

Additions to the Cycadaceous Flora of China^{*}

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Abstract Five new species of *Cycas* from Guangxi of China are reported. They are *Cycas longiconifera* Chang, Y. C. Zhong et Y. Y. Huang, *C. acuminatissima* Chang, Y. C. Zhong et Z. F. Lu, *C. palmatifida* Chang, Y. Y. Huang et Y. Z. Zhong, *C. septem sperm a* Chang, Y. Y. Huang et H. X. Zheng and *C. brevipinnata* Chang Y. Y. Huang et Y. C. Zhong.

Keywords *Cycas*, *C. longiconifera*, *C. acuminatissima*, *C. septem sperm a*, *C. palmatifida*, *C. Brevifolia*

Classificational number Q 949. 4. 62

1 *Cycas longiconifera* Chang, Y. C. Zhong et Y. Y. Huang, sp nov.

Species strobilis masculis anguste cylindricis 50 cm longis circ. 4 cm latis, pinnis multo remotis distincta.

Truncus 70 cm altus. Folia simplipinnata 230~ 245 cm longa, 50~ 60 cm lata, petiolis 80~ 85 cm longis glabris; spinis 30~ 34-jugis, 2~ 3 mm longis, inter se 1. 2~ 2. 2 cm remotis; pinnis coriaceis in sicco luteo-viridibus, 58~ 64-jugis suboppositis, 25~ 30 cm longis, 1. 3~ 1. 9 cm latis leviter arcuatis, inter se 1. 5~ 2 (2. 2) cm remotis, sessilibus decurrentibus, costis utraque elevatis; strobilus masculus anguste cylindricus, 46~ 50 cm longus, 3. 5~ 4 cm in diam; microsporophylla 2 cm longa, apice circ. 1 cm lata; macrosporophylla ignota.

Guangxi Baise, alt. 650 m, in calceo-saxo, March, 26, 1998, Y. C. Zhong 8771 typus (SYS).

This new species is characterized by slenderly cylindrical male strobile and widely remote pinnae.

2 *Cycas acuminatissima* Chang, Y. C. Zhong et Z. F. Lu, sp nov.

Species a *C. miquelii* Warb. spinis multo brevibus, pinnis tenuiter coriaceis, rachide frontis glabra, Carpophyllis brevioribus, segmentis pectinis anguste gracilibus differt; a *C. parvulo* spinis brevioribus, pinnis angustioribus decurrentibus apice acuminatissimis,

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carpophyllis breioribus recedit.

Truncus 50 cm altus. Folia 135 cm longa, 45~ 55 cm lata; petiolis 45 cm longis subglabris, spinis 32-jugis valde brevilibus circ. 0.5 mm longis; pinnis 53-jugis tenniter coriaceis 26~ 30 cm longis 9~ 11 mm latis, basi sessilibus decurrentibus, apice longissime acuminatissimis, inter se circ 1 cm remotis costis utraque elevatis. Microsporophylla non visa. Carpophylla 8~ 9 cm longa parte superiore late ovata 4~ 4.5 cm longa., 3.5~ 4.5 cm lata. pectinatifida, segmentis 13~ 14-jugis, circ 2 cm longis 1 mm latis, pedicellis 3.5~ 4.5 cm longis, 3~ 4 mm in diam, brunneo-tomentosis, ovulis 3~ 4 glabris.

Guangxi Tianyang, March, 26, 1998, Y. C. Zhong 8770 typus (SYS).

The new species differs from *C. miquelii* Warb. by the much shorter spines, the subcoriaceous pinnae and glabrous rachis, and much shorter carpophylls and narrower pectinate segments; differs from *C. parvulus* by the shorter spines, narrower pinnae with decurrent bases and acuminate apex, as well as the shorter carpophylls.

3 *Cycas palmatifida* Chang, Y. Y. Huang et Y. C. Zhong, sp. nov.

Species carpophyllis palmatifidis, segmentis terebriformis, spinis 5~ 6 mm longis distincta.

Truncus 40 cm altus, cataphyllis lanceolatis 5~ 7 cm longis, brunneo-tomentosis. Folia 140~ 150 cm longa, 50 cm lata, petiolis 55~ 60 cm longis, atro-brunneo-villosis, spinis 30~ 37-jugis, 5~ 6 mm longis inter se 1.5~ 2.2 cm remotis, pinnis 52~ 59-jugis, coriaceis 26~ 28 cm longis, 1.1~ 1.4 cm latis glabris, sessilibus decurrentibus inter se 1~ 1.2 cm remotis costis utraque elevatis. Strobilus masculus ignotus. Carpophylla 8~ 9 cm longa, brunneo-tomentosa, parte superiore subrotundata 5 cm × 5 cm in diam, profunde palmatifida, segmentis 5~ 7-jugis terebriformis 3.5~ 4 cm longis, 2 mm in diam, segmentis terminati 6~ 7 mm latis, parte inferiore pedicello, 4.5~ 5.5 cm longo, utrinque ovulo duo vel solitario instructa.

Guangxi Nanning, Nanning Arboretum, April, 19, 1998, H. X. Zheng et Y. Y. Huang 98002, typus, (SYS).

This new species is characterized by the deeply palmatifid carpophyll, with drill-like segments and longer spines.

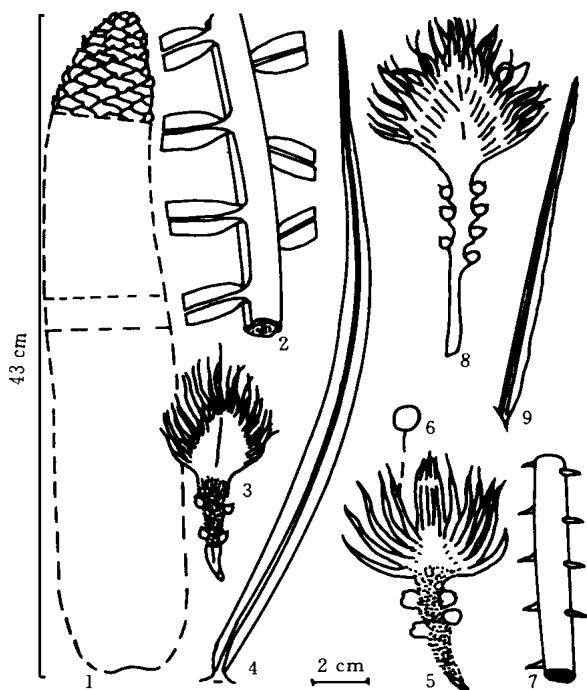


Fig. 1 Four new species of *Cycas*

1~ 2 *Cycas longiconifera*: 1 microstrobillus (part), 2 pinna; 3~ 4 *Cycas acuminatissima*: 3 megasporophyll, 4 pinna; 5~ 7 *Cycas palmatifida*: 5 megasporophyll, 6 transverse section of segment, 7 spine; 8~ 9 *Cycas septensperma*: 8 megasporophyll, 9 pinna

4 *Cycas septemsperma* Chang, Y. Y. Huang et H. X. Zheng sp nov.

Species a *C. pectinata* Hamilt. foliis et pinnis brevioribus, ovulis pluris differt; a *C. sexseminifera* foliis et petiolis brevioribus, pinnis paucioribus brevioribus angustioribusque, multo segmentis carpophyllae differt.

Truncus circ. 40 cm altus erectus. Frons 60~ 67 cm longa, 25~ 27 cm lata, petiolis circ. 10 cm longis glabris; spinis 5~ 6-jugis 0.5~ 1.5 mm longis 7~ 10 mm remotis; pinnis 46~ 50-jugis crassius coriaceis glabris 12~ 14 cm longis 6~ 7 mm latis sessilibus decurrentibus, costis utraque elevatis, inter se 6~ 10 mm remotis. Strobilus masculus ignotus. Carpophylla 11~ 13 cm longa, parte superiore triangulo-ovata 5~ 6 cm longis, 4.5~ 5.5 cm latis, pectinatim pinnatifida. pinnis 15~ 18-jugis. 2 cm longis 1~ 1.5 mm latis, segmento terminali 2.5 cm longo, 2~ 3 mm lato, pedicelis 6~ 8 cm longis, ovalis 7 vel rearius 6, glabris.

Guangxi Nanning, Nanning Arboretum. August 1997, Y. Y. Huang et H. X. Zheng 192 typus (SYS).

This species is characterized by the shorter-petiole, narrower pinnae and very short spines, and seven ovules. It differs from *C. pectinata* by the shorter leaves and numerous ovules; differs from *C. sexseminifera* Wei by the shorter petiole and leaves, narrower and shorter pinnae, more segments of the carpophyll.

5 *Cycas brevipinnata* Chang, Y. Y. Huang et Y. C. Zhong, sp nov.

Species foliis brevibus 50 cm longis, spinis valde brevibus, pinnis paucioribus 45~ jugis, brevibus 11 cm longis distincta.

Truncus 20 cm altus subglobosus, pallidulus. Folia 40~ 50 cm longa, 20~ 22 cm lata, petiolis 14 cm longis, gracilibus 4~ 5 mm in diam; spinis 3~ 5-jugis 0.5 mm longis, inter se 6~ 8 mm remotis, pinnis 40~ 44-jugis coriaceis, 10~ 12 cm longis, 7~ 8 mm latis, costis supra elevatis, subtus leviter impressis, sessilibus, inter se circ. 5 mm remotis. Microsporophylla et macrosporophylla non visa.

Guangxi Nanning, Nanning Arboretum. April, 21, 1998. H. X. Zheng et Y. Y. Huang 98003, typus (SYS).

中国苏铁科植物增补

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摘要 发表了广西苏铁 5 个新种。① 长球果苏铁 *Cycas longiconifera* Chang, Y. C. Zhong et Y. Y. Huang 以雄球果狭长, 羽叶疏远为特征; ② 尖尾苏铁 *Cycas acuminatissima* Chang, Y. C. Zhong et Z. F. Lu 以羽片先端尖长, 大孢子叶短小为特征; ③ 掌裂苏铁 *Cycas palmatifida* Chang, Y. Y. Huang et Y. C. Zhong 以大孢子叶掌状深裂, 裂片圆锥状, 刺特长为特征; ④ 七籽苏铁 *Cycas septemsperma* Chang, Y. Y. Huang et H. X. Zheng 以羽片及刺均极短, 胚珠 7 个为特征; ⑤ 短叶苏铁 *Cycas brevipinnata* Chang, Y. Y. Huang et Y. C. Zhong 以羽叶和羽片均短小, 刺亦极短为特征。

关键词 苏铁属, 长球果苏铁, 尖尾苏铁, 掌裂苏铁, 七籽苏铁, 短叶苏铁

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