

中国小檗属新分类群^{*}

应俊生

(中国科学院植物研究所系统与进化植物学开放研究实验室 北京 100093)

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

YING Tsun-Shen

(Laboratory of Systematic and Evolutionary Botany, Institute of Botany, the Chinese Academy of Sciences, Beijing 100093)

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 reticulineris Ying, sp. nov., Fig. 1: 1~7

Species nova affinis *B. yunnanensi* 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, Yan-jing(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

^{*} 国家自然科学基金资助项目, “三志”编研内容之一。

1999-03-25 收稿, 1999-05-29 收修改稿。

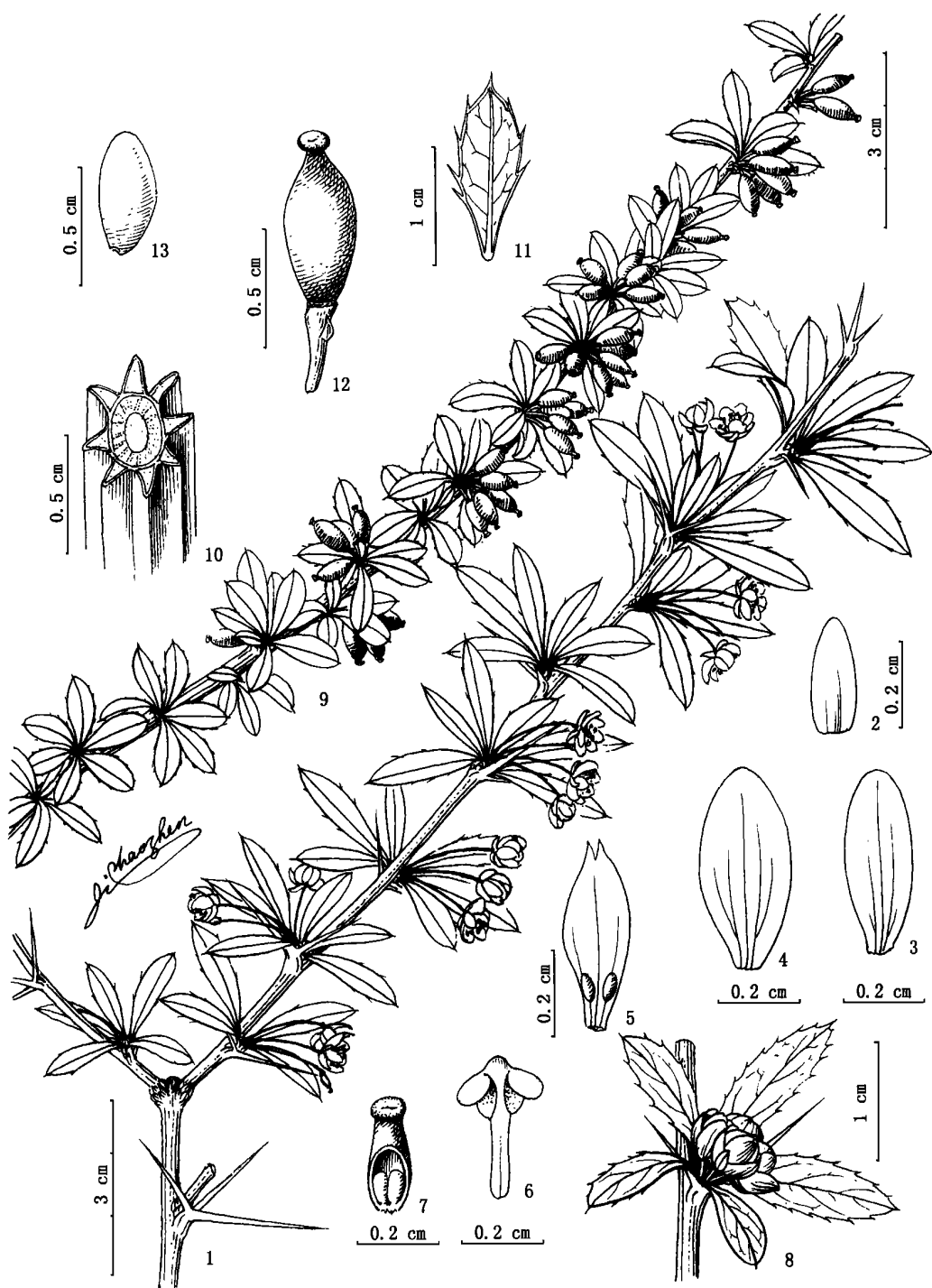


图 1 1~7. 芒康小檗 1. 花枝; 2. 外萼片; 3. 中萼片; 4. 内萼片; 5. 花瓣; 6. 雄蕊; 7. 子房(示胚珠)。8. 无梗小檗: 花枝一部分。9~13. 永思小檗 9. 果枝; 10. 枝横切面; 11. 叶背面; 12. 果; 13. 种子。(冀朝祯 绘)

Fig. 1 1~7. *Berberis reticulervis* Ying 1. Flowering branch; 2. Outer sepal; 3. Median sepal; 4. Inner sepal; 5. Petal; 6. Stamen; 7. Ovary (showing ovules). 8. *B. reticulervis* 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 fuscii, glabri. Spinae debiles flavescens, 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。

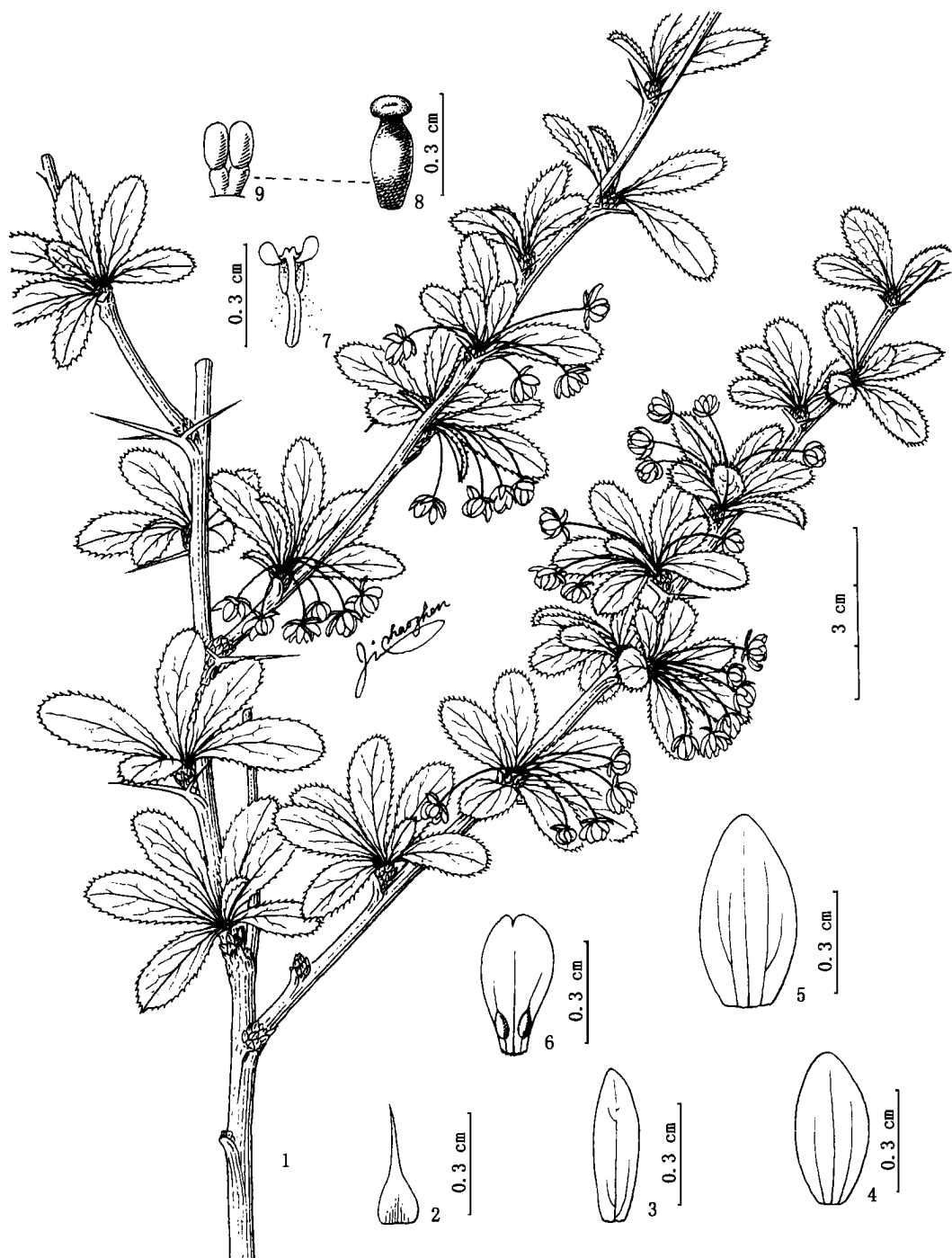


图2 德浚小檗 1. 花枝; 2. 小苞片; 3. 外萼片; 4. 中萼片; 5. 内萼片; 6. 花瓣; 7. 雄蕊; 8. 子房; 9. 胚珠。(冀朝祯 绘)

Fig. 2 *B. yuii* Ying 1. Flowering branch; 2. Bract; 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 yuii 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 incis, 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. reticulineris* 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.

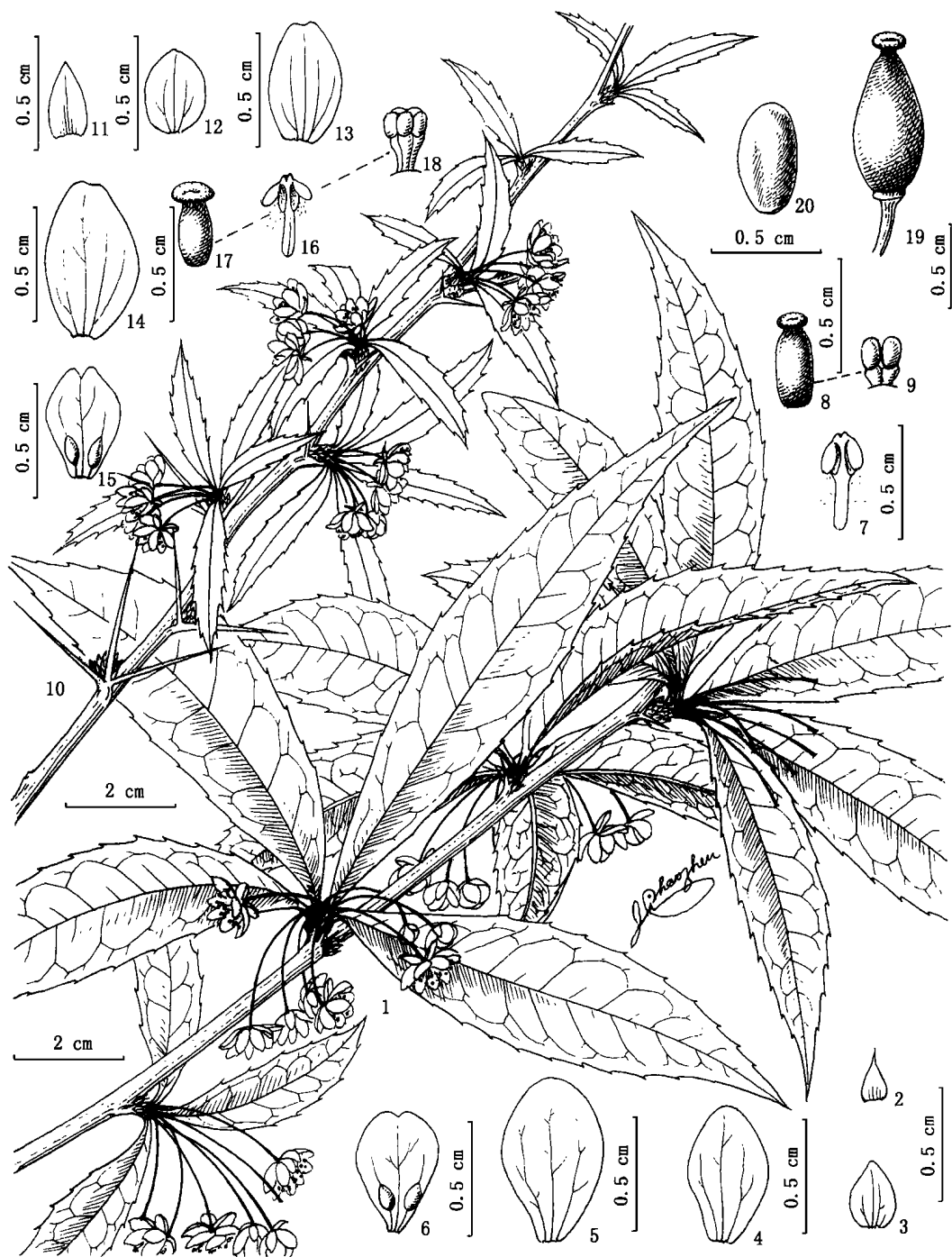


图3 1~9. 兴文小檗 1. 花枝; 2. 小苞片; 3. 外萼片; 4. 中萼片; 5. 内萼片; 6. 花瓣; 7. 雄蕊; 8. 子房; 9. 胚珠。
10~20. 多珠小檗 10. 花枝; 11. 小苞片; 12. 外萼片; 13. 中萼片; 14. 内萼片; 15. 花瓣; 16. 雄蕊;
17. 子房; 18. 胚珠; 19. 果; 20. 种子。(冀朝祯 绘)

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, 先端缺裂, 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、深缺裂; 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. *acanthophyllae* 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; sepala 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1cm。叶厚革质, 狭椭圆形, 长3.5~8cm, 宽1~2cm, 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3.5cm, 无毛; 花黄色; 萼片3轮, 外萼片三角状卵圆形, 长约2mm, 宽约1.5mm, 先端渐尖, 中萼片卵状椭圆形, 长约5.1mm, 宽约3mm, 内萼片阔椭圆形, 长约6mm, 宽约5mm; 花瓣倒卵形, 长约5mm, 宽约4mm, 先端全缘, 圆形, 基部缢缩呈爪, 具2枚分离腺体; 雄蕊长约3.5mm, 药隔先端圆钝; 子房长3.2mm, 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3.5cm; 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, flavescens, 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; sepala 3-seriata, exteriora lanceolata, superne rosea, 2.1~3 mm longa, 1~1.1 mm lata, mediana ovato-elliptica, 4.1 mm longa, circiter 2mm 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

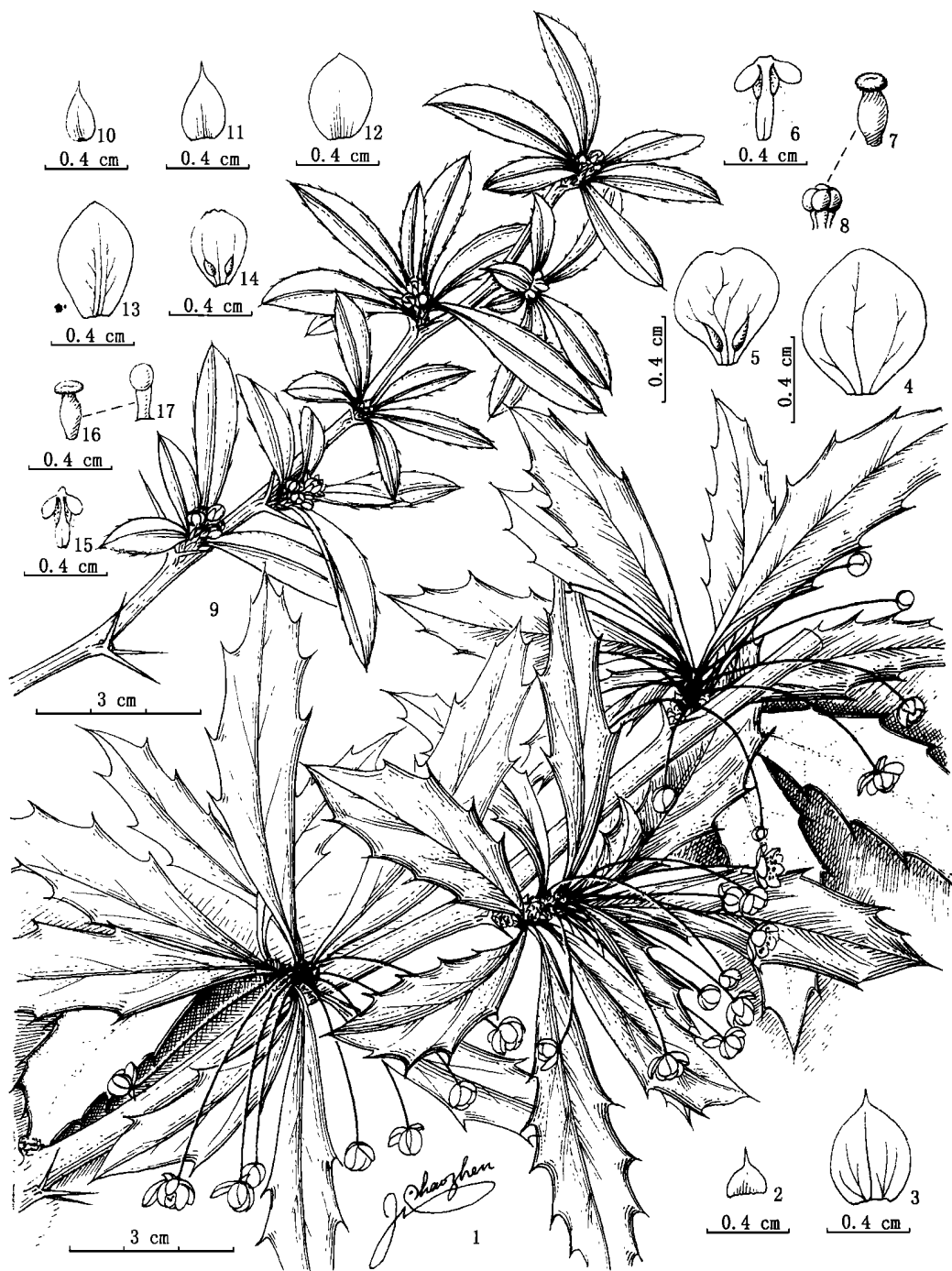


图 4 1~8. 东川小檗 1. 花枝; 2. 外萼片; 3. 中萼片; 4. 内萼片; 5. 花瓣; 6. 雄蕊; 7. 子房; 8. 胚珠。9~17. 小檗
小檗 9. 花枝; 10. 小苞片; 11. 外萼片; 12. 中萼片; 13. 内萼片; 14. 花瓣;
15. 雄蕊; 16. 子房; 17. 胚珠。(冀朝祯绘)

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 facilius 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 plano-patentia 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; sepalis biseriatis, 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. lijiangensis* 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 fuscii, 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

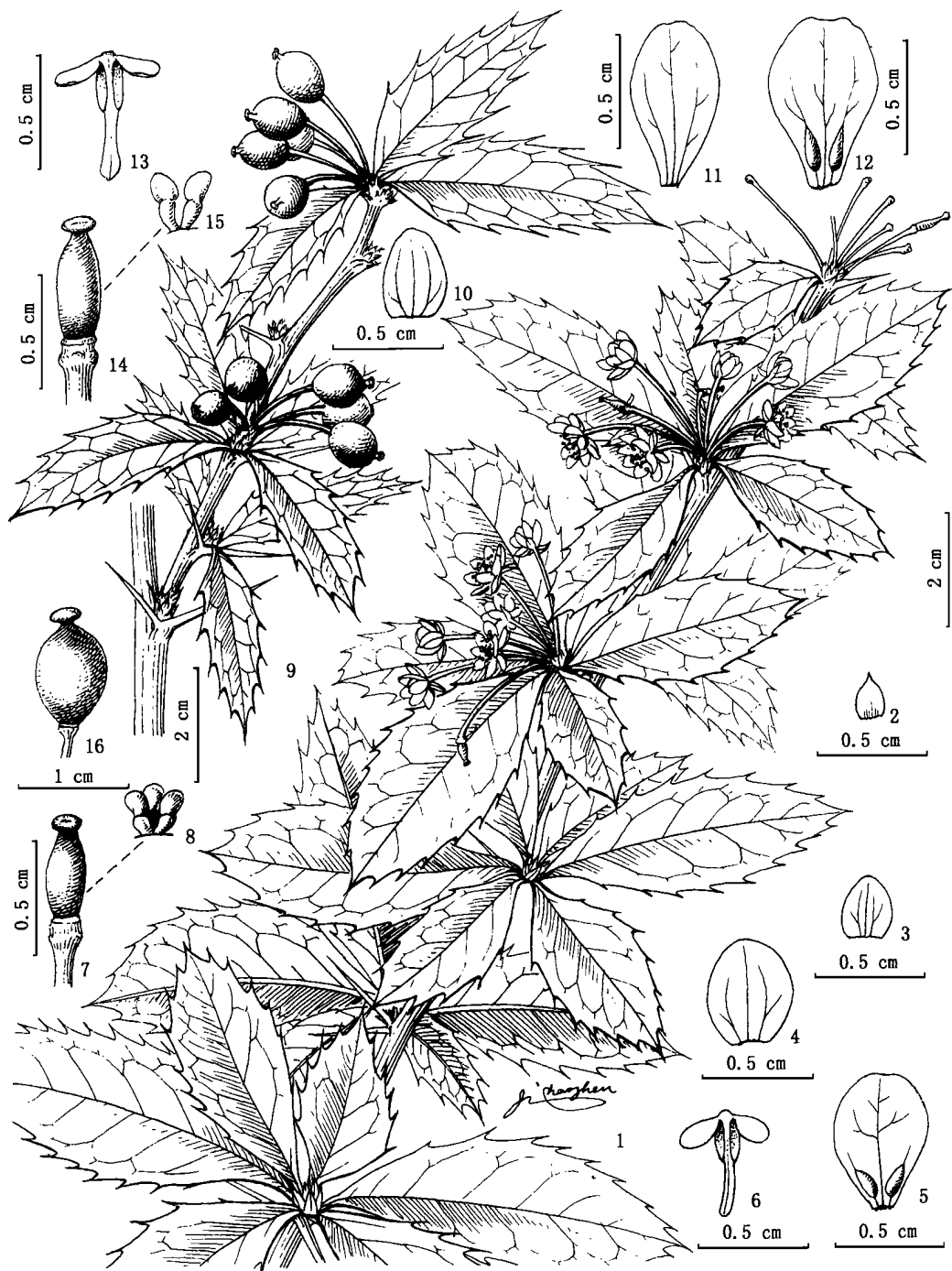


图5 1~8. 金佛山小檗 1. 花枝; 2. 小苞片; 3. 外萼片; 4. 内萼片; 5. 花瓣; 6. 雄蕊; 7. 子房; 8. 胚珠 9~16. 淳安小檗 9. 果枝; 10. 外萼片; 11. 内萼片; 12. 花瓣; 13. 雄蕊; 14. 子房; 15. 胚珠; 16. 果。(冀朝祯 绘)

Fig. 5 1~8. *B. jinfoshanensis* Ying 1. Flowering branch; 2. Bract; 3. Outer sepal; 4. Inner sepal; 5. Petal; 6. Stamen; 7. Ovary; 8. Ovule. 9~16. *B. dhunanensis* 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; sepal 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 contiguas 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。

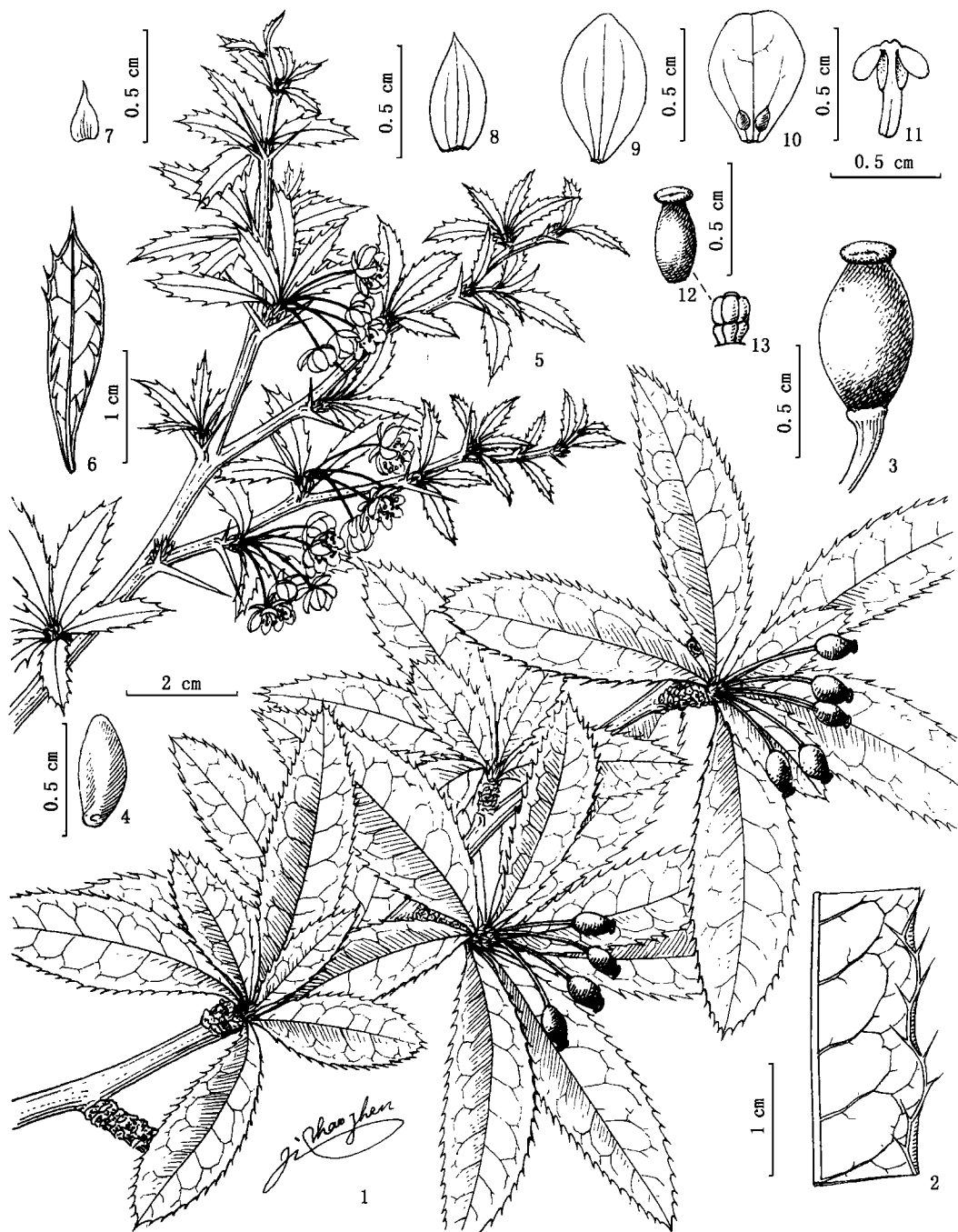


图 6 1~4. 毕节小檗 1. 果枝; 2. 叶一部分(示叶缘外卷); 3. 果; 4. 种子。5~13. 老君山小檗 5. 花枝; 6. 叶背面; 7. 外萼片; 8. 中萼片; 9. 内萼片; 10. 花瓣; 11. 雄蕊; 12. 子房; 13. 胚珠。(冀朝祯 绘)

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,

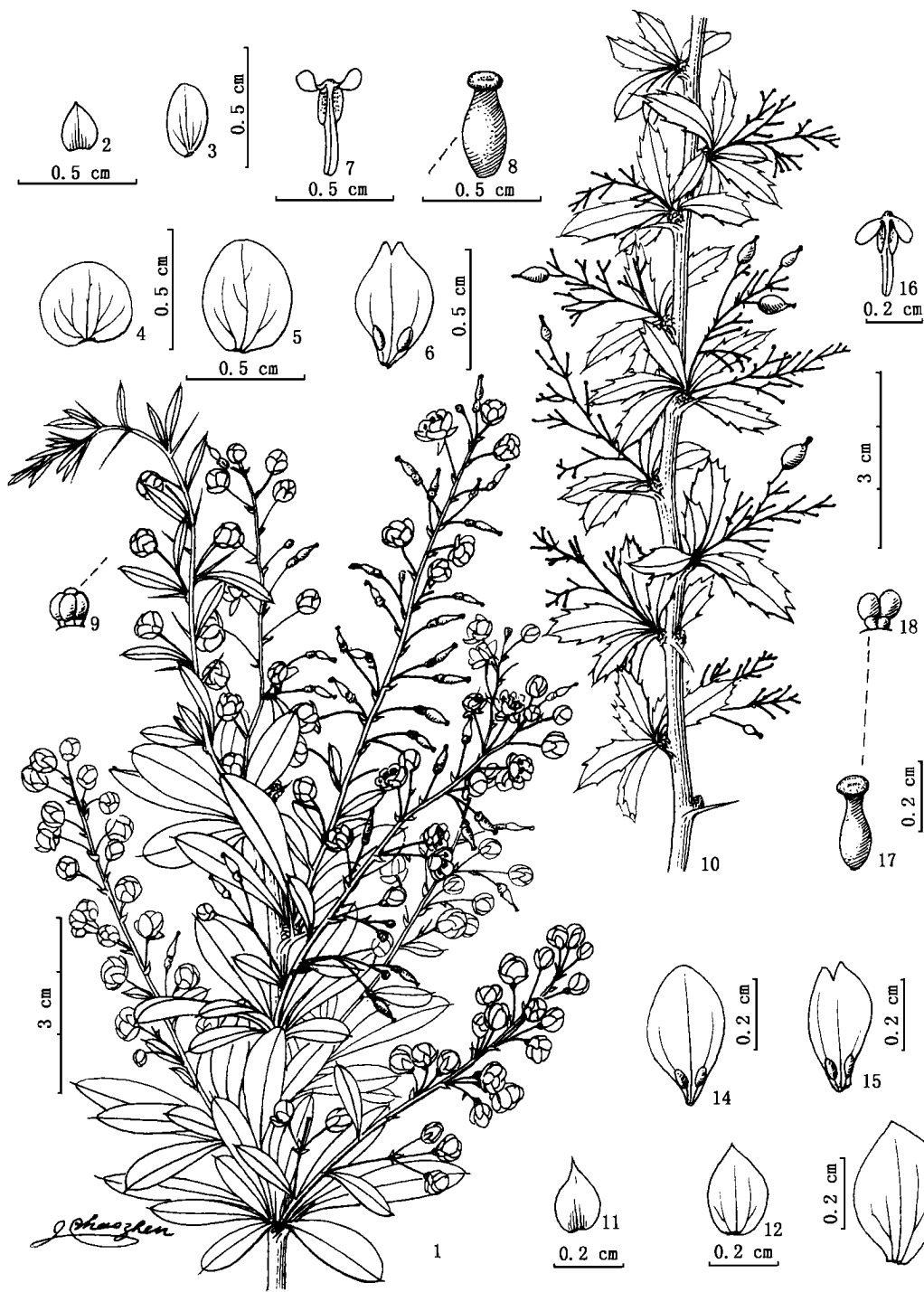


图 7 1~9. 九龙小檗 1. 花枝; 2. 小苞片; 3. 外萼片; 4. 中萼片; 5. 内萼片; 6. 花瓣; 7. 雄蕊; 8. 子房; 9. 胚珠。
10~18. 德钦小檗 10. 果枝; 11. 小苞片; 12. 外萼片; 13. 内萼片; 14, 15. 花瓣;
16. 雄蕊; 17. 子房; 18. 胚珠。(冀朝祯 绘)

Fig. 7 1~9. *B. jiulongensis* Ying 1. Flowering branch; 2. bracteole; 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. Bracteole; 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; bractae 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, 先端断裂, 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; 花瓣先端断裂; 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. jiulongensi* 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, flavescens. 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-potentia 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, 先端缺裂, 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; 花瓣先端缺裂; 浆果长圆形, 微被白粉而不同。

16 北京小檗 新种 图8:1~8

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

Haec species aspectu similissima *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; bracteae lanceolatae, 2~3.5 mm longae; pedicelli 2~5 mm longi, laeves, glabri.

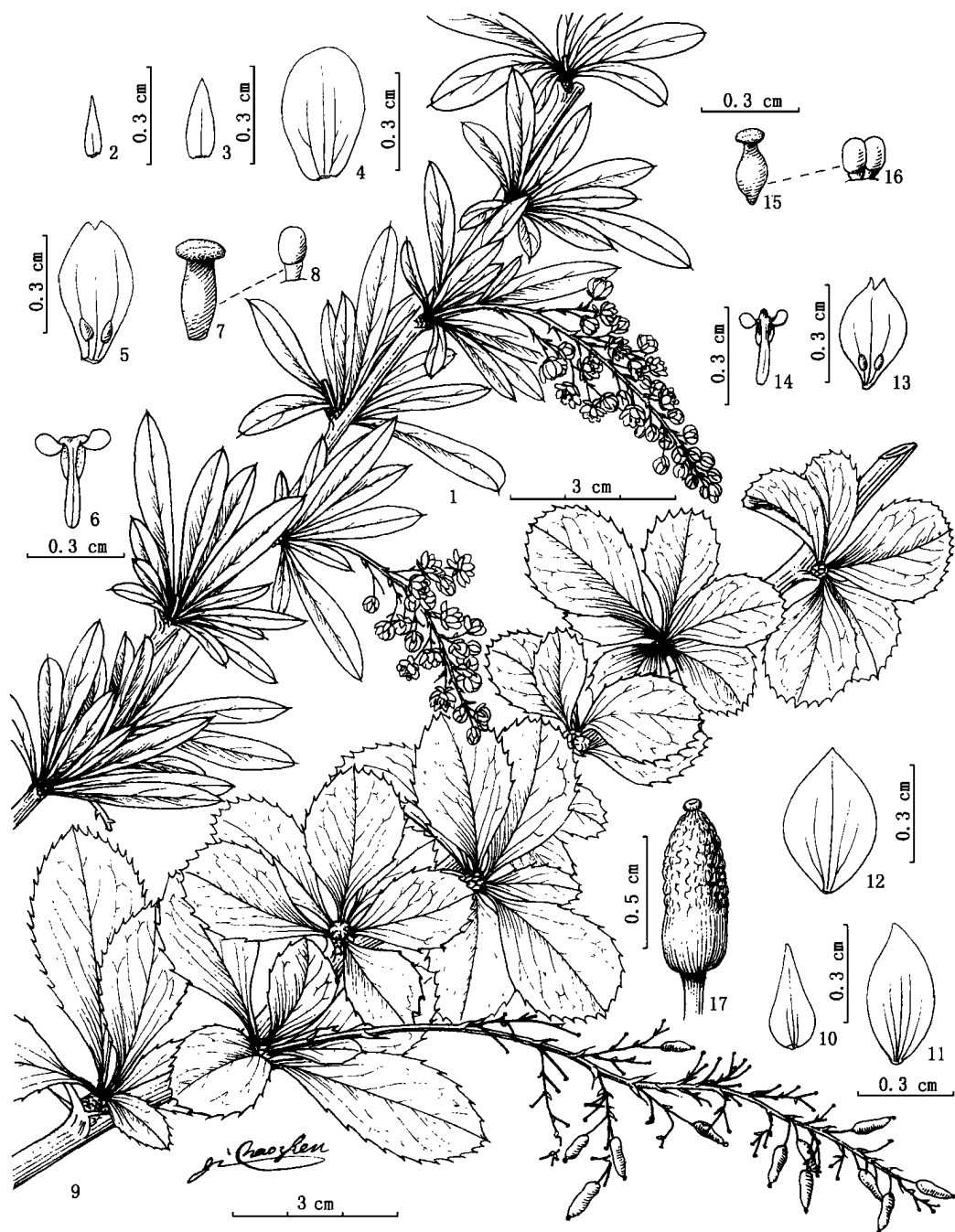


图 8 1~8. 北京小檗 1. 花枝; 2. 小苞片; 3. 外萼片; 4. 内萼片; 5. 花瓣; 6. 雄蕊; 7. 子房; 8. 胚珠。9~17. 炉霍小檗 9. 果枝; 10. 外萼片; 11. 中萼片; 12. 内萼片; 13. 花瓣; 14. 雄蕊; 15. 子房; 16. 胚珠; 17. 果。(冀朝祯 绘)
Fig. 8 1~8. *B. beijingensis* Ying 1. Flowering branch; 2. Bracteole; 3. Outer sepal; 4. Inner sepal; 5. Petal; 6. Stamen; 7. Ovary; 8. Ovule. 9~17. *B. luhuoensis* 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, 先端全缘或微缺裂, 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; 花瓣先端全缘或微缺裂, 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..

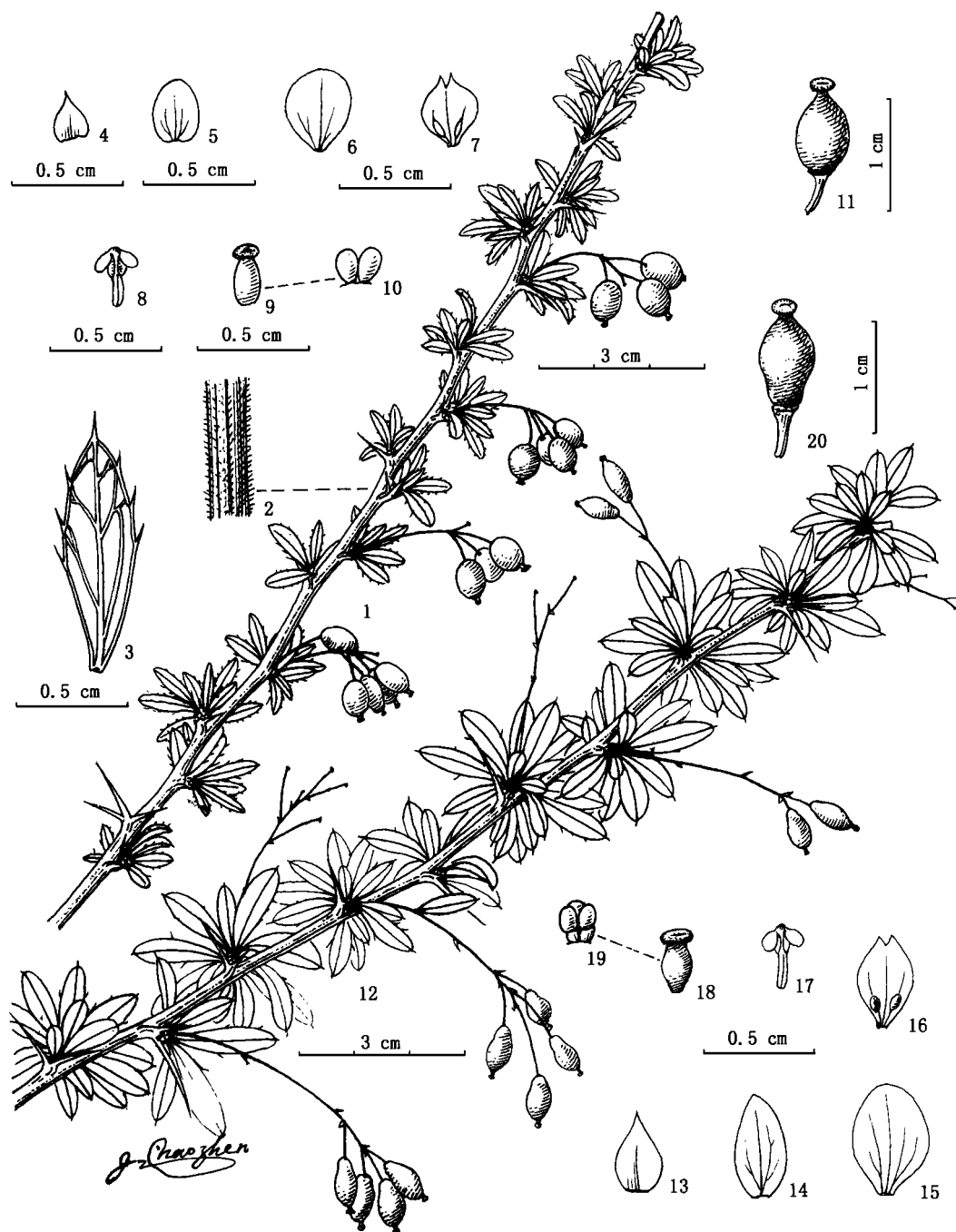


图 9 1~11. 威宁小檗 1. 果枝; 2. 枝一部分; 3. 叶; 4. 小苞片; 5. 外萼片; 6. 内萼片; 7. 花瓣; 8. 雄蕊; 9. 子房; 10. 胚珠; 11. 果。12~20. 雷波小檗 12. 果枝; 13. 小苞片; 14. 外萼片; 15. 内萼片; 16. 花瓣; 17. 雄蕊; 18. 子房; 19. 胚珠; 20. 果。(冀朝祯 绘)

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.