

A New Species and a New Combination of *Grona* with a List of *Desmodium* s.l. (*Leguminosae*) of Indochina

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(Accepted on August 3, 2021)

Desmodium s.l. (*Leguminosae* tribe *Desmodieae*) is highly diverse in Indochina at the generic level. Among the segregates from *Desmodium* s.s., *Grona* has most differentiated in the region with 16 species. This paper adds two species of *Grona* to the region: a new species, *G. laosensis* H.Ohashi, K.Ohashi & Tagane, and a new combination, *G. ovalifolia* (Prain) H.Ohashi, K.Ohashi & Tagane, based on comparative morphological studies and results of molecular phylogenetic analyses. A new list of *Desmodium* s.l. of Indochina includes 14 genera and 45 species comprising nine genera and 19 species in Cambodia, 13 and 34 in Laos, 13 and 34 in Thailand, and 12 and 29 in Vietnam, respectively.

Key words: Cambodia, *Desmodium*, flora, *Grona*, *Grona laosensis*, *Grona ovalifolia*, Indochina, Laos (Lao PDR), Thailand, Vietnam.

Indochina, including Cambodia, Laos (Lao PDR), Thailand and Vietnam as defined in Lock and Heald (1994) and Ohashi and Ohashi (2020), is a worldwide center of generic diversity of the *Desmodium* group in tribe *Desmodieae*, *Leguminosae* (Ohashi 2005, 2019). Among the group, Ohashi and Ohashi (2020) reported 14 genera and 42 species of *Desmodium* s.l. from Indochina. *Desmodium* s.l. is indicated as ‘*Desmodium*: H.Ohashi 1973: 87 & 2004: 116; Pedley 1999: 225’ in Table 1 (Ohashi et al. 2021). Among *Desmodium* s.l. in Indochina, *Grona* exhibits the greatest diversity with 16 species including nine in Cambodia, 11 in Laos, 10 in Thailand and 11 in Vietnam (Ohashi and

Ohashi 2020, Ohashi et al. 2021). In 2019, the joint botanical expedition team of the National University of Laos and Kagoshima University discovered a single unknown shrub of *Grona* in Laos that resembled *Grona heterocarpos* (L.) H.Ohashi & K.Ohashi and its relatives, but was not match for any of them.

We analyzed the genomic DNA of the unknown plant and similar species of *Grona* to determine their phylogenetic relationships. The results of the analyses indicated that the unknown plant was distinct from the species it resembled. The results also showed that *G. heterocarpos* subsp. *ovalifolia* (Prain) H.Ohashi & K.Ohashi was distinctive from *G. heterocarpos*

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Appendix I

Taxon, GenBank accession number for 5'*trnK* intron, *ndhJ-trnF-trnL*, *trnT-trnL*, *trnG-trnS*, *trnQ-rps16*, *trnL-rpl32*, *rpl16* intron, *trnC-rpoB*, *ndhA* intron, ITS and ETS.

Grona laosensis L3714: LC644607, LC644611, LC644615, LC644619, LC644623, LC644627, LC644631, LC644635, LC644639, LC644647, LC644643. *Grona ovalifolia* L3723: LC644608, LC644612, LC644616, LC644620, LC644624, LC644628, LC644632, LC644636, LC644640, LC644648, LC644644. *Grona schubertiae* 4084: LC644609, LC644613, LC644617, LC644621, LC644625, LC644629, LC644633, LC644637, LC644641, LC644649, LC644645. *Grona schubertiae* 4289: LC644610, LC644614, LC644618, LC644622, LC644626, LC644630, LC644634, LC644638, LC644642, LC644650, LC644646.

大橋広好^a, 大橋一晶^b, 那谷耕司^b, P.Souladeth^c, 田金秀一郎^d: マメ科シバハギ属の新種 *Grona laosensis*, 新組み合わせ *Grona ovalifolia*, およびインドシナの旧アコウマイハギ属目録

インドシナはアコウマイハギ連 *tribe Desmodieae* のアコウマイハギ群 *Desmodium group* の属レベルでの分化の中心地の一部である (Ohashi 2005, Ohashi and Ohashi 2019). この地域のアコウマイハギ群の種類については Ohashi and Ohashi (2020) によって明らかにされたと考えられていた. しかし, 2019年12月に National University of Laos と鹿児島大学総合研究博物館の調査によってシバハギ属 *Grona* の未知の植物がラオスで発見された. この植物は形態的にシバハギ *Grona heterocarpos* (L.) H.Ohashi & K.Ohashi およびその近縁種に似たものであった. これらの種群の分子系統学的解析をおこなった結果 (Figs. 1, 2), 未知の植物は新種と判定できた. 本論文でこの新種を *G. laosensis* H.Ohashi, K.Ohashi & Tagane と命名した (Figs. 3, 4). 形容語は国名ラオス Lao P.D.R. に基づく. また, この分子系統学的解析の結果, *G. heterocarpos* subsp. *ovalifolia* (Prain) H.Ohashi & K.Ohashi を独立種と認め, *G. ovalifolia* (Prain) H.Ohashi, K.Ohashi & Tagane (Figs. 5–7) とした. この機会に 2020 年に発表したインドシナのアコウマイハギ属 (広義) *Desmodium* s.l. の目録 (Ohashi

and Ohashi 2020) を改訂した. この目録ではアコウマイハギ属 2 種を所属不明として暫定的に *Desmodium* としていたが, その後の研究でこのうちの 1 種 *Desmodium craibii* H.Ohashi は *Murtonia kerrii* Crib (Ohashi et al. 2020), 他の 1 種 *D. siamense* (Schindl.) Craib は *Ototropis siamensis* (Schindl.) H.Ohashi & K.Ohashi (Ohashi et al. 2021) として, それぞれの分類学的位置が明らかとなった. さらにその分子系統学的解析の結果に基づいて *G. reticulata* (Champ. ex Benth.) H.Ohashi & K.Ohashi を独立種と認めた (Ohashi et al. 2021). 今回の前目録の改訂にはこれらの結果も含めた結果, インドシナにはアコウマイハギ属 (広義) は 14 属 45 種あり (Table 2), カンボジアには 9 属 19 種, ラオス 13 属 34 種, タイ 13 属 34 種, ベトナム 12 属 29 種の存在が明らかとなった (Table 3).

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