

蕨类植物的两新科

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TWO NEW FERN FAMILIES

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蕨科 *Pteridiaceae* Ching, fam. nov., 新科

本科在孢子囊群靠边生这一点是与凤尾蕨科 *Pteridaceae* 相似的,但根状茎长而横生,绳索状,密被锈棕色、有节的长柔毛,不具鳞片,具穿孔的双轮管状中柱;叶片大,三回羽状,遍体有不同的柔毛;孢子囊群同凤尾蕨属,但有两层囊群盖。染色体数目 $n = 52$ 。

科的模式: *Pteridium* Scopoli

一个单属的科,广布于世界各地。

Recedit a Pteridaceis cui soris submarginalibus proxima rhizomate longe repente dense ferrugineo-villoso, paleis earente, solenostelo diecyclico perforatoque praedito; lamina ampla tripinnata ubique varie villosa; soris more Pteridis sed indusiis duplicibus obtectis. Chromosomatum numerus $n = 52$.

Typus: *Pteridium* Scopoli, Fl. Carniolica 169. 1760. Genus unicum per totum orbem dispersum.

蕨属 *Pteridium* Scopoli 过去一直归入凤尾蕨科,实际上,它除了孢子囊群同凤尾蕨相似外,可说无什么其它共同特性,这是大家都知道的。为此,应当成为一个独立的科。

在某些形态方面,蕨科与碗蕨科 *Dennstaedtiaceae*, 特别与姬蕨科 *Hypolepidaceae* 较为接近,但后者根状茎内只有单轮的不穿孔的管状中柱,孢子囊群圆形,分离,从不汇合,生于叶脉顶端,囊群盖小或不发育,由叶片边缘的、不变质的、反折的、淡绿色的锯齿组成,不完全覆盖着孢子囊群、孢子两面型。在《欧洲植物志》第12页,本属是归入姬蕨科的,也不恰当。

肿足蕨科 *Hypodematiaceae* Ching, fam. nov. 新科

一个独特的新科。根状茎横生,腹背对称,颇粗壮;叶照例为二列,生于根状茎背面,叶柄基部明显膨大成纺锤状,包在一大簇的鳞片内;鳞片大,长披针形,全缘,红棕色,质薄而软,非常密,宿存,由狭长的细胞组成,中柱体如蹄盖蕨科和金星蕨科,在叶柄内有两条左右相对的扁维管束,向上在叶轴内结合成V字形;叶片卵状三角形,二至三回羽状复叶,分枝图式为下先出,其叶形和结构同复叶的鳞毛蕨,两面遍体被毛,毛为金星蕨型,针状,有时顶端有腺体,淡白色,单细胞的;叶脉分离,下先出;孢子囊群和盖为圆肾形或肾形,囊群盖上有刚毛或短柔毛;孢子卵圆形,两面型,暗色,表面有密疣状突起。染色体 $n = 41$

(或 40)。

科的模式: *Hypodematium* Kunze

一个单属的科, 约有 15 种, 产亚洲和非洲北部, 广布于中国, 生于石灰岩缝中。

在最近十多年里, 不少蕨类植物学工作者对肿足蕨 *Hypodematium crenatum* (Forsk.) Kunze 这种植物的形态学、解剖学、细胞学和系统发育的亲缘关系等方面做了相当多的研究。这些研究所提供的丰富资料已足够表明肿足蕨属是一个独特的蕨属, 它代表着一小群生于旧大陆的蕨类植物, 在许多方面显示着一种由蹄盖蕨科、金星蕨科的特有的和共同的特征和鳞毛蕨科的一些特征的奇特综合, 正如上面的特征简介中所指出的那样。

过去, 关于肿足蕨属的分类位置问题的意见是多种多样的。本文作者过去一直认为它是金星蕨类的成员, 另一些人 (例如 Christensen, Copeland) 则认为它是鳞毛蕨类的成员, 另有一些人 (例如 Holttum, Iwatsuki, Loyal, Nayar) 则认为它是蹄盖蕨类的成员。但是, 在现在已有研究资料的基础上来看, 似乎表明所有这些人的任何一个人的看法都不比其他的人的看法更为正确些。尽管如此, 本文作者认为对肿足蕨属的分类学的身份和分类位置, 试图做一初步决定的时机已经成熟了, 并且目前愿把肿足蕨科这个新分类单位放在蹄盖蕨科和金星蕨科之间, 因为这两个科的许多特征 (例如中柱体、孢子囊群和盖的形态以及毛的类型) 在肿足蕨科远比鳞片蕨科的特征 (例如叶形、叶的结构、染色体数目) 占着优势。

Familia nova peculiarisque, rhizomate dorso-ventraliter repente, crassiusculo; stipite fasciculis vascularibus duobus, latis, lateraliter juxtapositis, sursum in rachi confluentibus et V-formibus praedito. frondibus typice biserialiter dorso rhizomatis dispositis, creberrimis, stipite basi conspicue tumido vel fusiforme et paleis magnis, lanceolatis, longissimis, integris, rufo-brunneis, mollibus, cellulis angustatis densissime persistenter cincto, stelo vasculare more *Athyriacearum* et *Thelypteridacearum*; lamina frondis ovato-deltaeidea, 2—3-pinnata catadromica more foliorum decompositorum *Dryopteridis*, utraque facie pilis more *Thelypteridacearum*, i.e., aciculatis, pallidis, interdum apice glanduliferis, unicellularibus ubique densissime vel sparse vestita; venis liberis catadromicisque; soris indusiisque sat magnis, ambitu rotundo-reniformibus aut reniformibus, hirsutis vel villosis; sporis rotundo-ovatis bilateralibus, opacis, grosse verruculosus; chromosomata $n = 41$ (vel 40).

Typus: ***Hypodematium crenatum*** (Forsk.) Kunze

Familia monotypica ca. 15 speciebus in Asia et Africa bor. incola, in China late dispersa et in fissuris rupium calcareum crescens.

Summary

Two new families of ferns are proposed as follows:

1. *Pteridiaceae*: The genus *Pteridium* Scopoli was always associated with *Pteris* Linn., and it has long become evident that it is really having a little in common with that genus, from which it should be removed. Its affinity with *Dennstaedtiaceae* and

particularly with *Hypolepidaceae* is evident, in the latter family the genus is placed in the Flora Europaea (page 12), but their differences are considerable, each deserving a distinct family rank.

2. *Hypodematiaceae*: The genus *Hypodematium* Kunze is a queer one, representing a small group (ca. 15 species) of ferns in the Old World, which have a peculiar combination of characteristics, some being shared by *Athyriaceae* and /or *Thelypteridaceae* either together or separately, and others by *Dryopteridaceae*, as indicated in the above diagnosis.

Opinions have been diverse as to the systematic position of the genus. The present writer, for instance, has long held the genus as a thelypteroid fern, while others (e.g. Christensen, Copeland) as tectarid (or rather dryopteroid), and still others (e.g. Holttum, Iwatsuki, Loyal, Nayar) considered it as an athyrid fern. However, on the basis of available data, we are in a better position now to make a decision as to the taxonomic stature and systematic position of the genus. The present writer prefers to placing the family *Hypodematiaceae* in between *Athyriaceae* and *Thelypteridaceae*, because, as is shown, in it both the athyrid and the thelypteroid characteristics (e.g. stelar structure, form of sori and indusia, type of hairs) preponderate over the dryopteroid ones (e.g. frond form, leaf architecture and chromosome number).

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