5 mm, 先端急尖或圆钝, 具 1 刺尖, 基部楔形, 上面深绿色, 中脉和侧脉隆起, 网脉不显, 不被白粉, 叶缘增厚, 略向背面反卷, 全缘或每边具 1~6 刺齿; 近无柄。近伞形花序, 由 4~6 朵花组成, 长 2~3 cm, 包括总梗长 1.3~2.3 cm; 苞片卵形, 先端长渐尖或 3 齿裂; 花梗细弱, 长 3~4 mm, 无毛; 花金黄色, 直径 4~5 mm; 小苞片三角状卵形, 长 1~1.7 mm, 宽 0.8~1.1 mm; 萼片 2 轮, 外萼片椭圆形, 长 3.2 mm, 宽约 2.5 mm, 内萼片阔倒卵形, 长 3.5 mm, 宽 3.2 mm; 花瓣倒卵形, 长 3.1 mm, 宽 2 mm, 先端锐裂, 裂片锐尖, 基部渐狭, 不呈爪, 具 2 枚分离披针形腺体; 雄蕊长约 2.5 mm, 药隔延伸, 先端圆形; 胚珠 3, 近无柄。浆果幼时绿色, 后变为红色, 卵状长圆形, 长 7~9 mm, 直径 4~6 mm, 顶端具宿存花柱, 长约 0.5 mm, 不被白粉。花期 5 月, 果期 7~9 月。

本种近似雷波小檗 *B. leboensis* Ying。但本种幼枝淡黄色, 密被短柔毛; 花瓣倒卵形, 基部腺体披针形; 胚珠 3。易于区别。

18 雷波小檗 新种 图 9:12~20

Berberis leboensis Ying, sp. nov., Fig. 9:12~20

Haec species affinis *B. weiningensi* Ying, sed ramulis juvenilibus atro-purpureo-brunneis glabris, bracteis foliaceis, petalis late ellipticis, glandulis ellipticis, ovulis 2 differt.

Frutex 1.3~2 m altus. Ramuli vetustiores cinereo-brunnei, striato-angulati, non verrucosi, juveniles atro-purpureo-brunnei, glabri. Spinae trifidae, flavescens, 1~1.5 cm longae. Folia decidua, chartacea, anguste elliptica vel anguste obovata, 1~1.8 cm longa, 3~5 mm lata, apice acuta, 1-mucronulata, basi sensim angustata, supra atro-viridia, costis et nervis lateralibus elevatis, venis reticulatis conspicuis, subtus cinereo-alba, costis conspicue elevatis, nervis lateralibus et venis reticulatis conspicuis, margine plano-patentia integra vel spinuloso-serrulata, spinulis utrinque 1~4; petioli subnulli. Inflorescentiae umbellatae vel subumbellatae, 3~7-florae, cum pedunculis fuscis glabris 2.5~3.5 cm longis 4~5 cm longae; bracteae foliaceae, circiter 7 mm longae; bracteolae ovato-lanceolatae, circiter 2.5 mm longae; sepala biseriata, exteriora ovato-lanceolata, circiter 2.8 mm longa, circiter 1.5 mm lata, interiora late elliptica, 4~4.3 mm longa, 3 mm lata; petala late elliptica, 4~4.5 mm longa, circiter 3 mm lata, apice vadosa incisa, basi in unguem contracta, glandulis 2 separatis ellipticis praedita; stamina circiter 3 mm longa, connectivis productis apice obtusis; ovarium circiter 2.8 mm longum, ovulis 2 subsessilibus. Baccae obovoideo-oblongae, 9~10 mm longae, 5~6 mm diam., immaturae virides, apice stylis conspicue persistentibus praeditae, non albo-pruinosa; semina 2. Fl. Jun. - Jul. Fr. Jul. - Oct..

Sichuan(四川): Leibo(雷波), 1964-08-12, T. P. Zhu(朱太平)0205(holotype, PE); Leibo, in open place on slope, alt. 2900 m, 1934-08-16, T. T. Yu(俞德浚)3797(PE); in alpine thickets, alt. 3000 m, 1972-08-14, 236 Coll. Team(236 任务组)0796(PE); Huili(会理), roadside on slope, alt. 3500 m, 1976-07-19, Sichuan Veget. Exped.(四川植被调查队)12321(PE, CDBI); Dechang(德昌), weedy places, alt. 3500 m, 1976-06-30, Department of Biology, Southwest Teacher's University(西南师范大学生物系)11998(PE); Meigu(美姑), Huangmaogeng(黄毛埂), roadside, on slope, alt. 3500 m, 1976-07-29, Sichuan Veget. Exped. 13277(PE, CDBI).

落叶灌木, 高 1.3~2 m。老枝灰褐色, 具条棱, 无疣点。幼枝暗紫褐色, 无毛; 茎刺三分叉, 淡黄色, 长 1~1.5 cm。叶纸质, 狭椭圆形或狭倒卵形, 长 1~1.8 cm, 宽 3~5 mm, 先端急尖, 具 1 短刺尖, 基部渐狭, 上面暗绿色, 中脉和侧脉隆起, 网脉显著, 背面灰白色, 中脉明显隆起, 侧脉和网脉显著, 叶缘平展, 全缘或每边具 1~4 刺齿; 近无柄。伞形或近伞形花序, 具 3~7 朵花, 长 4~5 cm, 包括总梗长 2.5~3.5 cm, 总梗暗褐色, 无毛; 苞片叶状, 长约 7 mm; 小苞片卵状披针形, 长约 2.5 mm; 外萼片卵状椭圆形, 长约 2.8 mm, 宽约 1.5 mm, 内萼片阔椭圆形, 长 4~4.3 mm, 宽约 3 mm; 花瓣阔椭圆形, 长 4~4.5 mm, 宽约 3 mm, 先端浅锐裂, 基部缢缩呈爪, 具 2 枚分离椭圆形腺体; 雄蕊长约 3 mm, 药隔延伸, 先端圆钝; 子房长约 2.8 mm, 胚珠 2, 近无柄。浆果倒卵状长圆形, 长 9~10 mm, 直径 5~6 mm, 未熟果绿色, 顶端具明显宿存花柱, 不被白粉; 种子 2 枚。花期 6~7 月, 果期 7~10 月。

本种近似威宁小檗 *B. weiningensis* Ying。但幼枝暗紫褐色, 无毛; 苞片叶状; 花瓣阔椭圆形, 腺体椭圆形; 胚珠 2 而相区别。

19 四川小檗 新种 图 10:1~11

Berberis sichuanica Ying, sp. nov., Fig.10:1~11

Haec species affinis *B. mekongensi* W. W. Smith, sed inflorescentiis bracteis foliaceis praeditis, baccis subglobosis albo-pruinosis, stylis persistentibus differt.

Frutex sempervirens, 1~1.5 m altus. Ramuli vetustiores purpurei vel cinerei, striato-angulati, juveniles flavescens glabri, non verrucosi. Spinae simplices vel trifidae flavescens, 1~1.5 cm longae. Folia tenuiter coriacea, obovata vel ovato-elliptica, 0.8~2 cm longa, 0.5~1.1 cm lata, apice obtusa, basi sensim angustata, supra laete viridia, costis et nervis lateralibus elevatis, subtus cinereo-alba, costis et nervis lateralibus conspicue elevatis, venis reticulatis utrinque conspicuis, margine plano-patentia integra vel spinuloso-serrulata, spinulis utrinque 1~5; petioli subnulli. Inflorescentiae umbellato-racemosae, 6~15-florae, cum pedunculis 4~12 mm longis 3~4.5 cm longae, interdum basi floribus nonnullis fasciculatis praeditae; pedicelli 4~12 mm longi, glabri; bractee foliaceae, obovatae, apice mucronatae. Flores flavi; sepala 3-seriata, exteriora ovato-lanceolata, 1.6~2 mm longa, circiter 1 mm lata, mediana obovato-elliptica, 2.8~3.1 mm longa, 1.5~1.7 mm lata, interiora elliptica, 4~5 mm longa, 3~3.2 mm lata; petala obovato-elliptica, 4~4.1 mm longa, 2.1~2.2 mm lata, apice integra obtusa, basi in unguem contracta, glandulis 2 paullo

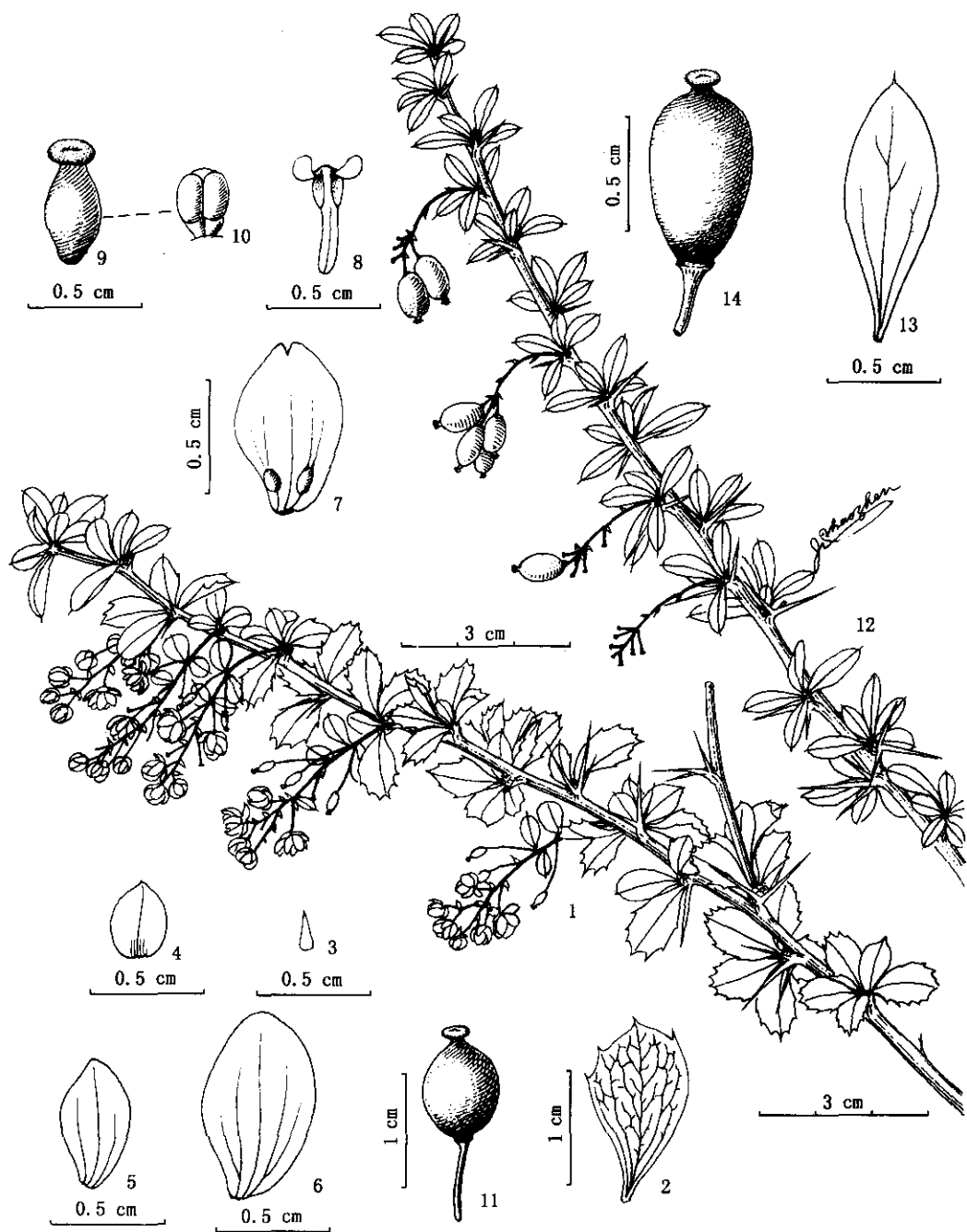


图 10 1~11. 四川小檗 1. 花枝; 2. 叶; 3. 小苞片; 4. 外萼片; 5. 中萼片; 6. 内萼片; 7. 花瓣; 8. 雄蕊; 9. 子房; 10. 胚珠; 11. 果。12~14. 得荣小檗 12. 果枝; 13. 叶; 14. 果。(冀朝桢 绘)

Fig. 10 1~11. *B. sichuanica* Ying 1. Flowering branch; 2. Leaf; 3. Bracteole; 4. Outer sepal; 5. Median sepal; 6. Inner sepal; 7. Petal; 8. Stamen; 9. Ovary; 10. Ovules; 11. Fruit. 12~14. *B. derongensis* Ying 12. Fruiting branch; 13. Leaf; 14. Fruit.

separatis praedita; stamina circiter 3 mm longa, connectivis apice obtusis; ovula 3~4, sessilia. Baccae subglobosae, 8~10 mm longae, 6~8 mm diam., maturae nigrae, apice stylis persistentibus circiter 0.5 mm instructae, albo-pruinosa. Fl. Jun. - Jul. Fr. Aug. - Sept..

Sichuan(四川): Batang(巴塘), on dry slope, alt. 2600 m, 1972-07-01, 236 Coll. Team(236 任务组)0028(holotype, PE); Batang, on slope, alt. 3000 m, 1972-07-02, 236 Coll. Team 0052(PE). **Yunnan**(云南): Degen(德钦), Baimashan(白马山), in open scrub and among rocks, alt. 3700 m, 1914-08, G. Forrest 13208(PE); on the Mekong-Yangtze divide, alt. 3600~3700 m, 1914-07, G. Forrest 12887(PE).

常绿灌木, 高 1~1.5 m。老枝紫红色或灰色, 具条棱, 幼枝淡黄色, 无毛, 无疣点; 茎刺单生或三分叉, 淡黄色, 长 1~1.5 cm。叶薄革质, 倒卵形或倒卵状椭圆形, 长 0.8~2 cm, 宽 0.5~1.1 cm, 先端圆钝, 基部渐狭, 上面亮绿色, 中脉和侧脉微隆起, 背面灰白色, 中脉和侧脉明显隆起, 两面网脉显著, 叶缘平展, 全缘或具 1~5 刺齿; 近无柄。伞形状总状花序由 6~15 朵花组成, 长 3~4.5 cm, 包括总梗长 4~12 mm, 有时基部具数花簇生; 花梗长 4~12 mm, 无毛; 苞片叶状, 倒卵形, 先端刺尖; 花黄色; 萼片 3 轮, 外萼片卵状披针形, 长 1.6~2 mm, 宽约 1 mm, 中萼片倒卵状椭圆形, 长 2.8~3.1 mm, 宽 1.5~1.7 mm, 内萼片椭圆形, 长 4~5 mm, 宽 3~3.2 mm; 花瓣倒卵状椭圆形, 长 4~4.1 mm, 宽 2.1~2.2 mm, 先端全缘, 圆钝, 基部缢缩呈爪, 具 2 枚分离腺体; 雄蕊长约 3 mm, 药隔先端圆钝; 胚珠 3~4 枚, 近无柄。浆果近圆球形, 长 8~10 mm, 直径 6~8 mm, 熟时黑色, 顶端具宿存花柱, 长约 0.5 mm, 被白粉。花期 6~7 月, 果期 8~9 月。

本种近似湄公小檗 *B. mekongensis* W. W. Smith, 但本种花序具叶状苞片, 果圆球形, 具宿存花柱, 被白粉而易于区别。

20 假美丽小檗 新种 图 11:10~18

Berberis pseudoamoena Ying, sp. nov., Fig. 11:10~18

Haec species affinis *B. amoenae* Dunn, sed foliis supra non albo-pruinosis, petalis apice integris, sepalis 3-seriatis, stylis nullis differt.

Frutex 0.4~2 m altus. Ramuli angulato-sulcati, fusci vel atro-purpurei, nigro-verrucosi. Spinae trifidae, flavo-brunnei, 5~10 mm longae. Folia decidua, chartacea, oblanceolata vel anguste elliptica, 1~2 cm longa, 3~4 mm lata, apice acuta vel acuminata raro obtusa, basi cuneata, supra viridia, costis et nervis lateralibus leviter elevatis, subtus cinerascens, costis conspicue elevatis, nervis lateralibus conspicuis, albo-pruinosa, venis reticulatis utrinque conspicuis, margine paullo incrassata integra vel spinuloso-serrulata, spinulis utrinque 1~5; petioli subnulli. Inflorescentiae umbellato-racemosae, 3~6-florae, cum pedunculis 1.5~3 cm longis 2.5~5 cm longae; bracteae foliaceae, 13 mm longae; pedicelli 4~8 mm longi, glabri. Flores flavi; bracteolae lanceolatae, circiter 3 mm longae; sepala 3-seriata, exteriora lanceolata, 3~3.1 mm longa, 1~1.2 mm lata, mediana obovata, 4.5~4.9 mm longa, 3.1~3.5 mm lata, interiora elliptica, 5~5.5 mm longa, 3.2~4 mm lata;

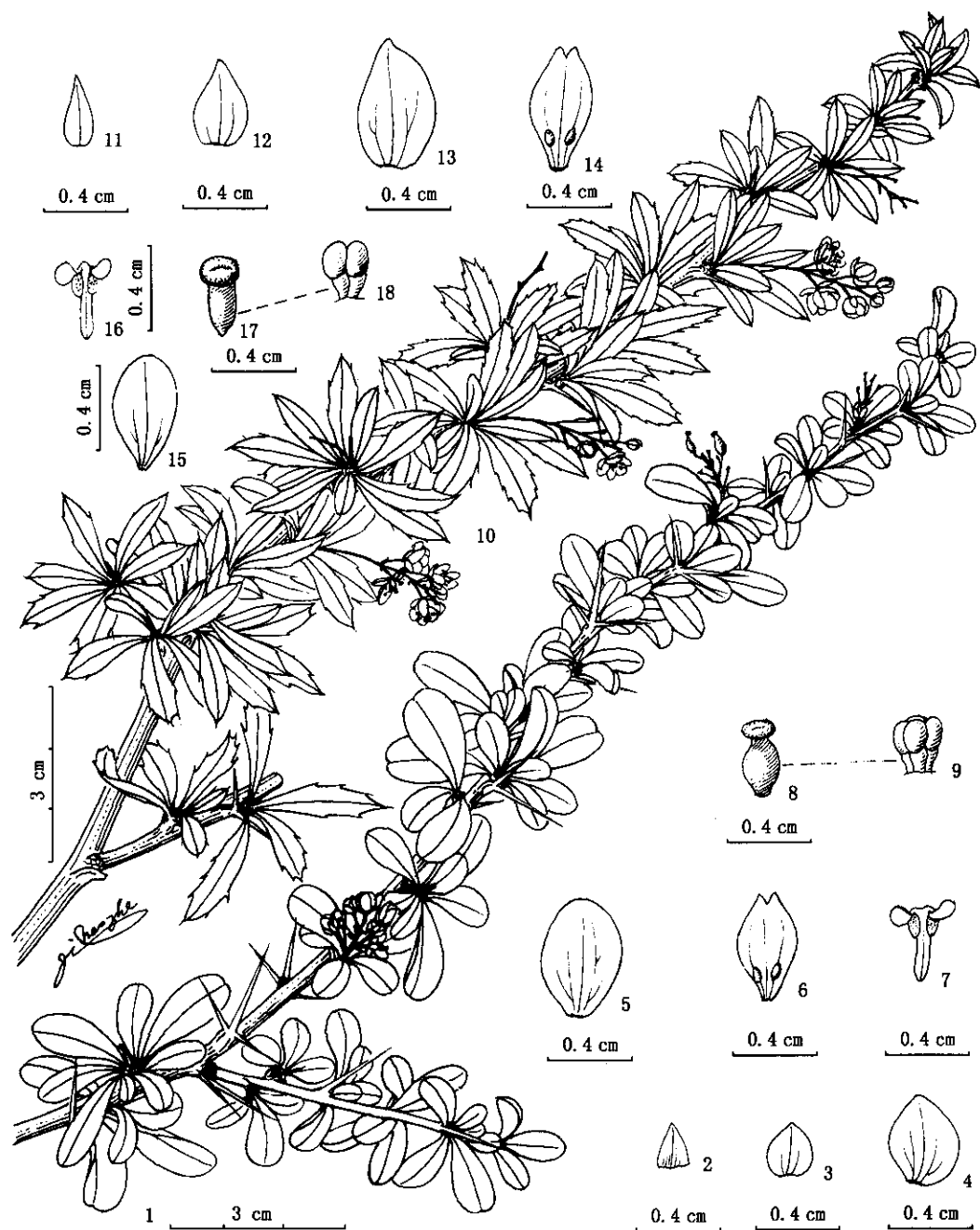


图 11 1~9. 巴塘小檗 1. 花枝; 2. 小苞片; 3. 外萼片; 4. 中萼片; 5. 内萼片; 6. 花瓣; 7. 雄蕊; 8. 子房; 9. 胚珠。

10~18. 假美丽小檗 10. 花枝; 11. 外萼片; 12. 中萼片; 13. 内萼片; 14. 花瓣;

15. 花瓣; 16. 雄蕊; 17. 子房; 18. 胚珠。(冀朝祺 绘)

Fig. 11 1~9. *B. batangensis* Ying 1. Flowering branch; 2. Bractee; 3. Outer sepal; 4. Median sepal; 5. Inner sepal;

6. Petal; 7. Stamen; 8. Ovary; 9. Ovules. 10~18. *B. pseudoamoena* Ying 10. Flowering branch; 11. Outer sepal;

12. Median sepal; 13. Inner sepal; 14. Petal; 15. Petal; 16. Stamen; 17. Ovary; 18. Ovules.

petala obovata, 4~4.2 mm longa, 3~3.2 mm lata, apice integra, obtusa, basi sensim angustata non unguiculata, glandulis 2 separatis praedita; stamina circiter 2 mm longa, connectivis apice acutis (floribus non plane apertis); ovula 1~3. Baccae infra medium contractae, oblongae, 10~12 mm longae, 3~5 mm diam., apice stylis nullis, haud albo-pruinosa; stipites fructuum usque ad 1.2 cm longi; semina 2~3. Fl. Jun. - Jul. Fr. Aug. - Sept..

Sichuan(四川): Leibo(雷波), Huangmaogeng(黄毛埂), in sunny weedy places, alt. 3500 m, 1959-06-23, Liangshan division, Sichuan Economic Plant Exped. (四川经济植物调查队凉山分队)0970(PE).

落叶灌木, 高 0.4~2 m。枝具棱槽, 暗灰色或暗紫红色, 具黑色疣点; 茎刺三分叉, 黄褐色, 长 5~10 mm。叶纸质, 倒披针形或狭椭圆形, 长 1~2 cm, 宽 3~4 mm, 先端急尖或渐尖, 偶圆钝, 基部楔形, 上面绿色, 中脉和侧脉微隆起, 背面淡灰色, 中脉明显隆起, 侧脉显著, 不被白粉, 两面网脉显著, 叶缘稍加厚, 全缘或每边具 1~5 刺齿; 近无柄。伞形状总状花序由 3~6 朵花组成, 长 2.5~5 cm, 包括总梗长 1.5~3 cm; 苞片叶状, 长 13 mm; 花梗长 4~8 mm, 无毛; 花黄色; 小苞片披针形, 长约 3 mm; 萼片 3 轮, 外萼片披针形, 长 3~3.1 mm, 宽 1~1.2 mm, 中萼片倒卵形, 长 4.5~4.9 mm, 宽 3.1~3.5 mm, 内萼片椭圆形, 长 5~5.5 mm, 宽 3.2~4 mm; 花瓣倒卵形, 长 4~4.2 mm, 宽 3~3.2 mm, 先端全缘, 圆钝, 基部渐狭, 不呈爪, 具 2 枚分离腺体; 雄蕊长约 2 mm, 药隔先端突尖, (未完全开放花); 胚珠 1~3 枚。果梗长达 1.2 cm; 浆果长圆形, 中下部缢缩, 长 10~12 mm, 直径 3~5 mm, 顶端无宿存花柱, 不被白粉; 含种子 2 或 3 枚。花期 6~7 月, 果期 8~9 月。

本种近似美丽小檗 *B. amoena* Dunn, 但本种叶背面不被白粉; 花瓣先端全缘, 萼片 3 轮; 浆果顶端无宿存花柱而相互区别。

21 得荣小檗 新种 图 10:12~14

Berberis derongensis Ying, sp. nov., Fig. 10:12~14

Haec species affinis *B. leboensi* Ying, a qua foliis ellipticis vel subobovatis margine integris, nervis lateralibus et venis reticulatis utrinque obscuris, inflorescentiis brevioribus, baccis obovato-oblongis apice stylis conspicue persistentibus praeditis facile distinguenda; a *B. amoena* Dunn recedit foliis supra haud albo-pruinosis, baccis obovato-oblongis.

Frutex sempervirens, 1~1.5 m altus. Ramuli vetustiores fusci, nigro-verrucosi, striato-angulati, juveniles atro-purpurei striato-angulati, non verrucosi; internodia 6~12 mm longa. Spinae trifidae, raro 5-fidae, 6~12 mm longae, flavescentes. Folia coriacea, elliptica vel fere obovata, 5~15 mm longa, 3~5 mm lata, apice acuta vel obtusa, basi sensim angustata, supra atro-viridia, costis compressis, subtus pallide viridia non albo-pruinosa, costis conspicue elevatis, nervis lateralibus et venis reticulatis utrinque obscuris, margine plano-patentia integra; petioli subnulli. Flores nondum vidi. Infructescentiae umbellato-racemosae, baccis 4~7, cum pedunculis 0.8~1.5 cm longis 1.5~3 cm longae; bractae lanceolatae, circiter 3 mm longae; stipites fructuum 2~4 mm longi, glabri; baccae obovato-oblongae, virides, demum nigrescentes, 7~8 mm longae, 3~4 mm diam, apice stylis persistentibus 1~2 mm longis praeditae, paullo albo-pruinosa; semina 2. Fr. Aug..

Sichuan(四川): Derong(得荣), in thickets, alt. 3200 m, 1981-08-05, Qinghai-Xizang Exped. (青藏科考队)003305(holotype, PE).

常绿灌木, 高 1~1.5 m。老枝暗灰色, 具黑色斑点, 具条棱, 幼枝暗紫红色, 具条棱, 无疣点; 节间长 6~12 mm; 茎刺三分叉, 偶有五分叉, 长 6~12 mm, 淡黄色。叶革质, 椭圆形或近倒卵形, 长 5~15 mm, 宽 3~5 mm, 先端急尖或钝, 基部渐狭, 上面深绿色, 中脉扁平, 背面淡绿色, 不被白粉, 中脉明显隆起, 两面侧脉和网脉不显, 叶缘平展, 全缘; 近无柄。花未见。果序为伞形状总状花序, 具 4~7 枚果实, 长 1.5~3 cm, 包括总梗长 0.8~1.5 cm; 苞片披针形, 长约 3 mm; 果柄长 2~4 mm, 无毛; 浆果倒卵状长圆形, 绿色, 后变黑色, 长 7~8 mm, 直径 3~4 mm, 顶端具宿存花柱, 长 1~2 mm, 微被白粉; 含种子 2 枚。果期 8 月。

本种近似雷波小檗 *B. leboensis* Ying。但本种叶椭圆形或近倒卵形, 全缘, 两面侧脉和网脉不显; 花序较短; 果倒卵状长圆形, 具明显宿存花柱, 易区别。本种与美丽小檗 *B. amoena* Dann 的主要不同在于叶背面不被白粉; 浆果倒卵状长圆形。

22 甘南小檗 新种 图 12:1~9

Berberis integripetala Ying, sp. nov., Fig. 12:1~9

Haec species affinis *B. daochengensis* Ying, a qua foliis, pedicellis, pedunculis et rhachibus inflorescentiarum omnibus glabris, inflorescentiis umbellato-racemosis facile distinguenda; a *B. virescente* Hook. f. et Thoms. differt foliis apice obtusis, petalis ellipticis basi non contractis.

Frutex circiter 1.5 m altus. Ramuli teretes purpureo-nigri, glabri, sparse nigro-verrucosi. Spinae simplices, 1~2 cm longae, cum ramulis concolorae, subtus sulcatae. Folia decidua, chartacea, elliptica vel obovato-elliptica, 8~20 mm longa, 4~10 mm lata, apice obtusa, basi cuneata, supra viridia, costis et nervis lateralibus paullo elevatis, nervis reticulatis obscuris, subtus pallide viridia, glabra, non albo-pruinosa, costis et nervis lateralibus conspicue elevatis, venis reticulatis paullo conspicuis, margine plano-patentia integra; petioli subnulli. Inflorescentiae umbellato-racemosae, 3~7-florae, cum pedunculis 1~1.6 cm longis 3~4 cm longae, glabrae. Flores flavi; pedicelli circiter 1 cm longi, glabri; sepala bis-erata, exteriora elliptica, 3.8~4 mm longa, 2~2.1 mm lata, interiora late elliptica, 4~4.2 mm longa, 3~3.2 mm lata; petala elliptica, 5~5.5 mm longa, 3~3.4 mm lata, apice integra, basi cuneata, glandulis 2 separatis ellipticis praedita; stamina circiter 3 mm longa, connectivis non productis, apice subtruncatis; ovula 3, breve stipitata. Fructus ignoti. Fl. Mai. .

Gansu(甘肃): Chengxian(成县), Zhaoba Forest Station(赵坝林场), in forests on shady slope, alt. 1800 m, 1984-05-09, Q. R. Wang(王庆瑞)11510(holotype, PE).

落叶灌木, 高约 1.5 m。枝圆柱形, 紫黑色, 无毛, 散生黑色斑点; 茎刺单一, 长 1~2 cm, 与枝同色, 腹面具槽。叶纸质, 椭圆形或倒卵状椭圆形, 长 8~20 mm, 宽 4~10 mm, 先端圆钝, 基部楔形, 上面绿色, 中脉和侧脉微隆起, 网脉不显, 背面淡绿色, 无毛, 不被白粉, 中脉和侧脉明显隆起, 网脉微显, 叶缘平展, 全缘; 近无柄。伞形状总状花序具 3~7 朵

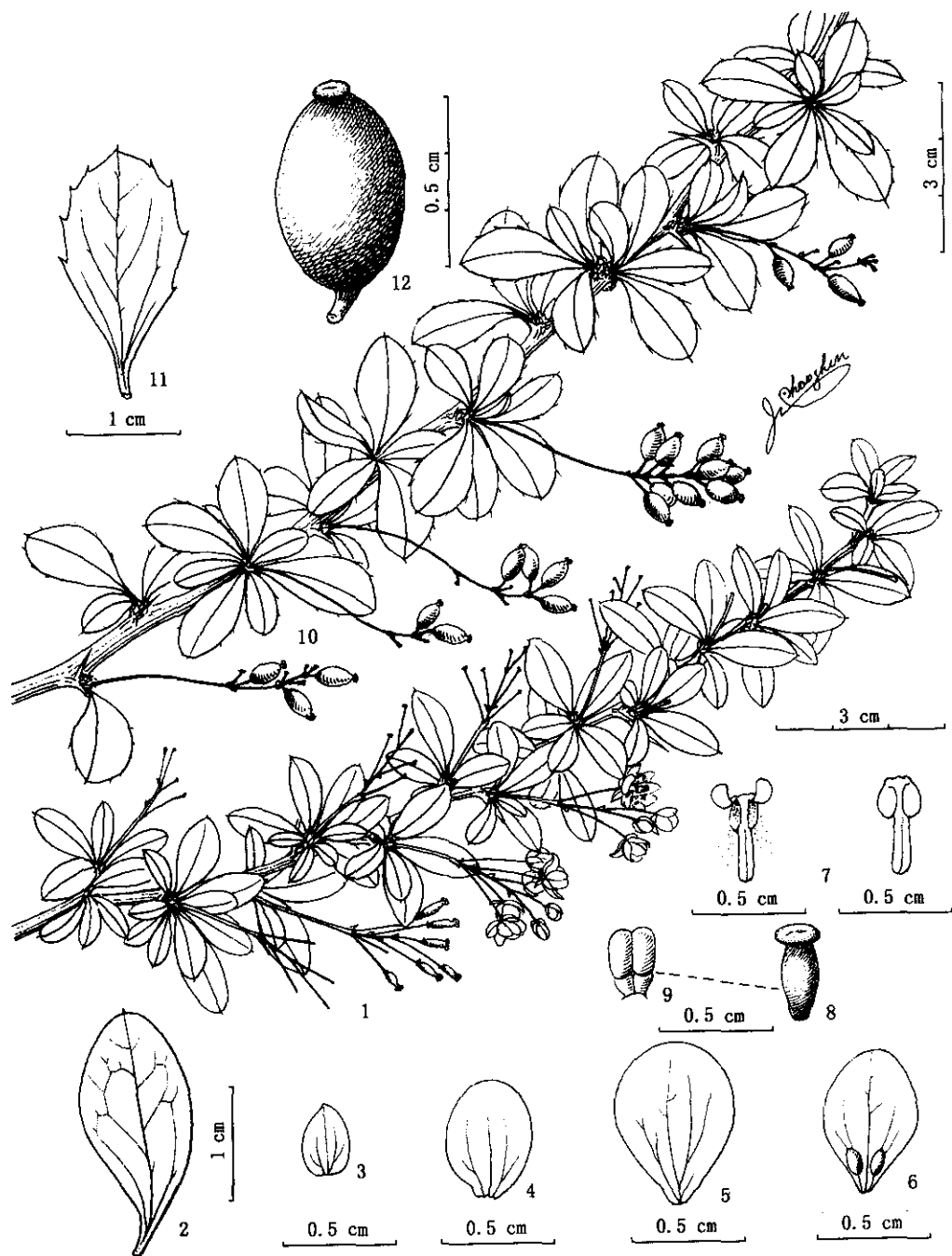


图 12 1~9. 甘南小檗 1. 花枝; 2. 叶; 3. 小苞片; 4. 外萼片; 5. 内萼片; 6. 花瓣; 7. 雄蕊; 8. 子房; 9. 胚珠。
10~12. 那觉小檗 10. 果枝; 11. 叶; 12. 果。(冀朝楨 绘)

Fig. 12 1~9. *B. integripetala* Ying 1. Flowering branch; 2. Leaf; 3. Bracteole; 4. Outer sepal; 5. Inner sepal; 6. Petal; 7. Stamen; 8. Ovary; 9. Ovules. 10~12. *B. atroviridiana* Ying 10. Fruiting branch; 11. Leaf; 12. Fruit.

花, 长 3~4 cm, 包括总梗长 1~1.6 cm, 无毛; 花梗长约 1 cm, 无毛; 花黄色; 萼片 2 轮, 外萼片椭圆形, 长 3.8~4 mm, 宽 2~2.1 mm, 内萼片阔椭圆形, 长 4~4.2 mm, 宽 3~3.2

mm;花瓣椭圆形,长5~5.5 mm,宽3~3.4 mm,先端全缘,基部楔形,具2枚分离椭圆状腺体;雄蕊长约3 mm,药隔不延伸,先端近截形;胚珠3枚,具短柄。果未见。花期5月。

本种近似稻城小檗 *B. daochengensis* Ying, 但本种叶、花梗、总梗、花序轴不被毛;花序为伞形状总状花序,易区别。本种与变绿小檗 *B. virescens* Hook. f. et Thoms. 的区别在于叶先端圆钝;花瓣椭圆形,基部不缢缩呈爪;胚珠3枚。

23 那觉小檗 新种 图 12:10~12

Berberis atroviridiana Ying, sp. nov., Fig. 12:10~12

Haec species foliis supra brunnvenis, pedunculis usque ad 3~5 cm longis insignis.

Frutex circiter 1 m altus. Ramuli teretes, purpurei, nigro-verrucosi. Spinae debiles, trifidae, 5~10 mm longae, pallide brunneae. Folia decidua, chartacea, obovata, 1~2.3 cm longa, 6~11 mm lata, apice obtusa, basi cuneata, supra atro-viridia, costis paullo elevatis, nervis lateralibus 3~4-jugis, venis reticulatis obscuris, subtus brunnea non albo-pruinosa, costis conspicue elevatis, nervis lateralibus et venis reticulatis conspicuis, margine paullo revoluta integra vel spinuloso-serrulata, spinulis utrinque 1~5; petioli 1~2 cm longi. Inflorescentiae umbellato-racemosae, 4~10-florae, cum pedunculis 1.7~3 cm longis 3~5 cm longae, glabrae; bractae ovatae, apice acuminatae. Flores ignoti. Stipites fructuum 2~3 mm longi, validi, glabri. Baccae oblongo-ellipsoideae, 7~8 mm longae, 3~4 mm diam., apice stylis nullis, haud albo-pruinosa; semina 2. Fr. Sept. .

Xizang(西藏): Zayü(察隅), Najue(那觉), in oak woods, alt. 3200 m, 1935-09, C. W. Wang(王启无)66536(holotype, PE). .

落叶灌木,高约1 m。枝圆柱形、紫红色,具黑色疣点;茎刺细弱,三分叉,长5~10 mm,淡棕褐色。叶纸质,倒卵形,长1~2.3 cm,宽6~11 mm,先端圆钝,基部楔形,上面深绿色,中脉微隆起,侧脉3~4对,网脉不明显,背面褐色,不被白粉,中脉明显隆起,侧脉和网脉显著,叶缘微向背面反卷,全缘或每边具1~5细小刺齿;叶柄长1~2 cm。伞形状总状花序由4~10朵花组成,长3~5 cm,包括总梗长1.7~3 cm,无毛;苞片卵形,先端渐尖;花未见。果柄长2~3 mm,粗壮,无毛;浆果长圆状椭圆形,长7~8 mm,直径3~4 mm,顶端无宿存花柱,不被白粉;含种子2枚。果期9月。

本种叶背面褐色;花序总梗长达3 cm,不同于中国该属其它任何种。

24 稻城小檗 新种 图 13:1~6

Berberis daochengensis Ying, sp. nov., Fig. 13:1~6

Haec species affinis *B. pubescenti* Pamp., sed rhachibus inflorescentiarum et pedunculis pedicellisque omnino puberulis differt.

Frutex circiter 1.5 m altus. Ramuli teretes, fusci, striato-angulati, nigro-verrucosi. Spinae absentes. Folia decidua, chartacea, obovata vel anguste obovata, 1.5~3 cm longa, 6~12 mm lata, apice rotunda, basi cuneata, supra viridia, costis et nervis lateralibus paullo elevatis, subtus pallide viridia, costis et nervis lateralibus conspicue elevatis, utrinque praesertim ad costas et nervos laterales densius puberula, venis reticulatis conspicue elevatis, margine plano-patentia integra vel spinuloso-serrulata, spinulis utrinque 1~2; petioli 3~4

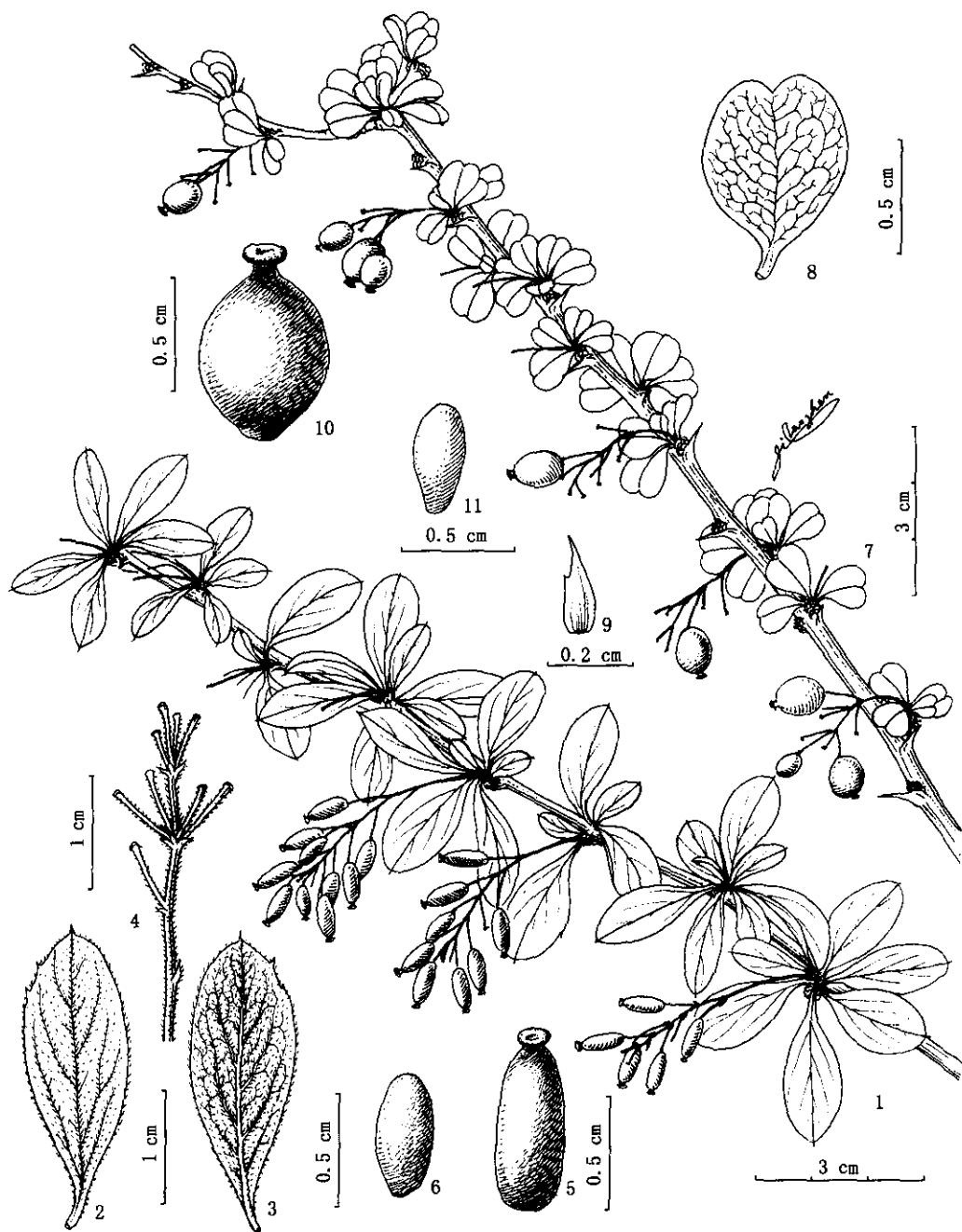


图 13 1~6. 稻城小檗 1. 果枝; 2. 叶上面; 3. 叶背面; 4. 果序去掉果实; 5. 果; 6. 种子。7~11. 心叶小檗 7. 果枝; 8. 叶; 9. 苞片; 10. 果; 11. 种子。(冀朝桢 绘)

Fig. 13 1~6. *B. daochengensis* Ying 1. Fruiting branch; 2. Upper surface of leaf; 3. Under surface of leaf; 4. Inflorescence without fruits; 5. Fruit; 6. Seed. 7~11. *B. retusa* Ying 7. Fruiting branch; 8. Leaf; 9. Bract; 10. Fruit; 11. Seed.

mm longi. Inflorescentiae racemosae, 7~12-florae, cum pedunculis 1~1.5 cm longis 2.5~4.5 cm longae, rhachibus inflorescentiarum et pedunculis puberulis; bractae ovatae, apice acuminatae, 1~1.5 mm longae, purpureae. Flores ignoti. Stipites fructuum 4~5 mm longi, puberuli. Baccae oblongae, 8~9 mm longae, 3~4 mm diam., juveniles pallide virides, apice stylis nullis, haud albo-pruinosa; semen unicum. Fr. Jul. - Sept. .

Sichuan(四川): Daocheng(稻城), Gonglingqu, Lamoge(贡岭区, 拉木格), roadside, by field side, alt. 3380 m, 1973-07-31, Sichuan Veget. Exped. (四川植被调查队) 2426 (holotype, PE).

落叶灌木, 高约 1.5 m。枝圆柱形, 暗灰色, 具条棱和黑色疣点; 无刺。叶纸质, 倒卵形或狭倒卵形, 长 1.5~3 cm, 宽 6~12 mm, 先端圆形, 基部楔形, 上面绿色, 中脉和侧脉微隆起, 背面淡绿色, 中脉和侧脉明显隆起, 两面被微柔毛, 中脉和侧脉尤甚, 两面网脉明显隆起, 叶缘平展, 全缘或每边偶有 1~2 细小刺齿; 叶柄长 3~4 mm。总状花序具 7~12 朵花, 长 2.5~4.5 cm, 包括总梗长 1~1.5 cm, 花序轴和总梗被微柔毛; 苞片卵形, 先端渐尖, 长 1~1.5 mm, 紫红色; 花未见。果柄长 4~5 mm, 被微柔毛; 浆果长圆形, 长 8~9 mm, 直径 3~4 mm, 幼果淡绿色, 顶端无宿存花柱, 不被白粉; 含种子 1 枚。果期 7~9 月。

本种近似柔毛小檗 *B. pubescens* Pamp., 但本种花序轴、总梗、花梗被微柔毛, 易于区别。本种也近似甘南小檗 *B. intergripetala* Ying, 但后者花序轴、总梗、花梗、叶背面均无毛, 易于区别。

25 心叶小檗 新种 图 13:7~11

***Berberis retusa* Ying, sp. nov., Fig. 13:7~11**

Haec species affinis *B. agricola* Ahrendt, sed foliis obcordatis vel cuneatis margine integris, berve petiolatis, spinis simplicibus vel absentibus differt.

Frutex 2~3 m altus. Ramuli vetustiores fusci, juveniles brunnei, parce nigro-verrucosi, glabri, striato-angulati. Spinae simplices vel absentes, circiter 1 cm longae, atrocinereae. Folia decidua, chartacea, obcordata vel subcuneata, 8~14 mm longa, 6~9 mm lata, apice emarginata vel truncata, basi cuneata, supra viridia, costis et nervis lateralibus paullo elevatis, subtus pallide viridia, costis conspicue elevatis, nervis lateralibus paullo elevatis, venis reticulatis utrinque elevatis, glabra, margine plano-patentia integra; petioli 1~2 mm longi. Inflorescentiae racemosae, 6~12-florae, interdum floribus ad rhaches inflorescentiarum subverticillatis, 1.6~2.2 cm longae, pedunculis 5~10 mm longis glabris; bractae circiter 1.5 mm longae, lanceolatae. Flores ignoti. Stipites fructuum circiter 6 mm longi, glabri. Baccae ellipsoideae, 8~9 mm longae, 5~6 mm diam., apice stylis conspicue persistentibus praeditae, albo-pruinosa; semina 2. Fr. Aug. .

Sichuan(四川): Daocheng(稻城), Mengzixiang, Eshashe(蒙自乡, 额沙社), sunny dry valley, alt. 3000 m, 1973-08-20, Sichuan Veget. Exped. (四川植被调查队) 2596 (holotype, PE).

落叶灌木, 高 2~3 m。老枝黑灰色, 幼枝棕褐色, 具稀疏黑色疣点, 无毛, 具条棱; 茎刺单生或缺如, 长约 1 cm, 暗灰色。叶纸质, 倒心形或近楔形, 长 8~14 mm, 宽 6~9 mm,

先端微凹或平截, 基部楔形, 上面绿色, 中脉和侧脉微隆起, 背面浅绿色, 中脉明显隆起, 侧脉微隆起, 两面网脉隆起, 无毛, 叶缘平展, 全缘; 叶柄长 1~2 mm。总状花序具 6~12 朵花, 有时花在花序轴上部近轮列, 长 1.6~2.2 cm, 总梗长 5~10 mm, 无毛; 苞片长约 1.5 mm, 披针形; 花未见。果梗长约 6 mm, 无毛; 浆果椭圆形, 长 8~9 mm, 直径 5~6 mm, 顶端具明显宿存花柱, 被白粉; 含种子 2 枚。果期 8 月。

本种近似暗红小檗 *B. agricola* Ahrendt, 但本种叶倒心形或楔形, 全缘, 具短柄; 茎刺单一或缺如, 易于区别。

26 洮河小檗 新种 图 14:11~13

Berberis haoi Ying, sp. nov., Fig. 14:11~13

Haec species affinis *B. feddeanae* Schneid., sed foliis anguste ovato-lanceolatis, margine paullo incrassatis, inflorescentiis 2.5~3.5 cm longis, baccis paullo albo-pruinosis differt.

Frutex circiter 1 m altus. Ramuli angulato-sulcati, purpureo-brunnei, glabri, parce nigro-verrucosi. Spinae simplices vel trifidae, 1~1.5 mm longae, flavescentes. Folia decidua, chartacea, anguste obovato-lanceolata vel anguste elliptica, 1~2.2 cm longa, 3~6 mm lata, apice acuta, 1-mucronulata, basi cuneata, supra viridia, costis compressis, venis reticulatis obscuris, subtus pallide viridia, non albo-pruinosa, glabra, costis conspicue elevatis, nervis lateralibus 2~3-jugis elevatis, venis reticulatis conspicuis, margine paullo incrassata integra; petioli subnulli. Inflorescentiae racemosae, 6~10-florae, 2.5~3.5 cm longae, raro basi floribus 1~2 fasciculatis praeditae; pedunculi 7~12 mm longi, glabri. Flores ignoti. Stipites fructuum 4~5 mm longi; bractae ovatae, circiter 1 mm longae, apice acutae. Baccae longe ellipsoideae, 5~6 mm longae, 2~2.5 mm diam., apice stylis nullis, paullo albo-pruinosa; semina 2. Fr. Jun. . .

Gansu(甘肃): Minxian(岷县), along the bank, alt. 1800 m, 1930-06-26, K. S. Hao (郝景盛)533(holotype, PE).

落叶灌木, 高约 1 m, 枝具棱槽, 紫褐色, 无毛, 具稀疏黑色疣点; 茎刺单一或三分叉, 长 1~1.5 cm, 淡黄色。叶纸质, 狭倒卵状披针形或狭椭圆形, 长 1~2.2 cm, 宽 3~6 mm, 先端急尖, 具 1 刺尖头, 基部楔形, 上面绿色, 中脉扁平, 网脉不显, 背面淡绿色, 不被白粉, 无毛, 中脉明显隆起, 侧脉 2~3 对, 隆起, 网脉显著, 叶缘略增厚, 全缘; 近无柄。总状花序具 6~10 朵花, 长 2.5~3.5 cm, 基部偶有 1~2 朵花簇生; 总梗长 7~12 mm, 无毛; 花未见。果梗长 4~5 mm, 苞片卵形, 长约 1 mm, 先端锐尖; 浆果长椭圆形, 长 5~6 mm, 直径 2~2.5 mm, 顶端无宿存花柱, 微被白粉; 含种子 2 枚。果期 6 月。

本种近似异长穗小檗 *B. feddeana* Schneid., 但本种叶小, 狭倒卵状披针形, 叶缘略增厚; 花序长 2.5~3.5 cm; 果微被白粉而易区别。

27 平武小檗 新种 图 14:1~10

Berberis pingwuensis Ying, sp. nov., Fig. 14:1~10

Haec species sepalis 4-seriatis, foliis crasse chartaceis in sicco supra brunneis insignis.

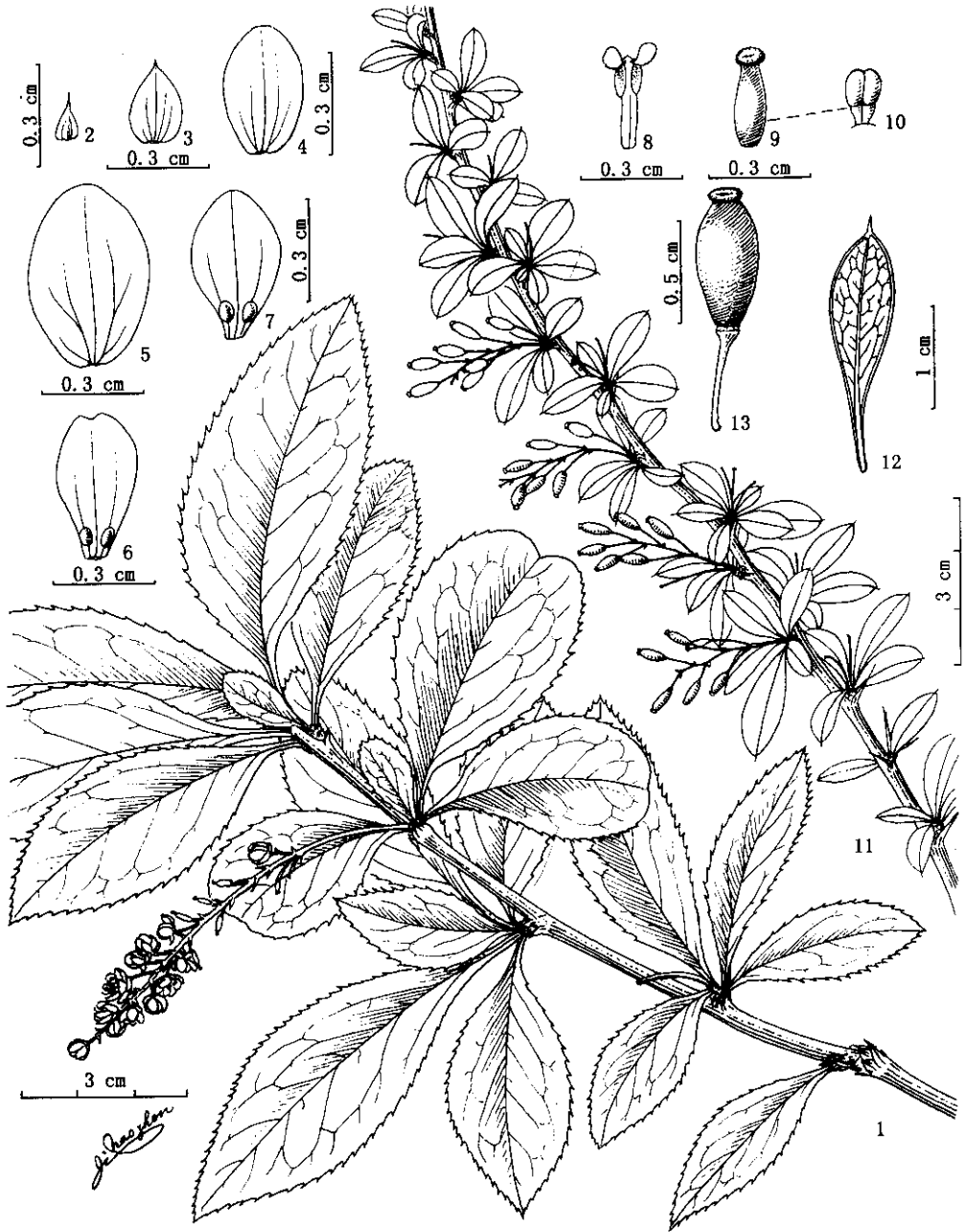


图 14 1~10. 平武小檗 1. 花枝; 2. 外萼片; 3, 4. 中萼片; 5. 内萼片; 6. 外花瓣; 7. 内花瓣; 8. 雄蕊; 9. 子房; 10. 胚珠. 11~13. 洮河小檗 11. 果枝; 12. 叶背面; 13. 果. (冀朝桢 绘)

Fig. 14 1~10. *B. pingwuensis* Ying 1. Flowering branch; 2. Outer sepal; 3, 4. Median sepal; 5. Inner sepal; 6. Outer petal; 7. Inner petal; 8. Stamen; 9. Ovary; 10. Ovules. 11~13. *B. haoi* Ying 11. Fruiting branch; 12. Under surface of leaf; 13. Fruit.

Frutex 2~2.5 m altus. Ramuli vetustiores teretes, fusci, nigro-verrucosi, juveniles atro-purpurei. Spinae absentes vel presentes, simplices, interdum trifidae, 0.6~2 cm longae. Folia decidua, crasse chartacea, late elliptica vel oblongo-elliptica, 4~9 cm longa, 1.5

~3.5 cm lata, raro minora 1.5~2 cm longa, 6~8 mm lata, apice acuta vel obtusa, basi cuneata; supra atro-viridia, costis paullo impressis, nervis lateralibus et venis reticulatis conspicuis, subtus pallide viridia, in sicco brunnea, nitida, glabra, haud albo-pruinosa, nervis lateralibus et venis reticulatis conspicue elevatis, margine plano-patentia spinuloso-serrulata, spinulis utrinque 20~35; petioli circiter 1 cm longi. Inflorescentiae racemosae, 20~35-flo-
rae, cum pedunculis 1~2 cm longis 5~14 cm longae, glabrae; pedicelli 2~3 mm longi. Flores flavi; bracteolae ovato-lanceolatae, 2~3 mm longae; sepala 4-seriata, extrema ovata, 1.1 mm longa, 0.7 mm lata, apice acuminata, exteriora late lanceolata, circiter 2 mm longa, circiter 1 mm lata, interiora ovato-elliptica, circiter 3 mm longa, circiter 2 mm lata, intrema elliptica, circiter 5 mm longa, circiter 3.2 mm lata; petala 6, biseriata, exteriora obovato-oblonga, circiter 4 mm longa, circiter 2 mm lata, apice emarginata, interiora elliptica, circiter 4.2 mm longa, circiter 2.2 mm lata, apice integra, basi glandulis 2 separatis praedita; stamina circiter 3 mm longa, connectivis non productis, truncatis; ovula 2, breve stipitata. Baccae obovato-ellipsoideae, rubrae, 10~12 mm longae, 5~7 mm diam., apice stylis nullis, haud albo-pruinosa. Fl. Mai. - Jun.. Fr. Jul. - Sept..

Sichuan(四川): Pingwu(平武), Zhenliugongshe, Moyugou(枕流公社, 没鱼沟), in forests, alt. 1800 m, 1972-09-10, 236 Coll. Team(236 任务组)0882(holotype, PE); Pingwu, 1958, H. L. Tsiang(蒋兴麟)10783(PE); Lijiaxiang(里家乡), by edge of woods, alt. 2050 m, 1958-05-15, coll. unknown 10241(PE); Wangba(王坝), in forests, alt. 2160 m, 1958-07-11, coll. unknown 10783(PE).

落叶灌木, 高 2~2.5 m。老枝圆柱形, 暗灰色, 具黑色疣点, 幼枝暗紫色; 茎刺缺如或单生, 有时三分叉, 长 0.6~2 cm。叶厚纸质, 阔椭圆形或长圆状椭圆形, 长 4~9 cm, 宽 1.5~3.5 cm, 少数叶较小, 长 1.5~2 cm, 宽 6~8 mm, 先端急尖或圆钝, 基部楔形, 上面深绿色, 中脉微凹陷, 侧脉和网脉显著, 背面淡绿色, 干后棕褐色, 有光泽, 无毛, 不被白粉, 侧脉和网脉明显隆起, 叶缘平展, 每边具 20~35 刺齿; 叶柄长约 1 cm。总状花序由 20~35 朵花组成, 长 5~14 cm, 包括总梗长 1~2 cm, 无毛; 花梗长 2~3 mm; 花黄色; 小苞片卵状披针形, 长 2~3 mm; 萼片 4 轮, 外萼片卵形, 长 1.1 mm, 宽 0.7 mm, 先端渐尖, 中外萼片宽披针形, 长约 2 mm, 宽约 1 mm, 中内萼片卵状椭圆形, 长约 3 mm, 宽约 2 mm, 内萼片椭圆形, 长约 5 mm, 宽约 3.2 mm; 花瓣 2 轮, 6 枚, 外花瓣倒卵状长圆形, 长约 4 mm, 宽约 2 mm, 先端微凹, 内花瓣椭圆形, 长 4.2 mm, 宽约 2.2 mm, 先端全缘, 基部均具 2 枚分离腺体; 雄蕊长约 3 mm, 药隔先端不延伸, 平截; 胚珠 2 枚, 具短柄。浆果倒卵状椭圆形, 红色, 长 10~12 mm, 直径 5~7 mm, 顶端无宿存花柱, 不被白粉。花期 5~6 月, 果期 7~9 月。

本种萼片 4 轮; 花瓣 2 轮; 叶厚纸质; 干后背面棕褐色, 不同于中国小檗属中任何种。

28 天水小檗 新种 图 15:1~8

Berberis tianshuiensis Ying, sp. nov., Fig. 15:1~8

Haec species affinis *B. henryanae* Schneid., sed foliis supra haud albo-pruinosis, sepalis suborbicularibus apice emarginatis differt.

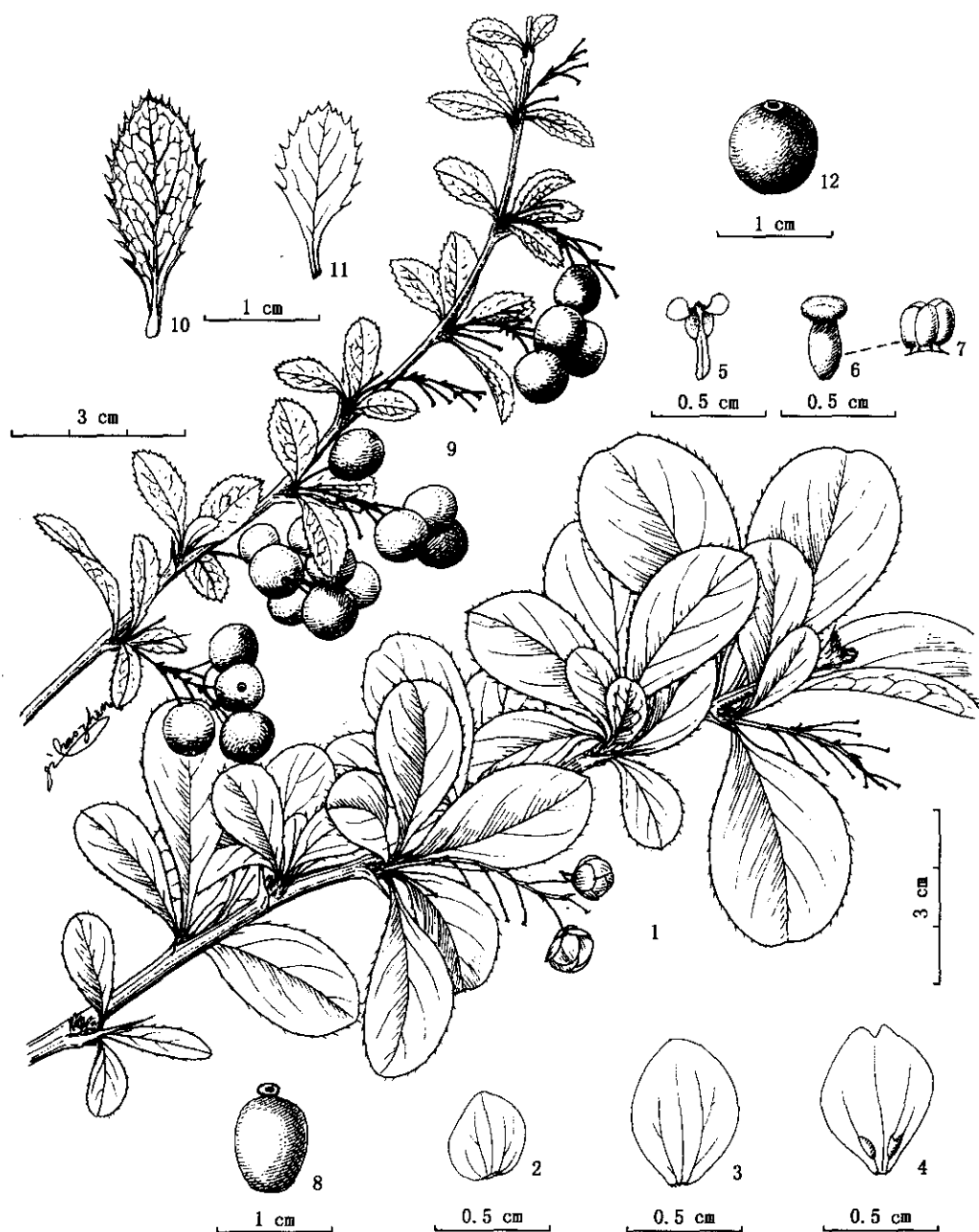


图 15 1~8. 天水小檗 1. 花枝; 2. 外萼片; 3. 内萼片; 4. 花瓣; 5. 雄蕊; 6. 子房; 7. 胚珠; 8. 果。9~12. 细梗小檗 9. 果枝; 10. 叶背面; 11. 叶上面; 12. 果。(冀朝祯 绘)

Fig. 15 1~8. *B. tianshuiensis* Ying 1. Flowering branch; 2. Outer sepal; 3. Inner sepal; 4. Petal; 5. Stamen; 6. Ovary; 7. Ovules; 8. Fruit. 9~12. *B. tenuipedicellata* Ying 9. Fruiting branch; 10. Under surface of leaf; 11. Upper surface of leaf; 12. Fruit.

Frutex circiter 2 m altus. Ramuli pallide brunnei vel fusci, striato-angulati, nigro-verrucosi, juveniles pallide flavo-brunnei, striato-angulati sed non verrucosi. Spinae simplices vel

trifidae, 1~3 cm longae, subtus sulcatae. Folia decidua, tenuiter chartacea, elliptica vel obovata, raro oblongo-elliptica, (0.7~)2~6 cm longa, (0.4~)1~2.7 cm lata, apice obtusa, basi in petiolum abrupte angustata, supra viridia, costis compressis vel paullo impressis, nervis lateralibus et venis reticulatis conspicuis, subtus pallide viridia vel cinerea, costis et nervis lateralibus reticulatisque conspicue elevatis, glabra, non albo-pruinosa, margine plano-patentia spinuloso-serrulata, spinulis utrinque 12~25 (sed folia ad ramulos juveniles margine plerumque integra); petioli 1.7 cm longi, interdum subnulli. Inflorescentiae racemosae, 5~8-florae, 3~4 cm longae, raro ad bases pedunculorum floribus 1~2 fasciculatis praeditae; bractae lanceolatae, circiter 1.5 mm longae; pedicelli circiter 1 cm longi, glabri. Flores flavi; sepala biseriata, exteriora suborbicularia vel ovato-orbicularia, circiter 3.5 mm longa, circiter 3.1 mm lata, interiora suborbicularia, circiter 4.8 mm longa, circiter 4.6 mm lata; petala elliptica, circiter 5 mm longa, circiter 3.5 mm lata, apice emarginata, lobis acutis, basi in unguem contracta, glandulis 2 separatis praedita; stamina circiter 2.5 mm longa, connectivis non productis, apice truncatis; ovula 3, sessilia. Baccae oblongae, 10~12 mm longae, 5~6 mm diam., rubrae, apice stylis persistentibus circiter 1 mm longis praeditae, non albo-pruinosa. Fl. Mai. . Fr. Jun. - Sept. .

Gansu (甘肃): Tianshui (天水), Mt. Maiji (麦积山), in forests, alt. 1800 m, 1984-05-05, Q. R. Wang (王庆瑞) 11375 (holotype, PE); same locality, in forests, 1950-09-11, C. L. Wu (吴中伦) 20188, 1950-09-12, 20231; same locality, by bank, alt. 1750 m, 1963-06-26, Q. X. Li (李全喜) 352; same locality, in thickets, alt. 1800 m, 1963-06-26, Q. X. Li 345; same locality, in forests, alt. 2050 m, 1963-06-25, Q. X. Li 277.

落叶灌木, 高约 2 m。枝淡棕褐色或暗灰色, 具条棱和黑色疣点, 幼枝淡黄棕色, 具条棱, 但无疣点; 茎刺单生或三分叉, 长 1~3 cm, 腹面具槽。叶薄纸质, 椭圆形或倒卵形, 偶长圆状椭圆形, 长 (0.7~)2~6 cm, 宽 (0.4~)1~2.7 cm, 先端圆钝, 基部骤窄成柄, 上面绿色, 中脉扁平或微凹陷, 侧脉和网脉显著, 背面淡绿色或灰色, 中脉、侧脉和网脉明显隆起, 无毛, 不被白粉, 叶缘平展, 每边具 12~25 刺齿, 但新枝上的叶常全缘; 叶柄长达 1.7 cm, 有时近无柄。总状花序具 5~8 朵花, 长 3~4 cm, 总梗基部偶有 1~2 花簇生; 苞片披针形, 长约 1.5 mm; 花梗长约 1 cm, 无毛; 花黄色; 萼片 2 轮, 外萼片近圆形或卵圆形, 长约 3.5 mm, 宽约 3.1 mm, 内萼片近圆形, 长约 4.8 mm, 宽约 4.6 mm; 花瓣椭圆形, 长约 5 mm, 宽约 3.5 mm, 先端断裂, 裂片急尖, 基部缢缩呈爪, 具 2 枚分离腺体; 雄蕊长约 2.5 mm, 药隔不延伸, 先端平截; 胚珠 3 枚, 无柄。浆果长圆形, 长 10~12 mm, 直径 5~6 mm, 红色, 顶端具宿存花柱, 长约 1 mm, 不被白粉。花期 5 月, 果期 6~9 月。

本种近似川鄂小檗 *B. henryana* Schneid., 但本种叶背面不被白粉; 萼片近圆形; 花瓣椭圆形, 先端断裂, 易于区别。

29 细梗小檗 新种 图 15:9~12

Berberis tenuipedicellata Ying, sp. nov., Fig. 15:9~12

Haec species affinis *B. dictyoneurae* Schneid., sed foliis sempervirentibus obovatis, baccis subglobosis apice foveatis differt.

Frutex sempervirens, 1~2 m altus. Ramuli vetustiores teretes, fusci vel atro-purpurei, sparse nigro-verrucosi, glabri, juveniles atro-purpurei striato-angulati. Spinae simplices vel trifidae, 0.6~1.5 cm longae. Folia tenuiter coriacea, obovata vel obovato-elliptica, 0.8~2 (~3.5) cm longa, 5~12 mm lata, apice obtusa vel acuta, basi sensim angustata, supra viridia, costis et nervis lateralibus paullo elevatis, subtus laete brunnea, non albo-pruinosa, costis et nervis lateralibus conspicue elevatis, venis reticulatis utrinque elevatis, margine plano-patentia spinuloso-serrulata, spinulis utrinque 10~25; petioli 2~3 mm longi, interdum subnulli. Inflorescentiae racemosae, 3~10-florae, 1~3.5 cm longae, basi plerumque floribus 1~3 fasciculatis praeditae; pedicelli gracillimi, 5~12 mm longi, glabri. Flores ignoti. Baccae subglobosae, rubrae, 9~10 mm longae, 8~9 mm diam., apice stylis nullis, foveatae, non albo-pruinosae; semina 2~3. Fr. Mai. - Jun..

Sichuan(四川): Kangding(康定), near Jiaoba(角坝附近), along the bank, by field side, alt. 2450 m, 1960-05-22, T. S. Ying(应俊生)3542(holotype, PE); Kangding, Songyu(宋玉), roadside, alt. 2500~3100 m, 1960-05-08, T. S. Ying 3353(PE); in thickets, 1961-05-25, S. Jiang(姜恕)02998(PE); Jiulong(九龙), Maidilong(Miutilung 麦地龙), among thickts, alt. 2300 m, 1937-07-03, T. T. Yu 6708(PE); Yajiang(雅江), Yalongjiang River(雅砻江边), by the bank, alt. 2740 m, 1984-06-20, W. L. Chen and J. R. Chen(陈伟烈、陈家瑞)6600(PE), 1930-07-04, Z. P. Huang and S. P. Zhu(黄治平, 朱树平)00554(PE).

常绿灌木,高1~2 m。老枝圆柱形,暗灰色或暗紫红色,具散生黑色疣点,无毛,幼枝暗紫红色,具条棱;茎刺单一或三分叉,长0.6~1.5 cm。叶薄革质,倒卵形或倒卵状椭圆形,长0.8~2(~3.5) cm,宽5~12 mm,先端圆钝或急尖,基部渐狭,上面绿色,中脉和侧脉微隆起,背面亮棕色,不被白粉,中脉和侧脉明显隆起,两面网脉显著隆起,叶缘平展,每边具10~25刺齿;叶柄长2~3 mm,有时近无柄。总状花序由3~10朵花组成,长1~3.5 cm,花序基部常有1~3朵花簇生;花梗很细弱,长5~12 mm,无毛。花未见。浆果近球形,红色,长9~10 mm,直径8~9 mm,顶端无宿存花柱,孔穴状,不被白粉;含种子2~3枚。果期5~6月。

本种近似网脉小檗 *B. dictyoneura* Schneid., 但本种叶常绿,倒卵形;浆果近球形,顶端孔穴状,易于区别。

30 巴塘小檗 新种 图 11:1~9

Berberis batangensis Ying, sp. nov., Fig. 11:1~9

Haec species affinis *B. ignoratae* Schneid., sed foliis margine incrassatis integris, supra non albo-pruinosis, venis reticulatis utrinque conspicue elevatis, connectivis apice non productis, truncatis differt.

Frutex 0.5~1.5 m altus. Ramuli vetustiores fusci, teretes, juveniles atro-purpurei, sulcati, glabri. Spinae trifidae, 1~1.5 cm longae, cum ramulis concolorae. Folia decidua, chartacea, obovata vel anguste obovata, 0.4~2 cm longa, 2~7 mm lata, apice rotundo-obtusata vel emarginata, basi cuneata, supra pallide viridia, costis paullo elevatis, subtus cinerea,

glabra, non albo-pruinosa, costis conspicue elevatis, venis reticulatis densis utrinque conspicue elevatis, margine incrassata integra; petioli subnulli. Inflorescentiae racemosae, 5~10-florae, 1~1.5 cm longae, plerumque floribus fasciculatis intermixtis praeditae; pedicelli circiter 3 mm longi, glabri, interdum paullo albo-pruinosi; bractae ovatae, 1 mm longae, apice breve acuminatae. Flores flavi; sepal 3-seriata, exteriora ovata, 1.2~1.5 mm longa, circiter 1 mm lata, mediana ovato-orbicularia, circiter 3 mm longa, circiter 2 mm lata, interiora elliptica, 4~4.2 mm longa, 3~3.2 mm lata; petala obovata, 2.8~3.1 mm longa, 1.8~2 mm lata, apice emarginata, lobis acutis, basi in unguem contracta, glandulis 2 contiguis praedita; stamina circiter 1.2 mm longa, connectivis apice non productis, truncatis; ovula 4. Fructus ignoti. Fl. Jun. - Jul. .

Sichuan(四川): Batang(巴塘), in thickets, alt. 3000 m, 1972-07-02, 236 Coll. Team(236 任务组)0051(holotype, PE); Batang, by field side, alt. 2600 m, 1972-07-01, 236 Coll. Team 0031(PE).

落叶灌木, 高 0.5~1.5 m。老枝暗灰色, 圆柱形, 幼枝暗紫色, 具槽, 无毛; 茎刺三分叉, 长 1~1.5 cm, 与枝同色。叶纸质, 倒卵形或狭倒卵形, 长 0.4~2 cm, 宽 2~7 mm, 先端圆钝或微凹, 基部楔形, 上面淡绿色, 中脉微隆起, 背面灰色, 无毛, 不被白粉, 中脉明显隆起, 两面密网脉明显隆起, 叶缘增厚, 全缘; 近无柄。总状花序具 5~10 朵花, 长 1~1.5 cm, 常间杂簇生花。花梗长约 3 mm, 无毛, 有时微被白粉; 苞片卵形, 长 1 mm, 先端短渐尖; 花黄色; 萼片 3 轮, 外萼片卵形, 长 1.2~1.5 mm, 宽约 1 mm, 中萼片卵圆形、长约 3 mm, 宽约 2 mm, 内萼片椭圆形, 长 4~4.2 mm, 宽 3~3.2 mm; 花瓣倒卵形, 长 2.8~3.1 mm, 宽 1.8~2 mm, 先端缺裂, 裂片急尖, 基部缢缩呈爪, 具 2 枚紧靠的腺体; 雄蕊长约 1.2 mm, 药隔先端不延伸, 平截; 胚珠 4 枚。果未见。花期 6~7 月。

本种近似黑果小檗 *B. ignorata* Schneid. 但本种叶缘增厚, 全缘, 背面不被白粉, 两面网脉明显隆起; 药隔先端不延伸, 平截而易于区别。

31 城口小檗 新种 图 16:1~6

Berberis daiana Ying, sp. nov., Fig. 16:1~6

Haec species affinis *B. fengii* S. Y. Bao, a qua differt foliis plerumque integris vel supra medium inconspicue spinuloso-serrulatis, subtus haud albo-pruinosis, fructibus subglo-bosis, stipitibus fructuum usque ad 1.5~2.5 cm longis prope apicem recurvatis differt.

Frutex semi-sempervirens, 0.5~1 m altus. Ramuli vetustiores cinereo-brunnei, striato-angulati, nigro-verrucosi, juveniles flavescens glabri. Spinae graciles trifidae, raro 5-fidae, 5~12 mm longae, cum ramulis juvenilibus concolorae. Folia crasse chartacea, elliptico-obovata vel obovata, 2~5 cm longa, 1.2~2.2 cm lata, apice rotundata, basi cuneata, supra atro-viridia, costis planis, nervis lateralibus 3~4-jugis, subtus pallide flavo-viridia haud albo-pruinosa, costis conspicue elevatis, nervis lateralibus et venis reticulatis conspicue elevatis, glabra, margine plano-patentia integra vel supra medium inconspicue spinuloso-serrulata, spinulis utrinque 3~8 vel 10~20; petioli saepe rubri, 2~5 mm longi. Flores solitarii, flavi; pedicelli 1.5~2.5 cm longi, glabri; sepal 3-seriata, exteriora elliptica, 7.5~8 mm longa,

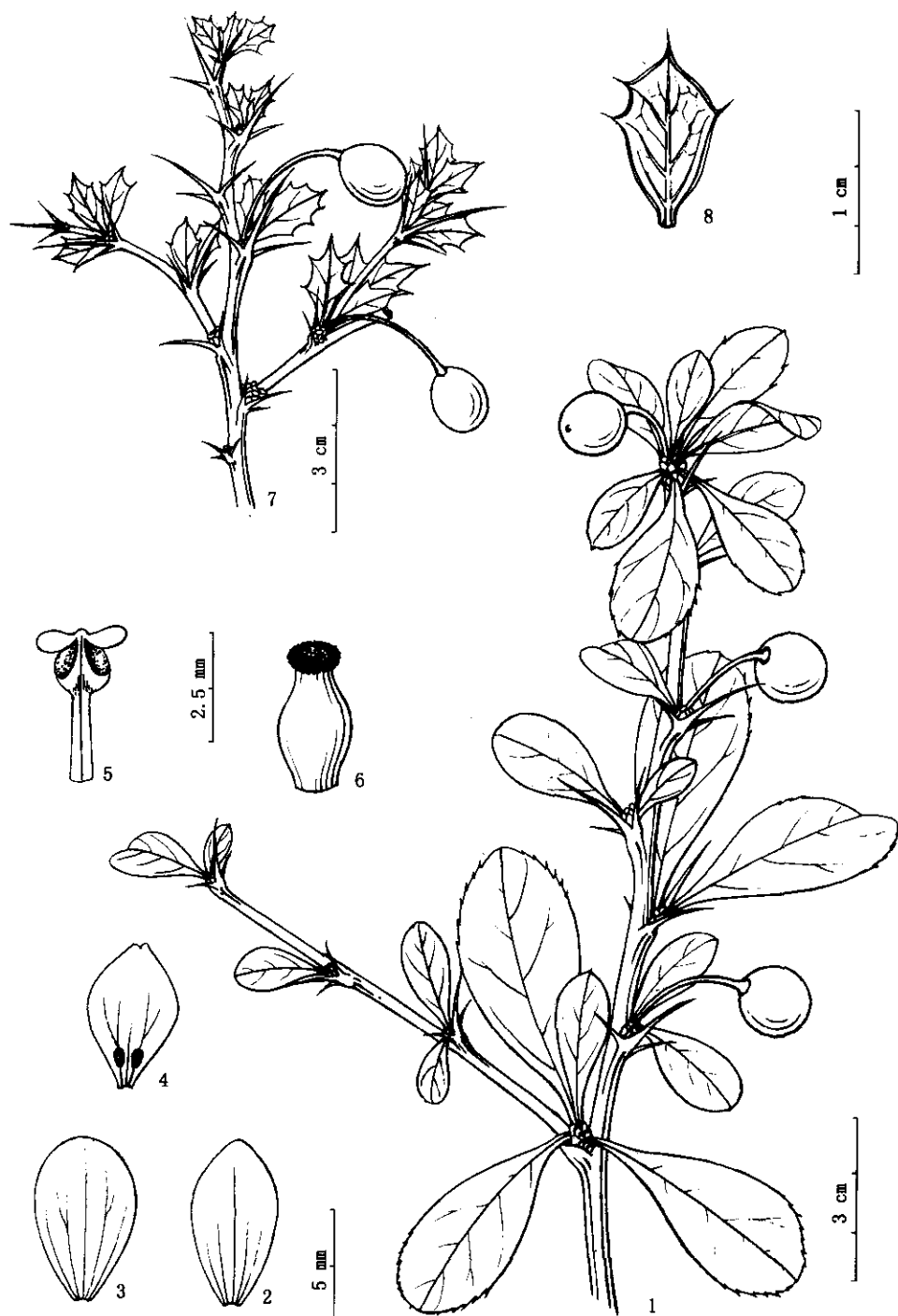


图 16 1~6. 城口小檗 1. 果枝; 2. 外萼片; 3. 内萼片; 4. 花瓣; 5. 雄蕊; 6. 子房。7~8. 矮生小檗 7. 果枝; 8. 叶背面。(张泰利 绘)

Fig. 16 1~6. *B. daiana* Ying 1. Fruiting branch; 2. Outer sepal; 3. Inner sepal; 4. Petal; 5. Stamen; 6. Ovary. 7~8. *B. medogensis* Ying 7. Fruiting branch; 8. Under surface of leaf.

4.5~5 mm lata, interiora late obovato-elliptica, 7~7.2 mm longa, circiter 5 mm lata; petaloobovata, circiter 6 mm longa, circiter 4 mm lata, apice incisa, lobis acutis, basi in unguem contracta, glandulis 2 separatim ellipticis praedita; stamina circiter 3.5 mm longa, connectivis apice productis obtusis; ovula 11. Stipites fructuum validi, prope apicem paullo recurvati, glabri. Baccae subglobosae, rubrae, 1.3~1.5 cm longae, 1.2~1.3 cm diam., paullo albo-pruinosa, stylis nullis; semina saepe 6~7. Fl. Jun.. Fr. Aug. - Sept..

Sichuan(四川): Chengkou(城口), in thickets, alt. 2550 m, 1958-09-20, T. L. Dai (戴天伦)107268(holotype, PE), in thickets, alt. 2350 m, 1958-08-11, T. L. Dai 101835 (PE), on weedy place, alt. 2500 m, 1958-06-11, T. L. Dai 100826(PE); Wuxi(巫溪), on rock, 1958-07-14, G. H. Yang(杨光辉)58758(PE), in thickets, alt. 2500 m, B. Z. Ni(倪炳炽)00527(CDBI).

半常绿灌木,高0.5~1 m。老枝灰褐色,具条棱和稀疏黑色疣点,幼枝淡黄色,无毛;茎刺细弱,三分叉,偶有五分叉,长5~12 mm,与幼枝同色。叶厚纸质,椭圆状倒卵形或倒卵形,长2~5 cm,宽1.2~2.2 cm,先端圆形,基部楔形,上面深绿色,中脉扁平,侧脉3~4对,背面淡黄绿色,不被白粉,中脉明显隆起,两面侧脉和网脉明显隆起,无毛,叶缘平展,全缘或每边中部以上具3~8不明显刺齿,有时每边具10~20刺齿,变异大;叶柄常红色,长2~5 mm。花单生;花梗长1.5~2.5 cm,无毛;花黄色;萼片2轮,外萼片椭圆形,长7.5~8 mm,宽4.5~5 mm,内萼片倒卵状阔椭圆形,长7~7.2 mm,宽约5 mm;花瓣倒卵形,长约6 mm,宽约4 mm,先端锐裂,裂片锐尖,基部缢缩呈爪,具2枚分离的椭圆形腺体;雄蕊长约3.5 mm,药隔先端延伸,圆钝;胚珠11枚。果梗粗壮,近顶端稍下弯,无毛;浆果近球形,红色,长1.3~1.5 cm,直径1.2~1.3 cm,顶端无宿存花柱,微被白粉,通常含种子6~7枚。花期6月,果期8~9月。

本种近似大果小檗 *Berberis fengii* S. Y. Bao, 但本种叶通常全缘,或中部以上具不明显刺齿,背面不被白粉;果近球形;果梗长达1.5~2.5 cm,近顶端下弯。易于区别。

32 冕宁小檗 新种 图 17:9~12

Berberis mianningensis Ying, sp. nov., Fig. 17:9~12

Haec species affinis *B. minutiflorae* Schneid., a qua differt ramulis juvenilibus flavescens, foliis chartaceis, ellipticis, ovulo 1, fructibus stylis brevissimis praeditis, stipitibus fructuum longioribus differt.

Frutex circiter 0.5 m altus. Ramuli vetustiores atro-cinerei, striato-angulati, non verrucosi, juveniles flavescens, glabri. Spinae simplices vel trifidae, debiles, circiter 1 cm longae, flavescens, teretes. Folia decidua, tenuiter chartacea, elliptica vel anguste elliptica, raro oblanceolata, 1~2 cm longa, 2~4 mm lata, apice acuta vel obtusa, 1-mucronulata, basi cuneata, supra viridia, costis paullo elevatis, nervis lateralibus 3~4-jugis, subtus pallide flavo-viridia, costis conspicue elevatis, non pruinosa, venis reticulatis utrinque obscuris, margine plano-patentia integra vel spinuloso-serrulata, spinulis utrinque 1~3; petioli subnulli. Flores solitarii (nondum vidi). Stipites fructuum graciles recurvati, 1~1.4 cm longi,



图 17 康定小檗 1. 果枝; 2. 叶示上面; 3. 叶示背面; 4. 外萼片; 5. 内萼片; 6. 花瓣; 7. 雄蕊; 8. 子房。

9~12. 冕宁小檗 9. 果枝; 10. 叶示上面; 11. 叶示下面; 12. 果。(张泰利 绘)

Fig. 17 1~8. *B. kangdingensis* Ying 1. Fruiting branch; 2. leaf (showing upper surface); 3. Leaf (showing under surface); 4. Outer sepal; 5. Inner sepal; 6. Petal; 7. Stamen; 8. Ovary. 9~12. *B. mianningensis* Ying

9. Fruiting branch; 10. Leaf (showing upper surface); 11. Leaf (showing under surface); 12. Fruit.

flavescentes, glabri. Baccae obovoideo-ellipsoideae, 8~9 mm longae, 4~5 mm diam., juveniles virides, non albo-pruinosa, stylis brevissimis; semen unicum. Fr. Jul. - Aug. .

Sichuan(四川): Mianning(冕宁), in thickets, alt. 2650 m, 1959-07-19, S. G. Wu (武素功)2021(holotype, PE).

落叶灌木, 高约 0.5 m。老枝暗灰色, 具条棱, 无疣点, 幼枝淡黄色, 无毛; 茎刺单生或三分叉, 细弱, 长约 1 cm, 淡黄色, 圆柱形。叶薄纸质, 椭圆形或狭椭圆形, 偶有倒披针形, 长 1~2 cm, 宽 2~4 mm, 先端急尖或圆钝, 有 1 刺尖头, 基部楔形, 上面绿色, 中脉微隆起, 侧脉 3~4 对, 背面淡黄绿色, 中脉明显隆起, 不被白粉, 两面网脉不显, 叶缘平展, 全缘或每边具 1~3 刺齿; 近无柄。花单生(花未见)。果梗细弱, 下弯, 长 1~1.4 cm, 淡黄色, 无毛; 浆果倒卵状椭圆形, 长 8~9 mm, 直径 4~5 mm, 幼时绿色, 顶端具极短宿存花柱, 不被白粉, 含种子 1 枚。果期 7~8 月。

本种近似小花小檗 *Berberis minutiflora* Schneid, 但本种幼枝淡黄色; 叶纸质, 椭圆形; 胚珠 1 枚; 果具极短宿存花柱; 果梗较长, 易于区别。

33 康定小檗 新种 图 17:1~8

Berberis kangdingensis Ying, sp. nov., Fig. 17:1~8

Haec species affinis *B. multicauli* Ying, sed petalis obovatis, apice emarginatis, ovulis 6~7, baccis subglobosis dense albo-pruinosis, stylis nullis differt.

Frutex circiter 1 m altus. Caules dense ramosi; ramuli pallide flavo-brunnei, teretes vel striato-angulati, puberuli, sparse nigro-verrucosi. Spinae debiles, 5-fidae, interdum trifidae, flavescentes, 5~10 mm longae. Folia decidua, chartacea, anguste elliptica vel obovato-elliptica, 7~11 mm longa, 2~4 mm lata, apice acuta, 1-mucronulata, basi cuneata, supra viridia, costis elevatis, subtus flavo-viridia, haud albo-pruinosa, costis conspicue elevatis, venis reticulatis utrinque conspicue elevatis, margine plano-patentia integra, raro spinuloso-serulata, spinulis 1~2; petioli subnulli. Flores solitarii, flavi; pedicelli 4~5 mm longi, glabri; sepala biseriata, exteriora elliptica, circiter 4.5 mm longa, circiter 3.5 mm lata, interiora obovato-oblonga, circiter 5.5 mm longa, circiter 4.1 mm lata; petala obovata, circiter 5 mm longa, circiter 3.1 mm lata, apice emarginata, basi cuneata, glandulis 2 separatis ellipticis praedita; stamina circiter 3 mm longa, connectivis paullo productis, apice obtusis; ovula 6~7. Baccae subglobosae, circiter 9 mm longae, circiter 8 mm diam., dense albo-pruinosa, stylis nullis. Fl. Jun. . Fr. Oct. - Nov. .

Sichuan(四川): Kangding(康定), in crevice, on slope, alt. 2700 m, 1934-11-04, Harry Smith 13039(holotype, PE), on slope, alt. 3400 m, 1934-10-19, Harry Smith 12893(PE).

落叶灌木, 高约 1 m。茎具密集分枝; 枝淡黄褐色, 圆柱形或具条棱, 被微柔毛, 具稀疏黑色疣点; 茎刺细弱, 五分叉, 有时三分叉, 淡黄色, 长 5~10 mm。叶纸质, 狭椭圆形或倒卵状椭圆形, 长 7~11 mm, 宽 2~4 mm, 先端急尖, 具 1 刺尖头, 基部楔形, 上面绿色, 中脉隆起, 背面黄绿色, 不被白粉, 中脉明显隆起, 两面网脉显著隆起; 叶缘平展, 全缘, 每边偶有 1~2 刺齿; 近无柄。花单生; 花梗长 4~5 mm, 无毛; 花黄色; 萼片 2 轮, 外萼片椭圆

形,长约 4.5 mm,宽约 3.5 mm,内萼片倒卵状长圆形,长约 5.5 mm,宽约 4.1 mm;花瓣倒卵形,长约 5 mm,宽约 3.1 mm,先端缺裂,基部楔形,具 2 枚分离椭圆形腺体;雄蕊长约 3 mm,药隔稍延伸,先端圆钝;子房含胚珠 6~7 枚。浆果近球形,长约 9 mm,直径约 8 mm,顶端无宿存花柱,密被白粉。花期 6 月。果期 10~11 月。

本种近似多枝小檗 *B. multicaulis* Ying, 但本种花瓣倒卵形,先端缺裂,胚珠 6~7,浆果近球形,无宿存花柱,密被白粉而不同。

34 矮生小檗 新种 图 16:7~8

Berberis medogensis Ying, sp. nov., Fig. 16:7~8

Haec species affinis *B. approximatae*, a qua differt planta 10~20 cm alta, foliis margine conspicue incrassatis, stipitibus fructuum usque ad 2.3 cm longis, baccis haud albo-pruinosis, stylis nullis.

Frutex nanus, vix 10~20 cm altus. Caules laete flavescens, laeves, glabri, angulato-sulcati; ramuli juveniles atro-purpurei, conspicue angulato-sulcati. Spinae trifidae, 3~13 mm longae, cum ramulis concolorae. Folia chartacea, obovata, 7~13 mm longa, 3~5 mm lata, apice acuta, 1-mucronulata, basi cuneata, supra atro-viridia, costis paullo elevatis, subtus dense albo-pruinosa, costis conspicue elevatis, nervis lateralibus 2~3-jugis conspicue elevatis, venis reticulatis obscuris, margine conspicue incrassata, haud revoluta, supra medium spinuloso-serrulata, spinulis utrinque 1~2, interdum usque ad 4~5; petioli subnulli. Flores nondum vidi. Baccae solitariae, subglobosae, rubrae, circiter 11 mm longae, circiter 10 mm diam., non albo-pruinosae; stipites 2.3 cm longi, laete atro-purpurei, laeves, glabri; styli nulli; semina 6~7. Fr. Nov..

Xizang (Tibet 西藏): Medog (墨脱), in thickets, alt. 3300 m, 1982-11-20, B. S. Li and S. Z. Cheng (李渤生,程树志) 01875 (holotype, PE).

矮小灌木,高仅 10~20 cm。茎亮淡黄色,光滑无毛,具棱槽,幼枝暗紫色,棱槽显著,茎刺三分叉,长 3~13 mm,与枝同色。叶纸质,倒卵形,长 7~13 mm,宽 3~5 mm,先端骤尖,具 1 刺尖头,基部楔形,上面深绿色,中脉微隆起,背面密被白粉,中脉明显隆起,侧脉 2~3 对,明显隆起,网脉不显,叶缘明显增厚,不反卷,每边中部以上具 1~2 刺齿,有时达 4~5 刺齿;近无柄。花未见。果单生;果梗长 2.3 cm,亮暗紫色,光滑无毛;浆果近球形,红色,长约 11 mm,直径约 10 mm,顶端无宿存花柱,不被白粉。含种子 6~7 枚。果期 11 月。

本种与近似小檗 *B. approximata* Sprague 相近似,但本种植株高 10~20 cm,叶缘明显增厚,果梗长达 2.3 cm,浆果不被白粉,无宿存花柱,易于区别。

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