

## Supplementary Materials

**Supplementary Table S1.** List of newly published specimens with GenBank accession numbers used for phylogenetic analyses in this study. All specimens are deposited in the Kunming Natural History Museum of Zoology, Kunming Institute Zoology, China, and associated with the given voucher numbers. An additional 32 sequences of the *H. yunnanensis* complex are not presented here but will be made available upon request.

**Supplementary Table S2.** Mensural (in mm), meristic, color pattern, and proportions of the 45 individual of *Hemiphyllodactylus jinpingensis* that were used in the statistical analysis in this study. (/) = data unavailable. (\*) = regenerated tail. For abbreviations see Methods.

**Supplementary Table S3.** Potentially diagnostic characters (in bold) separating the new species from other *Hemiphyllodactylus* within the Southwest Indochina lineage. (/) = data unavailable. (\*) = regenerated tail. Mensural characters are in mm. For abbreviations see Methods.

**Supplementary Table S4.** Principal component analysis scores of *Hemiphyllodactylus* species within clade 4. Abbreviations are listed in the Materials and Methods.

**Supplementary Table S5.** Potentially diagnostic characters (in bold) separating *Hemiphyllodactylus yanshanensis* **sp. nov.** from *H. huishuiensis* and *H. nahangensis*. (/) = data unavailable. Mensural characters are in mm. For abbreviations see Methods. Data for *H. huishuiensis* were obtained from Yan et al., 2016. Data for *H. nahangensis* were obtained from Do et al., 2020.

**Supplementary Table S6.** Principal component analysis scores of *Hemiphyllodactylus* from the Yanshan population, *H. huishuiensis* and *H. nahangensis* (clade 6). Abbreviations are listed in the Materials and Methods.

**Supplementary Table S7.** Mensural (in mm), meristic, color pattern, and proportions of the types series of *Hemiphyllodactylus simaoensis* **sp. nov.** from Simao District and Ning'er, Yunnan, China. (/) = data unavailable. (\*) = regenerated tail. For abbreviations see Methods.

**Supplementary Table S8.** Mensural (in mm), meristic, color pattern, and proportions of the types series of *Hemiphyllodactylus yanshanensis* **sp. nov.** from Yanshan County, Yunnan, China. (/) = data unavailable. (\*) = regenerated tail. For abbreviations see Methods.

**Supplementary Tables S1–S8** are listed as separate excel files due to their large size.