Taxonomic changes regarding three species of *Zingiber* (Zingiberaceae) from Thailand

1Pramote TRIBOUN  1Pranom CHANTARANOTHAI  2Kai LARSEN

1(Applied Taxonomic Research Center, Department of Biology, Faculty of Science, Khon Kaen University, Khon Kaen, Thailand 40002)
2(The Herbarium, University of Aarhus, Building 137, Universitetsparken, DK-8000 Aarhus C, Denmark)

Abstract  *Zingiber teres* S. Q. Tong & Y. M. Xia and *Z. xishuangbannaense* S. Q. Tong are reduced to be synonyms of *Z. smilesianum* Craib and *Z. thorelii* Gagnep., respectively. *Z. cochinchinense* Gagnep. is changed to be a subspecies of *Z. zerumbet* (L.) Sm.

Key words  new synonym, Thailand, Zingiberaceae, Zingiber, Zingiber cochinchinense, Zingiber smilesianum, Zingiber teres, Zingiber thorelii, Zingiber xishuangbannaense, Zingiber zerumbet, new statement.

Since the genus *Zingiber* was proposed by Miller (1731), more than 200 specific names have been proposed. However most of these are superfluous, homonyms and synonyms of earlier names. During the continuous work of the authors on the genus for the *Flora of Thailand*, specimens from neighbouring countries have been examined. In this connection we have found that variation ranges of several species are wider than what was known earlier. It has therefore been necessary to redefine some previously known taxa.


The vegetative characters of *Zingiber cochinchinense* Gagnep. are very similar to those of *Z. zerumbet* (L.) Sm. and, indeed, herbarium specimens are quite difficult to distinguish. The former is a small plant, 0.4–0.9 m high while the latter is somewhat larger in size, 0.5–1.7 m high, with blades broadly lanceolate to obovate in shape and ligules entire. Moreover, they differ in many morphological characters of the reproductive parts. For example, the spike of *Z. cochinchinense* is dominantly ovate to fusiform in shape with short and slender scape while that of *Z. zerumbet* is ovate, conical or ovoid-oblong with a long and vigorous scape.
However, the floral structures of both species are essentially identical. The flower size of *Z. cochinchinense* is always smaller than that of *Z. zerumbet*. The inside of the labellum of the former species has brown tiny patches while that of the latter species is pure cream in colour without dot or patches.

In Thailand, *Zingiber zerumbet* is a common species, which has been found throughout the country in dry evergreen forests at the sea level to seasonal evergreen forests in high mountains up to ca. 1200 m of elevation. *Z. cochinchinense*, on the other hand, is found only in dry evergreen forests in northeastern parts of the country. We accordingly propose that *Z. cochinchinense* be reduced to a subspecies under *Z. zerumbet*.

In his description of *Z. cochinchinense*, Gagnepain referred to two syntypes, *Thorel s.n.* from Laos at Stung-treng (Stoeng Treng now in Cambodia) and *Harmand 863* from Cochinchine at Poulo Condor (now in Vietnam). The former was chosen as a lectotype as the specimen is better preserved than the latter.


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References


