NOTES ON GEKKO NOMENCLATURE (SAURIA: GEKKONIDAE)

by

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A review is given of the tortuous history of the name Gonydactylus Kuhl and Van Hasselt, 1822. It is concluded that the name is invalid. Goniodactylus and Gonyodactylus are unjustified emendations. As type-species Cyrtodactylus pulchella Gray, 1827, is selected, making Cyrtodactylus Gray, 1827, a junior objective synonym and protecting Tarentola Gray, 1825.

A lectotype for Cyrtodactylus marmorata Gray, 1831, is designated.

The nomenclatural consequences of the subgeneric division of Cytopodion Fitzinger, 1843, are examined.

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Numerous amphibians and reptiles were collected on Java by Heinrich Kuhl and Johan Coenraad van Hasselt. The specimens were received by the Galère zoologique du Museum des Pays-Bas (now Rijksmuseum van Natuurlijke Historie, Leiden; RMNH), and they were to have been the basis for H. Boie’s “Erpétologie de Java” (Schlegel, 1826). Boie prepared a manuscript and several plates based on the Java collection; however, that work was never published. Kuhl and Van Hasselt summarized some of their early discoveries in a letter posted from Java on July 18, 1821. This letter was in fact published, and several taxa, including the genus group name Gonydactylus, were described therein for the first time. The validity of these names requires careful consideration, especially in view of their subsequent tortuous histories.

Gonydactylus was first published Feb. 15, 1822, by Kuhl & Van Hasselt (1822: 102). The description, in Dutch, when translated into English, reads “a new animal enabled us to form a new sub-genus Gonydactylus (γόνυ, knee), which is closest to the Phyllouren Cuv.; but it differs by the shape of its tail.” The prefix gony is Greek, for knee, node, or joint, which was apparently intended to emphasize the bent-toed nature of this gekko. The material on which the description was based can be assumed to have been collected on
Java; however, no species was described or designated. The same letter, and
generic description, from Kuhl and Van Hasselt also appeared in Van Swin-
deren (1822: 475). Gonydactylus seems only to have been recorded subse-
quently by Agassiz (1846), Neave (1939), Schulze, et al. (1932) and Sherborn
(1922). According to Art. 12.b.5 (ICZN, 1985), Gonydactylus Kuhl & Van
Hasselt is an invalid genus group name because it was not accompanied by a
description or a definition of the taxon that it denoted, nor by an indication.
Locality, Java in this case, is specifically excluded from being a valid indica-
tion (Art. 12.c).

Schlegel (1826: 235; 1827: 290) summarized Boie’s taxonomic conclusions
and used the name Goniodactylus Kuhl, but without providing a generic de-
scription. Goniodactylus must therefore be treated as an unjustified emenda-
tion of Gonydactylus Kuhl & Van Hasselt (ICZN, 1985: Art.33.b.iii; see also
Gray, 1842: 58; 1845: 171; and below). Although Goniodactylus Schlegel is
the name that has been subsequently cited in the herpetological literature
(e.g., Wermuth, 1965), it is regarded as a junior objective synonym of
Gonydactylus Kuhl & Van Hasselt. Further, I consider Wagler’s (1830: 144)
Gonyodactylus and Fitzinger’s (1843: 92) Gonyodactylus to be unjustified
emendations of Gonydactylus Kuhl & Van Hasselt, and junior objective syn-
onyms as well.

Wermuth (1965: 11) clearly viewed Gray’s (1842) Goniodactylus as a new
genus. If correct, Goniodactylus Gray is a senior subjective synonym of
Cnemaspis Strauch and a junior homonym of Goniodactylus Schlegel. I do not
agree with Wermuth’s conclusion, because all of the new genera in Gray’s
(1842) paper were printed in capital letters and explicitly referred to a family
or tribe; neither of these characteristics apply to Gray’s Goniodactylus. I be-
lieve Gray was employing Goniodactylus Boie (in Schlegel, 1826), and it is,
thus, another use of Schlegel’s unjustified emendation of Gonydactylus Kuhl
& Van Hasselt.

Schlegel (1826) designated a new species, G[onioidactylus]. marmoratus, and
attributed it to Kuhl, but it must be considered a nomen nudum in the absence
of a description. Fitzinger (1826: 47) also referred to a gekko from Java as
marmoratus, a nomen nudum as well, but he attributed the name to Boie. It
seems that both Schlegel and Fitzinger were aware of Boie’s unpublished
manuscript, in which he described the gekko in question as “Gonyodactylus
Kuhl” and “Gonyodactylus marmoratus” (pl. IX, figs. 3-4). The first valid de-
scription of marmoratus appeared as a Cyrtodactylus, where Gray (1831a: 51)
presented it as “Marbled Cyrtodactyle. Marmoratus Gonyodactylus, Kuhl.
MSS. Ash brown, marbled with darker spots, beneath ash. Java.” I consider
the peculiar way of joining specific and generic names to be a lapsus, or per-
haps this was Gray’s labored attempt (1831b: vii; see below) to follow Tem-minck’s request. According to Brongersma (1934: 169), the syntypes of *mam­moratus* are in the Muséum National d’Histoire Naturelle, Paris (2331 was cited), and he listed several other conspecifics collected by Kuhl and Van Hasselt in the Rijksmuseum van Natuurlijke Historie, Leiden. Brongersma was incorrect in thinking that Duméril & Bibron (1836: 426) were the original describers of *marmoratus* and, thus, the Paris series can not be treated as syn­types, without further consideration. Additionally, Guibé (1954) did not refer to the Kuhl and Van Hasselt specimens in the catalogue of lizard types in the Paris Museum.

While there never seems to have been any confusion as to the application of the binomial *G. marmoratus* Gray (1831a) to the only Java gekko with undilated digits (Brongersma, 1934), it is not clear what material Gray based his diagnosis on. Circumstantial evidence suggest that he derived it from the Kuhl and Van Hasselt collection in the Rijksmuseum van Natuurlijke Historie, Leiden. Gray is known to have visited several European natural history museums (Gray, 1831a: 1, footnote), and, among those, Leiden is the one that seems to best explain the origin of his “Kuhl. MSS.” reference. Gray clearly reiterated that he visited Leiden (1831b: vii), and that “... in each of these museums all the specimens were intrusted to me, to describe, draw, or examine them, as might best suit my purpose, without any restraint, except that at Leyden, Herr Temminck requested I would indicate in what Museum I had seen it, and the name under which it was there described, a rule which I hope I have faithfully kept.” Thus, I believe it is safe to assume that whenever the names Kuhl, Boie, or Schlegel appear in combination with MSS that Gray examined representative specimens while at Leiden. Therefore, I take this opportunity to designate an adult male (RMNH 2710a.1) from RMNH 2710a, series of six specimens collected by Kuhl and Van Hasselt on Java, as the lectotype of *Cyrtodactylus marmoratus* Gray (1831a). The lectotype has a snout-vent length of 75 mm, and the tail, which is original and complete, is 74 mm. The preanal-femoral pores (L/R) are 27 and 26. The lectotype is not a perfect match for Boie’s manuscript illustration of *G. marmoratus* (pl. IX, figs. 3-4); however, it is quite similar in size and color pattern (two rows of dark brown spots).

Gray (1827: 56) described *Cyrtodactylus*, and listed the name *C. pulchella* as the type-species. Only a short time later, Hardwicke & Gray (1827: 224) redescribed that genus and species; however, the first description stands for both names because “a single combined description of a new nominal genus and a new nominal species ... provides an indication for each name” (ICZN, 1985: Art. 12.b.vi). *Goniodactylus* is usually considered a junior subjective syn-
onym of *Cyrtodactylus* (Wermuth, 1965: 46). However, it appears that no one has validly selected a type-species for *Gonyactylus* Kuhl & Van Hasselt (1822), and until such action is taken it should not be treated as a synonym of *Cyrtodactylus* Gray. Wagler (1830) included two species in *Gonyactylus* Kuhl, *Gecko annulatus* Geoffr. and *Cyrtodactylus pulchellus* [Hardwicke &] Gray (1827: 224; in *erratum* for *Cyrtodactylus pulchella* Gray, 1827: 56), and these are the only names eligible for subsequent designation as type-species, because they are the first valid species subsequently referred to the genus (ICZN, 1985: Art. 69.a). *Gecko annulatus* is clearly a lapsus for *annularis* (Geoffroy, 1827), a valid species of *Tarentola* Gray, 1825. Wagler’s reference to the authorship of *annulatus* as “Geoffr. Descript. de l’Eg.” excludes it from being Kuhl & van Hasselt’s (1822) *Gecko annulatus* from Java. Thus, *Gonyactylus* could be regarded as a senior synonym of either *Cyrtodactylus* or *Tarentola*. While *Cyrtodactylus* has been widely employed in the past 25 years, *Tarentola* has had a much longer consistent usage as a senior synonym. Therefore, in order to protect *Tarentola, pulchella* Gray (1827) is selected as the type-species of the genus *Gonyodactylus*. This designation also makes *Gonydactylus* Kuhl & Van Hasselt a senior objective synonym of *Cyrtodactylus*.

Fitzinger (1843: 93) described the subgenus *Cyrtopodion* for certain straight-toed gekkos, which included *Gonyodactylus cyprius* (Fitzinger, 1843) and *G. scaber* (Heyden). Fitzinger simply listed the name *Gonyodactylus cyprius* and, in the absence of a description, it must be considered a *nomen nudum*. Wermuth (1965) placed *cyprius* in the synonymy of *Gymnodactylus kotchyi* Fitzingeri Stepanek. Heyden’s *scaber* stands as the type-species of the genus *Cyrtopodion*, by monotypy.

Recently, Szczersbak & Golubev (1977, 1984) described the following generic-subgeneric names: *Mediodactylus* (type-species *kotschyi* Steindachner), *Mesodactylus* (type-species *kachhensis*), and *Tenuidactylus* (type-species *caspius*). The following additional species were referred to these three groups: *Mediodactylus amictopholis* (Hoofien), *M. heterocercus* (Blanford), *M. russowii* (Strauch), *M. sagittifer* (Nikolskij), and *M. spinicauda* (Nikolskij); *Mesodactylus agamuroides* (Nikolskij), *M. elongatus* (Blanford), *M. monitumsalsorum* (Anandale), *M. scaber* (Heyden), *M. watsoni* (Murray); *Tenuidactylus fedischenkoi* (Strauch), *T. longipes* (Nikolskij), and *T. turcembali* (Szczersbak). Szczersbak & and Golubev (1984) also tentatively referred *brevipes* (Blanford) to *Mediodactylus*. Szczersbak & Golubev (1984) placed all of these species in the genus *Tenuidactylus*; however, Fitzinger’s *Cyrtopodion* is the oldest name available for that assemblage. *Mediodactylus* and *Mesodactylus* are junior objective or subjective synonyms of *Cyrtopodion* as well, and only *Mediodactylus* and *Tenuidactylus* are available subgeneric-group names.
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LITERATURE CITED

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