

## 海南锥栗属新植物

符国瓊

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关键词: 海南省; 锥栗属; 新植物

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New species of the genus *Castanopsis*  
from Hainan

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Key words: Hainan province; genus *Castanopsis*; new species1. 五指山锥 别名: 山白锥(五指山) 新种  
图版 I-A*Castanopsis wuzhishangensis* G. A. Fu sp. nov.Species affinis *Castanopsis carlesii* (Hemsl.) Hayata var. *spinulosa*, a qua folia crasoribus et duroribus differunt. Etiam affinis *C. Echinocarphae* Miq. var. *seninudae*, sed folia minoribus, tantum 5.5~10.5 cm longa, 1.5~2.8 cm lata differt.

Arbor, usque ad 19 m alta, trunco 26~32 cm diam., ramulis nigro-fuscis, glabris. Folia coriacea, oblonga vel longo-elliptica, 5.5~10.5 cm longa, 1.5~2.8 cm lata, apice caudato-acuminata, basi cuneata vel late cuneata, supra in sicco viridis, glabra, subtus ferrugineo-lepidota, margine apicem remote serrulata, supra costa impressa, nervis lateralibus utrinque 10~11, subtus conspicuis prominulis, petioli cir. 7 mm longi. Inflorescentiae spicatae; flores ♂; calycis obovatis, 6-partitis, staminibus 10~13, filamentis 3.5~4 mm

longis; flores ♀; involucria flore uno vel duo amplectantia; ovario 3-loculo, stylis vulgo 3, rare 2. Infructescentia spicata 5.5~14 cm longa, solitaria vel 2~3 in ramulis disposita, nuculis globosis, apice triangulatis, cupulae cum spinis usque ad 13~20 mm diam., spinis 2~5 mm longis, puberulis, cicatrice 9 mm longa, 6 mm lata.

Hainan (海南): Wuzhishan (五指山), in secondary rain forest, 13, June, 2000, flores ♂ and flores ♀, G. A. Fu 10291 (Fl. Typus, HFB<sup>1)</sup>); ibid., 13, sept. 1999, flores ♂ G. A. Fu 10116; ibid., 16, Sept., 1999, fruit G. A. Fu 10251; ibid., 4, Jan. 2000, fruit G. A. Fu 10256 (Fr. Typus, HFB<sup>1)</sup>).

常绿乔木, 树干通直, 高达 19 m, 胸径达 26~32 cm, 树皮暗灰色或浅灰黑色, 韧皮部黄褐色; 小枝黑褐色, 无毛。叶革质, 长圆形, 两端渐狭, 长 5.5~10.5 cm, 宽 1~2.8 cm, 顶端尾状渐尖, 基部楔形或阔楔形, 干时上面亮绿色, 无毛, 背面被锈色或灰黄色鳞秕, 上部边缘具疏腺齿; 中脉于上面下凹, 侧脉每边 10~11 条, 背面明显凸起; 叶柄长约 7 mm。穗状花

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<sup>1)</sup>HFB=Forestry Herbarium, Hainan Forestry Bureau, 下同。

序;雄花:花序长4.5~12.5 cm,花1~3朵着生于花枝节上;花序轴初被短柔毛;花萼倒卵形或浅杯状,6深裂,顶端边缘具睫毛;雄蕊10~13枚,花丝长3.5~4 mm。雌花:花序长6~15 cm,单朵或2朵聚生于总苞内;子房3室,花柱3枚,稀2枚,花柱长约1 mm。穗状果序,长5.5~14 cm,果单生或2~3个聚生于果枝上;坚果扁圆球形,直径约1.2 cm,顶端具棱;壳斗连刺直径13~20 mm,刺长2~5 mm,被微柔毛;刺仅部分遮蔽壳斗表面;果脐面积为9 mm×6 mm,平坦。花期8~9月;果期10~11月。

本种与短刺米槠(*Castanopsis carlesii* (Hemsl.) Hayata var. *spinulosa*)近缘,不同在于本种叶片较厚且硬。又与半裸短刺锥(*C. echinocarpa* Miq. var. *seminuda*)相近似,但本种叶较小,长仅5.5~10.5 cm,宽仅1.5~2.8 cm,容易区别。

本种喜散生于海拔700~850 m原生或次生雨林中;伴生树种有细齿柃(*Eurya nitida*)、广东山胡椒(*Lindera kwantungensis*)、长柄梭罗(*Reevesia longipetiolata*)、栎子青冈(*Cyclobalanopsis blakei*)、红锥(*Castanopsis hystrix*)等。该种木材坚硬,密致,可供建筑、家具、农具等用材。种子含淀粉与糖分,可炒食或生食。

## 2. 毛果锥 别名: 软刺锥(文昌) 图版 I-B

*Castanopsis haircarpa* G. A. Fu sp. nov.

Species affinis *Castanopsis choboensis* Hick et A. Camus et *C. indica* (Roxb.) Miq. A qua cupulae tantum involvere nuculae < onedimidiatae differt.

Arbor, usque ad 16 m alta et 32 cm diam., ramulis dense puberulis. Folia coriacea, longo-elliptica vel elliptica, 6~10.5 cm longa, 4~7.5 cm lata, apice acuminata, obtusa vel retusa, basi cuneata vel lata cuneata, margine extra basi remoto serrulata, nervis lateralibus utrinque 10~12, subtus costa et nervis lateralibus dense ferruginosis puberulis; petioli cir. 9 mm longi, dense puberuli. Inflorescentiae spicatae; flores ♂; calycis obovatis vel cyathiformibus, 6-partitis, staminibus 8~10, filamentis 2.5~3.5 mm longis; flores ♀; involucri flore uno vel duo amplectantia, ovario 3-loculo, stylis vulgo 3, raro 2. Infructescentia spicata 5~15 longa, solitaria vel 2~3 in ramulis disposita; cupulae cum spina usque ad 2.5 cm diam., spins 5~12 mm longis; nuculis concis, usque ad 2.2 cm longis, dense ferrugi-

nosis pubescentis et robustis triangulatis.

**Hainan** (海南): Wenchang (文昌), Gongpo town (公坡镇), Longfeitou village (龙飞头村), 3, Oct. 1992, fruit, G. A. Fu (符国瓊) 7739 (Fr. Typus, HFB<sup>11</sup>); ibid., G. A. Fu 7328; 8219; 8250; 8251. Bao-caishan village (宝彩山村) G. A. Fu 8249; Longfeitou village, 30, sept., 1996, flores, G. A. Fu 8224 (Fl. Typus, HFB<sup>11</sup>); ibid., G. A. Fu 10250; Bao-caishan village G. A. Fu 8169.

常绿乔木,高达16 m,胸径达32 cm,树皮暗灰褐色。小枝密被微柔毛,老枝散生褐色开口皮孔。叶革质,长椭圆形或椭圆形,长6~10.5 cm,宽4~7.5 cm,顶端渐尖,钝或微凹,基部楔形和阔楔形,边缘除基部外具疏腺齿;侧脉每边10~12条,直达齿端,中脉与侧脉在背面密被微柔毛;叶柄长约9 mm,密被微柔毛。穗状花序;雄花:花序长达11 cm,花萼倒卵形或浅杯状,6深裂,顶端边缘具睫毛,雄蕊8~10枚,花丝长1.5~3.5 mm;雌花:单朵或2朵聚生于总苞内,子房3室,花柱通常3枚,稀2枚,长0.8~1 mm。穗状果序长5~15 cm,1或2~3个聚生于果枝上;壳斗连刺直径1.5~2.7 cm,刺较长而软,长5~12 mm;壳斗仅包住坚果不够一半;坚果圆锥形,长达2.2 cm,密被锈色短柔毛和具粗棱。花期7~8月或11~12月;果期9~10月或1~2月。

本种与窄叶锥(*Castanopsis choboensis* Hick et A. Camus)与印度锥(*C. indica* (Roxb.) Miq.)近缘,不同在于本种壳斗仅包住坚果不够一半,差别较大,易于区别。

本种仅见于海南文昌市东北部常绿季雨林中,资源甚少,急需进行人工管护与扩种。伴生树种有珠仔树(*Symplocos racemosa*)、香蒲桃(*Syzygium odoratum*)、金莲木(*Ochna integerrima*)、九节等。

本种木材较坚硬,密致,可供建筑模板、简易家具、农具等用材。种子含淀粉,可炒食或生食。

## 3. 琼北锥 别名: 大叶科锥(文昌) 图版 I-C

*Castanopsis qingbeiensis* G. A. Fu sp. nov.

Species affinis *Castanopsis chinensis* Hance, a qua folius ovato-lanceolatis vel ovato-oblongis et ovato-ellipticis; et foliis durioribus differt.

Arbor, 4~9 m alta, truncus 14~20 cm diam. Ramulis glabris. Folia coriacea, ovato-lanceolata vel ovato-oblonga et ovato-elliptica, 6.5~9.5 (~11.5) cm longa,

2~3.5 (~4.5) cm lata, apice longo-acuminata, basi late cuneata vel suborbicularibus, saepe obliquera, marginem 2/3 serrulata, nervis lateralibus utrinque 9~10; petioli 10~12 mm longi, glabri. Inflorescentiae spicatae; flores ♂; calycis obovatis, 6-partis, staminibus 10~12, filamentis 3~4 mm longis; flores ♀; involucra flore uno vel duo amplexantia, ovario 3-loculo, stylis vulgo 3, raro 2 vel 4, 1~1.5 mm longis. Infructescentia spica 7.5~8.5 cm longa, solitaria vel 2 in ramulis disposita, cupulae cum spinis usque ad 3.5 cm diam., spinis 6~10 mm longis, puberulis, interdum ad partem superiorum 2~5 ramosis obtectibus, nucleis cylindricis vel globosis, puberulis, cicatricis convexis.

**Hainan (海南):** Wenchang (文昌), Gongpo town (公坡镇), Longfeitou village, 27, Nov., 1999, fruit, G. A. Fu 10248 (Fr. Typus, HFB<sup>11</sup>); ibid., G. A. Fu 7744; 10175; Baocaishan village, G. A. Fu 8172; 8173; 8171; 6682. Longfeitou village, 15, Mar., 1997, flores, G. A. Fu 8243 (Fl. Typus, HFB<sup>11</sup>); ibid., G. A. Fu 10249A; ibid., Xiao-Jia (肖嘉) 137877; Baocaishan village, G. A. Fu 8108; 7895; 6960.

常绿乔木, 高 4~9 m, 胸径 14~20 cm, 树皮暗灰褐色。小枝无毛, 老枝散生灰色凸起皮孔。叶革质, 卵状披针形或卵状长圆形与卵状椭圆形, 长 6.5~9.5 (~11.5) cm, 宽 2~3.5 (~4.5) cm, 先端长渐尖, 基部阔楔形或近圆形, 常偏斜, 2/3 边缘具疏而利的腺齿; 侧脉每边 9~10 条, 直达齿端, 叶柄长 10~12 mm, 无毛。穗状花序: 雄花: 花序长 2.5~3.5 cm, 花萼倒卵形, 6 深裂, 顶端边缘具睫毛, 雄蕊 10~12 枚, 花丝长 3~4 mm; 雌花: 花序长 5~6 cm, 单朵或 2 朵聚生于一总苞内, 子房 3 室, 花柱通常 3 枚, 稀 2 或 4 枚, 长 1~1.5 mm, 向外卷曲。穗状果序长 7~8.5 cm, 单个或 2 个着生于果枝上; 壳斗连刺直径达 3.5 cm, 刺长 5~9 mm, 刺除顶端外被微柔毛, 有时中部以上有 2~5 枚分枝刺; 坚果圆筒形或圆球形, 初被微柔毛, 毛除顶端外, 后渐脱落; 果脐直径 6~9 mm, 凸起。花期 1~4 月; 果期 10~12 月。本种与桂林栲 (*Castanopsis chinensis* Hance) 近缘, 不同在于本种叶为卵状披针形或卵状长圆形与卵状椭圆形, 以及叶质地较坚硬等, 容易区别。

本种常见于海南文昌市东部与中部常绿季雨林中; 伴生树种有竹叶木姜子 (*Litsea pseudlongata*)、方

枝蒲桃 (*Syzygium tephrodes*)、文昌锥 (*Castanopsis wenchangensis*)、珠仔树 (*Symplocos racemosa*) 等。

该树木材淡黄色, 材质坚硬, 可供建筑、家具、农具等用材。

#### 4. 油锥 别名: 假牛锥 (文昌) 图版 I-D

*Castanopsis oleifera* G. A. Fu sp. nov.

Species affinis *Castanopsis hainanensi* Merr. a qua foliis oblongis vel longo-ellipticibus; nervis lateralibus arcuato-concava differt. Etiam affinis *C. Jucundae* Hance, Sed folia coriacea, crasoribus, subtus haud careus differt.

Arbor, usque ad 12 m alta et 28 cm diam., ramulis dense puberulis, folia coriacea, oblonga vel longo-elliptica, 4.5~9 cm longa, 2~4 cm lata, apice acuminata vel longo-acuminata, basi late cuneata, subtus glabra, margine 1/2 ~ 2/3 remoto serrulata, nervis lateralibus utrinque 9~10; petioli usque ad 9 mm longi, glabri. Inflorescentiae spicatae; flores ♂; calycis obovatis vel cyathiformibus, 5-partitis, rarioribus 6, staminibus 10, rarioribus 8; filamentis 3~4 mm longis; flores ♀; inflorescentiae 8~11 cm longae, dense puberulae; involucra flore uno vel duo amplexantia; ovario 3-loculo, stylis vulgo 3, rarioribus 2, 1~1.5 mm longis. Infructescentia spicata 6~13 cm longa, solitaria vel 2 in ramulis disposita; cupulae cum spinis 2~2.5 cm diam., spinis cir. 8 mm longis; nucleis cylindricis, initio puberulis obtectis, demum glabraescentibus; sed apice puberulis persistis.

**Hainan (海南):** Wenchang (文昌) Changsa town (昌洒镇), Baocaishan Village (宝彩山村), 18, Dec., 1995, flores, G. A. Fu 8167 (Fl. Typus, HFB<sup>11</sup>); ibid., G. A. Fu 8107; 8166; 8109; 8170, Gongpo town (公坡镇), Longfeitou Village (龙飞头村), G. A. Fu 7894; 8237; 8238; 8239; 8243; 8244, Baocaishan Village (宝彩山村), 7, Oct., 1989, fruit, G. A. Fu 6683 (Fr. Typus, HFB<sup>11</sup>); ibid., G. A. Fu 6681. Longfeitou village, G. A. Fu 7740; 7742; 7743; 10174.

常绿乔木, 高达 12 m, 胸径达 28 cm, 小枝密被微柔毛, 老枝散生灰白色皮孔。叶革质, 长圆形或长椭圆形, 长 4.5~9 cm, 宽 2~4 cm, 先端渐尖或长渐尖, 基部阔楔形, 稀圆钝, 背面无毛, 边缘 1/2~2/3 具疏而利的腺齿; 侧脉每边约 9 条, 直达齿端; 叶柄长约 9

mm, 无毛。穗状花序; 雄花: 花序长 2.5~3.5 cm, 2~7 朵花聚生于花枝上, 其中仅 2~3 朵发育, 花萼倒卵形或浅杯状, 5 深裂, 稀 6 深裂, 顶端边缘具睫毛; 雄蕊 10 枚, 稀 8 枚, 花丝长 3~4 mm; 雌花: 花序长 8~11 cm, 密被灰白色微柔毛, 单朵或 2 朵聚生于一总苞内, 子房 3 室, 花柱 3 枚, 稀 2 枚, 长 1~1.5 mm。穗状果序长 6~13 cm, 果单生或 2 个聚生于果枝节上, 壳斗不开裂或开裂, 壳斗连刺直径 2~2.5 cm, 刺长约 8 mm; 坚果圆筒形, 具棱, 初被微柔毛, 后渐脱落, 仅顶部微柔毛宿存; 果脐面积为 8 mm × 7 mm, 凸起。花期 1~3 月; 果期 10~12 月。

本种与海南锥 (*Castanopsis hainanensis* Merr.) 近缘, 不同在于本种叶为长圆形或长椭圆形, 侧脉呈弓形弯拱, 而海南锥叶为倒卵形或倒卵状椭圆形; 侧脉直达齿端。又与秀丽锥 (*C. gucunda* Hamce) 相近似, 但前者叶为纸质或近革质, 较薄, 叶背被松散的腊质

层, 差别较大, 容易鉴别。

本种仅见于文昌东部海拔约 20 m 的常绿季雨林中, 资源甚少, 急需保护与扩种, 以免绝种; 伴生树种有竹叶木姜子 (*Litsea pseudoelongata*)、红鳞蒲桃 (*Syzygium hancei*)、九节 (*Psychotria rubra*) 等。

本种木材色浅而带韧性, 易加工, 可供建筑模板、简易家具、农具等用材。种仁富含淀粉和糖分, 可炒食或生食。

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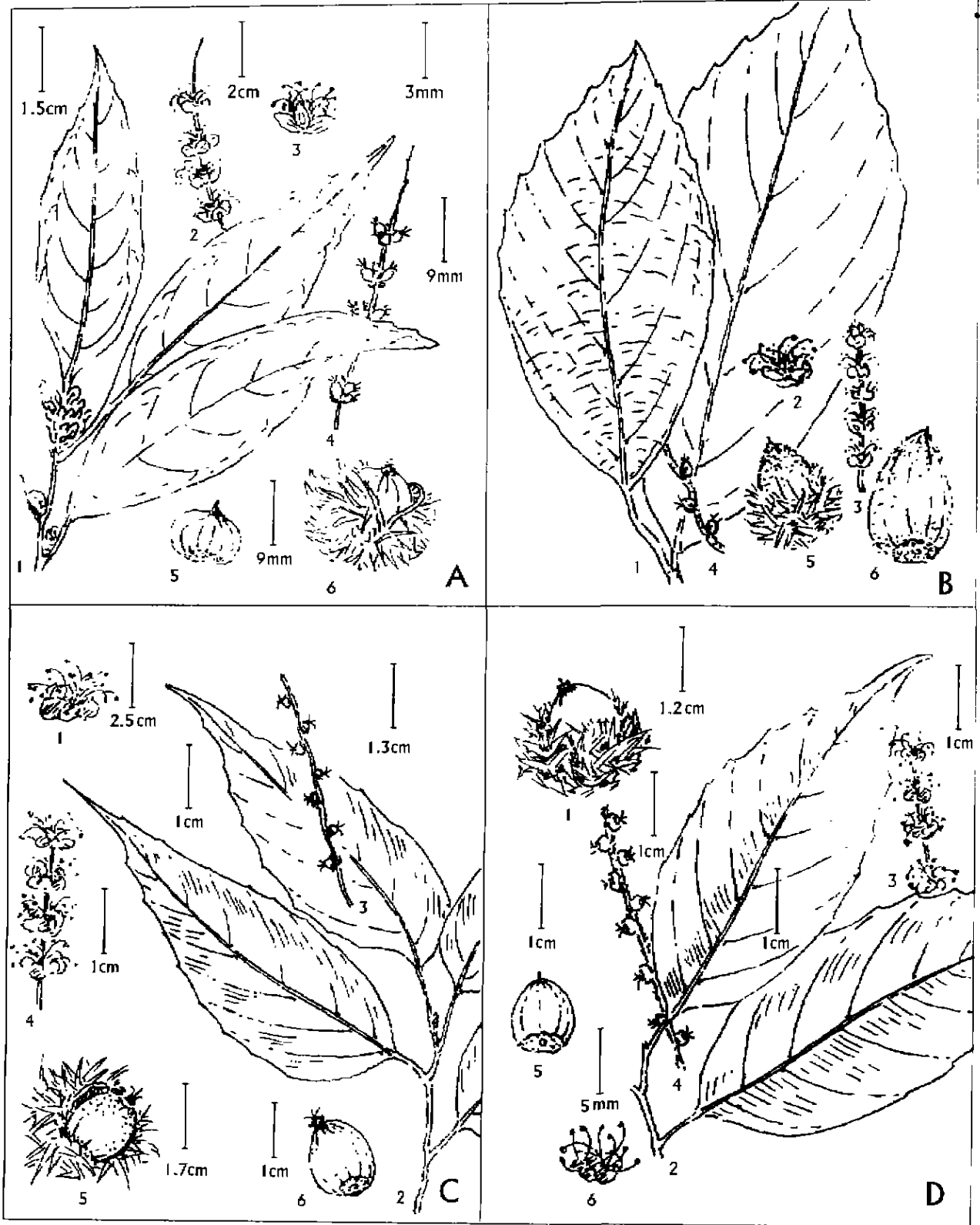


图 A 1. 叶枝 A leaves branch; 2. 雄花序 Inflorescence ♂; 3. 雄花 Flower ♂; 4. 雌花序 Inflorescence ♀; 5. 坚果 Nucula; 6. 带坚果壳斗 Cupula with nucula.

图 B 1. 叶枝 A leaves branch; 2. 雄花 Flower ♂; 3. 雄花序 Inflorescence ♂; 4. 雌花序 Inflorescence ♀; 5. 带坚果壳斗 Cupula with nucula; 6. 坚果 Nucula.

图 C 1. 雄花 Flower ♂; 2. 叶枝 A leaves branch; 3. 雌花序 Inflorescence ♀; 4. 雄花序 Inflorescence ♂; 5. 带坚果壳斗 Cupula with nucula; 6. 坚果 Nucula.

图 D 1. 带坚果壳斗 Cupula with nucula; 2. 叶枝 A leaves branch; 3. 雄花序 Inflorescence ♂; 4. 雌花序 Inflorescence ♀; 5. 坚果 Nucula; 6. 雄花 Flower ♂. (王其兴 绘)