

Grona, a Genus Separated from *Desmodium* (*Leguminosae* Tribe *Desmodieae*)

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The genus *Desmodium* is polyphyletic as suggested by recent molecular analyses. *Desmodium* sections *Nicolsonia* and *Sagotia* constitute a monophyletic group distinct from that which includes *Desmodium scorpiurus*, the type of the genus. The oldest generic name applicable to the monophyletic group is *Grona* Lour. It was established on the basis of *Grona repens* Lour. (= *Desmodium heterocarpon* (L.) DC.) in 1790, but the name is rejected under the conserved name *Desmodium* Desv. published in 1813. *Desmodium* and *Grona* in a new sense are separated from each other based on morphological and palynological characters and evidence from molecular analyses. *Grona* is, therefore, resurrected in order to accommodate the species belonging to *Desmodium* sections *Nicolsonia* and *Sagotia* under ICN Art. 14.6. The present paper provides 41 new specific combinations with 13 new infraspecific combinations under *Grona*.

Key words: *Desmodium*, *Desmodium heterocarpon*, *Desmodium triflorum*, *Fabaceae*, *Grona*, Loureiro, *Nicolsonia*, *Nogra*, *Sagotia*, tribe *Desmodieae*.

The circumscription of the genus *Desmodium* has long been controversial. It is ‘the main problem’ in the tribe *Desmodieae* (Ohashi et al. 1981, Ohashi 2004a). Bentham’s generic concept of *Desmodium* (Bentham 1865) had widely been accepted, but Schindler (1928), Hutchinson (1964), Ohashi (1973) and Ohashi and Ohashi (2012a, b) split the genus into *Desmodium* and its satellite genera. The broadest circumscription of the genus was published by Bentham (1865), while the narrowest by Schindler (1928) (Ohashi 2004a). Ohashi’s circumscription of the genus (1973) was intermediate between these two, but it has been modified since 1996. *Trifidacanthus* (Ohashi et al. 1996), *Ohwia* (Ohashi 1999), *Hylodesmum* (Ohashi and Mill 2000),

Akschindlium (Ohashi 2003), *Hanslia* (Ohashi 2004b), *Monarthrocarpus* (Ohashi 2004b), *Ougeinia* (Ohashi 2005), *Ototropis* (Ohashi and Ohashi 2012a) and *Verdesmum* (Ohashi and Ohashi 2012b) are resurrected or produced. The taxonomic history of *Desmodium* and its allied genera was reviewed by Pedley (1999) and Lima et al. (2014).

The tribe *Desmodieae* contains 32 genera (Ohashi 2005, Ohashi and Ohashi 2012a, b) classified into the *Lespedeza* group (three genera), the *Phyllodium* group (12 genera) and the *Desmodium* group (17 genera), based mainly on results of an analysis of *rbcL* by Kajita et al. (2001). *Desmodium* is the core genus in the *Desmodium* group. Polyphyly of *Desmodium*

- Japanese *Leguminosae*. Sci. Rep. Tohoku Univ., 4th ser. (Biology) **40**: 186–269.
- Ohashi H. 2003. A new circumscription of *Tadehagi* and a new genus *Akschindlium* (*Leguminosae*). J. Jpn. Bot. **78**: 269–294.
- Ohashi H. 2004a. Taxonomy and distribution of *Desmodium* and related genera (*Leguminosae*) in Malesia (I). J. Jpn. Bot. **79**: 155–185.
- Ohashi H. 2004b. Taxonomy and distribution of *Desmodium* and related genera (*Leguminosae*) in Malesia (II). J. Jpn. Bot. **79**: 155–185.
- Ohashi H. 2005. *Desmodieae*. In: Lewis G., Schrire B., Mackinder B. and Lock M. (eds.), *Legumes of the World*. pp. 433–446. Royal Botanic Gardens, Kew.
- Ohashi H. and Mill R. R. 2000. *Hylodesmum*, a new name for *Podocarpium* (*Leguminosae*). Edinburgh J. Bot. **57**: 171–188.
- Ohashi H., Nemoto T. and Wu T. L. 1996. The taxonomic position of *Trifidacanthus* (*Leguminosae*). J. Jpn. Bot. **71**(2): 57–66.
- Ohashi H. and Ohashi K. 2012a. *Ototropis*, a genus separated from *Desmodium* (*Leguminosae*). J. Jpn. Bot. **87**(2): 108–118.
- Ohashi H. and Ohashi K. 2012b. *Verdesmum*, a new genus of *Leguminosae*: tribe *Desmodieae*. J. Jpn. Bot. **87**(5): 299–306.
- Schindler A. K. 1928. Die Desmodiinen in der botanischen Literatur nach Linne. Repert. Spec. Nov. Regni Veg. Beih. **49**: 1–371.
- Schubert B. G. 1980. *Desmodium*. In: Dwyer J. D. and collaborators. *Flora of Panama*, part 5, Fam. 83 *Leguminosae* subfam. *Papilionoideae*. Ann. Missouri Bot. Gard. **67**(3): 622–662.

大橋広好^a, 大橋一晶^b: マメ科シバハギ属の新学名

マメ科ヌスビトハギ連 *Desmodieae* は 32 属から構成される。Ohashi (2005) はヌスビトハギ連を *Lespedeza* 群 (3 属), *Phyllodium* 群 (12 属) および *Desmodium* 群 (17 属) の 3 群に分けた。しかし、分子系統学的解析からは *Desmodium* 群内は単系統ではない属を含むことが明らかにされている (Kajita et al. 1996, [2010 未発表], Jabbour et al. 2018)。われわれは分子系統学的解析をさらに進めた結果、*Desmodium* 群のうち属として *Desmodium* にまとめられていた属内分類群の多くが多系統であることを確認した (Ohashi et al. in press)。これまでに旧ヌスビトハギ属からヌスビトハギなどを別属 *Hylodesmum* に移し、その和名もヌスビトハギ属とし、元の *Desmodium* をシバハギ属に改めた (大橋広好, 本誌 **77**(1): 59–60, 2002)。しかし、シバハギ *Desmodium heterocarpon* (L.) DC. を含む *Desmodium* sect. *Nicolsonia* とカワリバマキエハギ *D. heterophyllum* Willd. を含む *Desmodium* sect. *Sagotia* とは分子系統学的解析の結果から *Desmodium* から除かれ、属として *Grona* にまとまる事が明らかとなった。*Grona* のタイプはシバハ

ギである。このため、*Grona* の和名をシバハギ属とし、*Desmodium* の和名をアコウマイハギ属に再度変更する。和名アコウマイハギは台湾の阿猴 (現屏東県屏東市) で発見され、早田文蔵によって *Desmodium akoense* Hayata に付けられた。この学名は *D. scorpiurus* (Sw.) Desv. の異名であるが、この種は属名 *Desmodium* のタイプであるため、アコウマイハギ属は *Desmodium* の安定した和名となる。アコウマイハギ *D. scorpiurus* (Sw.) Desv. は日本では初島住彦『琉球植物誌』(1971) に伊江島への帰化が記録されている。本論文では 41 種 13 種内分類群を新たにシバハギ属と認め、新組み合わせの学名を与えた。その中で日本産種はシバハギ *Grona heterocarpa* (L.) H. Ohashi & K. Ohashi, カワリバマキエハギ *Grona heterophylla* (Willd.) H. Ohashi & K. Ohashi, ハイマキエハギ *Grona triflora* (L.) H. Ohashi & K. Ohashi の 3 種である。

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