

Hoya radicalis Tsiang et P. T. Li, One Newly Recorded Species from Hainan, China

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Abstract: A species, Asclepidaceae, *Hoya radicalis* Tsiang et P. T. Li is reported as new records from Hainan, China. The specimens examined is preserved in Dendological Herbarium, College of Forestry, South China Agricultural University (CANT).

Key words: Asclepidaceae; *Hoya radicalis*; Hainan; new record

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匙叶球兰海南分布新记录

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摘要:报道了海南1种球兰分布新记录萝藦科 Asclepidaceae 匙叶球兰 *Hoya radicalis* Tsiang et P. T. Li, 凭证标本存放在华南农业大学林学院植物标本馆(CANT)。

关键词:萝藦科; 匙叶球兰; 海南; 新记录

Hoya is a medium-sized genus of Asclepidaceae, there are over 500 species names in the world so far with IPNI statistics, and widely distributed around tropical and subtropical areas. From the East Asia to Oceania Peninsula, there were over 300 species of *Hoya*. There were 6 native species, which are among 1 endemic and 1 naturalized in Australia^[1]. There were 29 species in India^[2]. China is one of important counties related to distribution *Hoya*'s in the world. There were 32 species, with 2 varieties and 2 naturalized cultivated in China^[3-10].

Yunnan, Guangxi and Hainan are a distribution *Hoya*'s center circle in China. *Hoya pandurata* Tsiang was distributed in Yunnan, the correct name was effectively published by South China Agricultural University's Professor Tsiang Ying in 1939, and ranked in

world endangered plant red book in 2007 by International Union for Conservation of Nature(IUCN), with the endangered rank VU B2ab(ii, iii, iv).

The most species of *Hoya* were distributed in the southeast, south-central, southwest and central section of tropical rain forest of Hainan Island. *Hoya carnosa* (Linnaeus f.) R. Brown, *Hoya dasyantha* Tsiang, *Hoya fungii* Merrill, *Hoya griffithii* J. D. Hooker, *Hoya lasiogynostegia* P. T. Li., *Hoya liangii* Tsiang, *Hoya ovalifolia* Wight & Arnott, *Hoya pottsii* Traill, *Hoya fusca* Wallich, *Hoya villosa* Costantin were recorded 10 species in Hainan of China^[3,5,8-12].

Hoya radicalis Tsiang et P. T. Li in Acta Phytotax. Sinica 12: 120 – 122. 1974, Fl. Reip. Pop. Sin 63: 488. 1977; Li et al., Flora of China 16: 234,

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1995. Type: Guangdong, Maoming, in mixed woods, fls. white, purple-spotted, 4 VIII 1956, L. Tang 1859 (Holotype in SCBI).

Specimens examined: The scientific explorer of South China Botanical, Chinese Academy of Sciences collected specimen in Hainan, and cultivated in South China Botanical. July 7, 2007. S. Y. He, P. T Li: 0706071 (CANT).

Distribution: Maoming, Guangdong Province; Shang-Sze Guangxi. *Hoya radicalis* is newly recorded in Hainan.

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References:

- [1] FORSTER P I, LIDDLE D J. *Hoya* [M] // ORCHARD A E. Flora of Australia: Vol. 28. Melbourne: CSIRO, 1996: 235-237.
- [2] JAGTAP A P, SINGH N P. Fascicles of Flora of India, fascicle: Vol. 24 [M]. Calcutta: Botanical Survey of India, 1999: 91-122.
- [3] South China Institute of Botanical Academia Sinica. Flora Hainanica: Vol. 3 [M]. Beijing: Science Press, 1974: 271-274.

- [4] Institute of Botany, the Chinese Academy of Sciences. Iconographia Cormophytorum Sinicorum: Vol. 63 [M]. Beijing: Science Press, 1974: 504-507.
- [5] TSIANG Y, LI Ping-tao. Flora Reipublicae Popularis Sinicae: Vol. 63 [M]. Beijing: Science Press, 1977: 475-492.
- [6] Kunming Institute of Botany, the Chinese Academy of Sciences. Flora Yunnanica: Vol. 3 [M]. Beijing: Science Press, 1983: 641-652.
- [7] WU Cheng-yih. Flora Xizangica: Vol. 4 [M]. Beijing: Science Press, 1985: 11-12.
- [8] South China Institute of Botanical Academia Sinica. Flora Guangdong: Vol. 1 [M]. Guangzhou: Guangdong Science and Technology Press, 1987: 484-489.
- [9] GILBERT M G, STEVENS W D. LI Ping-tao. Notes on the Asclepiadaceae of China [J]. Novon, 1995, 5: 1-16.
- [10] LI Ping-tao, GILBERT M G, STEVENS W D. *Hoya* R. Brown [M] // WU Zheng-yi, RAVEN P H. Flora of China: Vol. 16, Beijing and St. Louis: Science Press and Missouri Botanical Garden, 1995: 228-236.
- [11] FU Li-kuo, CHEN Tan-qing, LANG Kai-yung, et al. Higher Plants of China: Vol. 9 [M]. 1999: 169-173.
- [12] TSIANG Y, LI Ping-tao. Praecursores Florae Asclepiadacearum Sinensium [J]. Acta Phytotaxonomica Sinica, 1974, 12(1): 120-127.

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安全气囊系统或ABS系统与车身控制系统的信号线是相通的;波罗轿车发动机控制系统与安全气囊2系统信号线也是相通的。

综上所述,利用诊断仪排除汽车门锁意外锁止的车辆,需要具备以下条件:

- 1) 具有电控门锁、安全气囊或车身控制系统、ABS系统或发动机电控系统;
- 2) 发动机盖锁是机械的;
- 3) 安全气囊或车身控制系统的信号线与ABS系统或发动机电控系统的控制单元的信号线是相通的;
- 4) ABS系统或发动机电控系统的控制单元接头至少有1个在发动机室,或更易找到的地方。

参考文献:

- [1] JURGEN R. Automotive electronics handbook [M]. New York: McGraw Hill CADivision of the McGraw Hill Companies, 1999.
- [2] 华韬,阳宪惠,宋明浩. 基于CAN/LIN网络的汽车门锁控制系统[J]. 电子技术应用, 2005, (11): 31-32.

- [3] 王亚俊. 释义汽车中央门锁[J]. 汽车运用, 2006(1): 34.
- [4] 孙余凯,项绮明. 新型汽车电子电器故障检修技巧与实例[M]. 北京:电子工业出版社,2005.
- [5] 陆文昌. 汽车电子技术与维修[M]. 北京:化学工业出版社,2005.
- [6] 陈佳木, 阙有波. 帕萨特 B5 电控系统故障诊断与检修 [M]. 北京:中国三峡出版社,2002.
- [7] 唐天德. 汽车中央控制门锁“二次开锁”功能开发[J]. 科技信息: 科学教研, 2007(19): 287, 339.
- [8] 黄凌. 安全气囊系统维修从入门到精通[M]. 北京:国防工业出版社,2005.
- [9] 北京西实谊汽车图书公司. 桑塔纳,捷达,帕萨特,奥迪 ABS 和防盗系统原理与检修[M]. 北京:中国三峡出版社,2003.
- [10] 徐森,魏建秋. ABS/ASR 系统维修从入门到精通[M]. 北京:国防工业出版社,2004.
- [11] 常静. 基于指纹识别的汽车门锁遥控器设计[J]. 城市车辆, 2006(4): 46-48.
- [12] 吴志刚. 上海通用赛欧轿车遥控中控门锁系统(四) [J]. 汽车维修技师, 2006(6): 20-22.

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