

## Some New Records of Ferns from Vietnam (2)

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**Abstract:** Nine species of ferns are reported for the first time from Vietnam: *Cyrtomium pachyphyllum* (Rosenst.) C. Chr., *C. shingianum* H. S. Kung et P. S. Wang, *Dryopteris bodinieri* (Christ) C. Chr., *D. gymnosora* (Makino) C. Chr., *Teratophyllum aculeatum* (Bl.) Mett. ex Kuhn, *Elaphoglossum sinii* C. Chr. ex Wu, *Tectaria herpetocaulos* Holtt., *T. hokouensis* Ching et C. H. Wang, *Boniniella cardiophylla* (Hance) Tagawa, distributions are discussed.

**Key words:** New records; Ferns; Vietnam

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1. *Cyrtomium pachyphyllum* (Rosenst.) C. Chr. Ind. Fil. Suppl. 2: 11. 1917; Shing in Acta Phytotax. Sin. Addit. 1: 8. 1965; H. S. Kung, Fl. Reip. Pop. Sin. 5 (2): 190. pl. 56: 1-2. 2001—*Polystichum pachyphyllum* Rosenst. in Fedde Repert. Sp. Nov. 13: 130. 1914.

**Specimens examined:** Vietnam: Ha Giang Province, Yen Minh Distr. Lao Va Chai mun., 23°06'30" N, 105°04'32" E, alt. c. 1520 m. On logged closed evergreen broad-leaved forests of limestone mountains, 26 Nov. 2004, S.G. Wu *et al.* WP-678.

**Distribution:** China: Guizhou and SE. Yunnan Prov.

2. *Cyrtomium shingianum* H. S. Kung et P. S. Wang in Chin. Journ. Appl. Environ. Biol. 3 (1): 23. f. 1: 6. 1997; Fl. Reip. Pop. Sin. 5 (2): 187. pl. 54: 1-3. 2001.

**Specimens examined:** Guang Binh prov., Bo Trach distr., Tan Trach mun., alt ca 850 m., around 17°24'24" N, 106°13'08" E, and km 37 of the road no 565, limestone area Phong Nha-ke Bang National Park, in closed coniferous (*Calocedrus rupestris*) submontaine forests, Lithophyte Rare. 13. Dec. 2004. S. G. Wu *et al.* WP-1122.

**Distribution:** China: Guizhou prov.

**Note:** This fern is a rare species characterized by 3-5 pairs of lateral pinnae, pinnae ovate-oblong unequal and cortate at base, texture thin coriaceous, edges of pinnae entire.

3. *Dryopteris bodinieri* (Christ) C. Chr. Ind. Fil. 254. 1906; Christ in Lecomete, Not. Syst. 1: 39. 1909; Ching in Bull. Fan Mem. Inst. Biol. Bot. 8: 398. 1938; Fl. Reip. Pop. Sin. 5 (1): 105. fig. 16: 1-3. 2000.

**Specimens examined:** N. Vietnam, Ha Tinh Prov., Yen Minh Distr., Lao Va Chai Municipality, to west of Ngan Chai vill. About 0.5 km. around 23°06'30" N, 105°04'32" E. Between wet and rather open rocks forest of limestone slope at elevation about 1400-1500 m., 25 Nov. 2000, S. G. Wu *et al.* WP-594.

**Distribution:** China: Hunan, Sichuan, Guizhou, SE Yunnan prov.

4. *Dryopteris gymnosora* (Makino) C. Chr. Ind. Fil. 269. 1906; Tagawa, Coll. Illustr. Jap. Pteid. 105. pl. 39. f. 219. 1959; Fl. Reip. Pop. Sin. 5 (1): 202. 2000—*Nephrodium gymnosorum* Makino in Bot. Mag. Tokyo 13: 64. 1899.

**Specimens examined:** Vietnam: Ha Giang province, Yen Minh Distr. Du Gia mun. around 22°56'51" N, 105°10'24" E., about 2 km to SW of Giang Tru C vill, in heavily logged primary broad-leaved forest of limestone submontaine.

**Distribution:** China: Anhui, Jianxi, Fujian, Sichuan and Yunnan prov.; Japan.

5. *Teratophyllum aculeatum* (Bl.) Mett. ex Kuhn. in Ann. Luedg. Bot. 4: 296. 1869; Holttum Fl. Mal. 2: 473. fig. 276, a-h. 1954; Holttum in C. G. G. J. Van Steenis Fl. Mal. 2 (1): 269. 1978.

**Specimens examined:** N. Vietnam, Ha Tinh Prov., Huong Son Distr., Son Kim Municipality, Rao Bun stream around point 18°23'39" N, 105°15'12" E. Primary broad-leaved evergreen closed wet forest on very steep shale slopes of river canyon at elevation about 300~400 m.

Creeping epiphytic vine up to 8 m long . collectors: P . K . Loc, L . Averyanov, P . V . The, N . T . Vinh . No HAL 5095 4 May 2004; Guang Binh prov . Bo Trach distr ., Xuan Trach mun . Phong Nha-Ke Bang National Park ca . 450 m . around 17° 39' 24" N, 106° 05' 66" E, about 25 km to north of Khe Gat, on Ho Chi Minh road, in heavily logged primary and secondary closed broad-leaved lowland shady forests, WP-958; Hung Trach mnu . Phong Nha-Ke Bang National Park ca . 650 m . around 17° 27' 13" N, 106° 23' 06" E, between km 51 - 56 of west branch of Ho Chi Minh road, in logged primary closed broad-leaved lowland shady forests, WP-916 .

**Distribution:** Philippines, Malaya . Thailand . Singapore . Indonesia .

**Note:** Teratophyllum is a small fern genus and very common on the tropic rainforest of SE Asia but never found from Vietnam before . The young plants has bathyphylls and acrophylls two form leaves, bathyphylls much smaller than the acrophylls . Rhizome of young plants rather slender, creeping or climbing high up to tree .

6 . *Elaphoglossum sinii* C . Chr . ex Wu in Bull . Dept . Biol . Coll . Sci . Sun Yatsem Univ . no . 3 . 346 . pl . 164 . 1932; C . Chr . Ind . Fil . Suppl . 3: 104 . 1934; Fl . Reip . Pop . Sin . 6 (1): 135, pl . 25: 1-5 . 1999 .

**Specimens examined:** Ha Giang province, Yen Minh Distr . Lao Va Chai mun ., 23° 06' 30" N, 105° 04' 32" E, alt . c . 1 520 m . In logged primary closed evergreen broad-leaved forest of limestone mountains, 25 Nov . 2004, S . G . Wu *et al* . WP-579 .

**Distribution:** China: Guangxi prov .

7 . *Tectaria herpetocaulos* Holtt . In Dansk Bot . Ark . 23: 241 . 1965 et in Rev . Fl . Malaya 2: 636 . 1968; S . K . Wu in Acta Phytotax . Sin . 40 (6): 534 . 2002 . — *Tectaria simaensis* Ching et C . H . Wang in Acta Phytotax . Sin . 19 ( . ): 130 . 1981; C . H . Wang in Fl . Reip . Pop . Sin . 6 (1): 87, pl . 15: 6-8 . 1999 .

**Specimens examined:** Kon Tum prov ., Kon Plong Distr ., Po E mun ., Violac Vill ., 14° 45' 16" N, 108° 30' 41" E, Alt . c . 900 - 1 000 m . in logged primary closed evergreen broad-leaved forest of limestone mountains, along rocky streams 22 Nov . 2003, S . G . Wu *et al* . WP-186 . Quang Binh prov ., Bo Trach distr ., Hung Trach mun ., Phong Nha-ke Bang National Park, alt ca 600 m ., around 17° 27' 30" N, 106° 23' 06" E . in logged primary closed broad-leaved lowland shady forests, WP-914 .

**Distribution:** China: SE . Yunnan prov ., N . Thailand,

S . India and W . Malaysia .

**Note:** This is species similar to the *T. polymorpha*, but having long-creeping rhizome with remotely placed frond and pinnae cuneate to rounded at base, common in Vietnam .

8 . *Tectaria hokuoensis* Ching et C . H . Wang in Acta Phytotax . Sinica 19 (1): 127 . 1981; Fl . Reip . Pop . Sin . 6 (1): 84 . pl . 14: 1-4 . 1999 .

**Specimens examined:** Tuyen Quang prov ., Na Hang Distr . 30 Dec . 2001 . T-V157 .

**Ditribution:** China: S . E . Yunnan prov .

9 . *Boniniella cardiophylla* (Hance) Tagawa in Journ . Jap . Bot . 12: 541 . 1936; Ching in Bull . Fan Mem . Inst . Biol . Bot . ser . 10: 7 . 1940—*Micropodium cardiophyllum* Hance in Journ, Bot . 1883: 268 . 1883 . — *Scolopendrium delavayi* auct non Franch, Phan Ke Loc, Checklist of plant species of Vietnam 974 . 2001 .

**Specimens examined:** Guang Binh prov ., Bo Trach distr ., Tan Trach mun ., alt ca 800 m ., around 17° 24' 24" N, 106° 13' 08" E, and km 37 of the road no 565, limestone area Phong Nha-ke Bang National Park, in primary closed broad-leaved submountaine forests, Lithophyte . especially on the travertine vertical cliff rocks . 13 . Dec 2004, WP-983 and 1114 .

**Ditribution:** China: Taiwan and Hainan .

**Note:** Since 2000, this fern species has never been found from Vietnam, Phan Kai Loc reported it in Checklist of plant of Vietnam, but no cited specimen number and mixed with *Scolopendrium delavayi* Franch .

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Phan Ke Loc, 1998 . On the Systematic Structure of the Vietnamese Flora . In Proc . IFCD (1996): 120—129