



Distinguishing characters of Thai *Chloris* and *Cynodon* species

W. Chaisongkram^{1*}, P. Chantaranothai^{2,3} & B. Boonsuk⁴

Royal Botanic Gardens
Kew



¹Program of Biology, Faculty of Science, Udon Thani Rajabhat University, Udon Thani 41000, Thailand

²Department of Biology and Center of Excellence on Biodiversity (BDC), Faculty of Science, Khon Kaen University, Khon Kaen 40002, Thailand

³Honorary Research Associate, Royal Botanic Gardens, Kew, Richmond, Surrey TW9 3AE, UK

⁴Plant Biology Research Unit, Program in Biology, School of Science, University of Phayao, Phayao 56000, Thailand

*Corresponding author: chaisongkram_w@hotmail.com



Chloris and *Cynodon* belong to Poaceae, tribe Cynodonteae, subtribe Eleusininae. *Chloris* comprises 63 species distributed mainly in warm regions of the world, six of which have been recognised in Thailand; *Cynodon* contains 12 species distributed in Old World tropic regions, three of which have been recorded for Thailand. Both genera are characterised by their digitate or subdigitate spike and one fertile floret in each spikelet. *Chloris* is further characterised by having one fertile floret spikelet with one or two reduced florets or with a naked rhachilla extension and with all florets awned. The presence of a common axis, the number of awns and the length of the rhachilla internode between the first and the second florets are used to distinguish the Thai *Chloris* species. *Cynodon* is characterised by its one fertile floret spikelet with reduced or absent distal floret and all florets are awnless. The distinctive characteristics for species identification of Thai *Cynodon* species are the presence of a common axis, the length of the digitate spike and the length of the rhachilla extension.

Introduction



Chloris and *Cynodon* are slightly small genera in Thailand with six *Chloris* species (*Ch. barbata* Sw., *Ch. gayana* Kunth., *Ch. montana* Roxb., *Ch. punctata* (R. Br.) Jannink, *Ch. pycnothrix* Trin., and *Ch. radiata* (L.) Sw.) and three *Cynodon* species (*Cy. dactylon* (L.) Pers., *Cy. nlemfuensis* Vanderyst and *Cy. radiatus* Roth.) (The Forest Herbarium, 2014). Both genera are simply recognised by having digitate or subdigitate inflorescence. Previously, *Chloris* and *Cynodon* were placed in subtribe Chloridinae, tribe Cynodonteae (Clayton & Renvoize, 1986) but an updated result from phylogenetic analysis of Soreng *et al.* (2017) indicated that both genera were recently lying in subtribe Eleusininae, tribe Cynodonteae.

In an attempt to carry out both genera for the Flora of Thailand of Poaceae, the intensively morphological study has been ongoing and the significant characteristics for species identification of Thai *Chloris* and *Cynodon* are concluded and presented here.

Materials and methods



This work was based mainly on the examination of Thai herbarium specimens and the field expeditions in Thailand were also taken. The collections from the field were then dried for making the voucher herbarium specimens and deposited in KKU herbarium, Thailand.

Results and conclusion



Generally, *Chloris* is similar to *Cynodon* in terms of bearing digitate or subdigitate inflorescence but *Chloris* can be basically recognised by having an awn lemma and the other is presenting an awnless lemma.

During the current work on *Chloris* and *Cynodon* for the Flora of Thailand, five *Chloris* species: *Ch. barbata*, *Ch. gayana*, *Ch. montana*, *Ch. pycnothrix*, and *Ch. radiata* and three *Cynodon* species: *Cy. dactylon* (L.) Pers., *Cy. nlemfuensis* and *Cy. radiatus* were recognised. The one species mentioned in the previous literature (The Forest Herbarium, 2014), *Ch. punctata* might be erroneous name for *Chloris*.

The main distinguishing characteristics for Thai *Chloris* species are the presence of a common axis, the number of awns and the length of the rhachilla internode between the first and the second florets and the distinct features for species identification of Thai *Cynodon* are the presence of a common axis, the length of the digitate spike and the length of the rhachilla extension.

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some species of Thai *Chloris*



Thai *Cynodon* species



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