



## ***Mabuia wirzi* Roux, 1925 (Squamata: Scincidae), an overlooked synonym of *Dasia olivacea* Gray, 1839, with notes on the synonymy of *Dasia olivacea***

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Almost a century ago, the Swiss herpetologist Jean Roux described a new skink species, *Mabuia wirzi*, from a single specimen from Pulau Nias, an island on the west coast of Sumatra in Indonesia (Roux 1925). The specimen was part of a small collection of reptiles and amphibians made on Nias by the ethnologist Paul Wirz (29.v.1892–1955.i.30), who worked on Nias in 1925 and 1926 (Wirz 1928, 1929). Roux's paper was published in October 1925, and hence the specimen would have come from Wirz's first expedition, and would have been only recently preserved at the time of description.

Apart from the holotype being identified by registration number in a list of the type specimens of lizards in the Naturhistorisches Museum Basel (NHMB; Kramer 1979), the species does not appear to have been mentioned again in the literature. The assignment of the species to the genus *Mabuia* (a commonly used mis-spelling of *Mabuya* Fitzinger, 1826) by Roux suggests that it would now be placed in the genus *Eutropis* Fitzinger, 1843, to which most other south-east Asian skinks formerly in *Mabuya* are now assigned (Mausfeld *et al.* 2002; Mausfeld & Schmitz 2003; Karin *et al.* 2016). Roux stated that the species was very similar to *Mabuia multifasciata* (Kuhl, 1820) (now *Eutropis multifasciata*), reportedly differing only from that species in the lack of a postnasal scale. The presence of a postnasal scale has been considered invariant in *Eutropis multifasciata* (Boulenger 1887; de Rooij 1915; Smith 1935; Auffenberg 1980; Grismer 2011), suggesting that Roux was correct in considering the two species distinct. We have recently had the opportunity to examine photographs of the holotype of *Mabuia wirzi* (NHMB 8957) provided by Urs Wuest and Edi Stöckli, along with some notes on the holotype made by Allen Greer during a visit to the Basel collection in the early 1980s. These indicate that the species is not a *Eutropis*, but is instead conspecific with *Dasia olivacea* Gray, 1839, of which it is a junior synonym.

Of the character states described by Roux (1925) for *Mabuia wirzi*, the following are taxonomically important: supranasals present, separated by contact of rostral and frontonasal; prefrontals in median contact; supraoculars four, the first two or three in contact with the frontal; supraciliaries 6–7; interparietal completely separates parietals; one pair of nuchals; lower eyelid scaly; ear smaller than eye, oval, lacking lobules on anterior border; postnasal absent; fifth supra-labial widest, and located below the eye; 30 midbody scales; anterior dorsal scales smooth to slightly striate; dorsal scales posteriorly on body tricarinate, occasionally quadricarinate, more weakly tricarinate on tail; ventral scales smooth; scales on limb dorsum tricarinate to quadricarinate, those on limb venter smooth; adpressed limbs overlap, hind limb not reaching elbow of front limb; hind limb about 75% of axilla-groin interval; subdigital lamellae smooth, 18 under fourth toe. Coloration uniform brown-grey dorsally with some dark macules on supraoculars, frontoparietals, parietals and nuchals; venter uniform light green; limbs yellow below.

To these, the following additional taxonomically important characters were listed in Greer's notes or are visible on photographs: supranasals widely separated; primary temporal single; secondary temporals two, lower overlapped by upper; upper secondary temporal and nuchal scales separated by 1L/2R intercalated scales; ear very small, about 2–2.5x diameter of nostril; postmental contacting first two infralabials on each side; only first pair of chin shields in median contact; three enlarged glandular scales on heel of pes.

For measurements, Roux (1925) only provided snout-vent length (96 mm) and tail length (100 mm, apparently incomplete as the tail is bifid, requiring regeneration to have occurred). Greer's notes record a snout-vent length of 99 mm, fore limb length 27 mm, and hind limb length 34 mm for the type.

Together, these characters almost entirely match *Dasia olivacea*, as defined by de Rooij (1915), Smith (1935), Taylor (1963), Inger and Brown (1980), Grismer (2011) and Harikrishnan *et al.* (2012), and the holotype of *Mabuia wirzi* (Fig.

1) closely resembles that species. Particularly important in identifying *Mabuia wirzi* as a *Dasia* species are the enlarged glandular heel scales, a diagnostic feature of that genus (Greer 1970), and lacking in *Eutropis*, although previous definitions of *Dasia* record only two enlarged heel scales for species in the genus (Greer 1970; Karin *et al.* 2016). The simple temporal configuration of one primary temporal, not reaching the parietal, and two secondary temporals with the upper overlapping the lower and contacting the parietal (Fig. 1), is also a feature of *Dasia olivacea* (Fig. 2; de Rooij 1915: Fig. 77) while *Eutropis multifasciata* and other *Eutropis* species have a more complex temporal configuration (Greer & Broadley 2000; Greer & Nussbaum 2000). Grismer (2011) reports two primary temporals for *D. olivacea*, but this is likely to be based on a different definition of temporal scalation (possibly that of Grismer *et al.* 2011 for *Larutia*, where the scales labelled primary temporals are the equivalent of the pretemporals of Greer 1983, and the posterior supraciliary and upper postsubocular of Taylor 1936). We use Taylor's nomenclature for these scales.

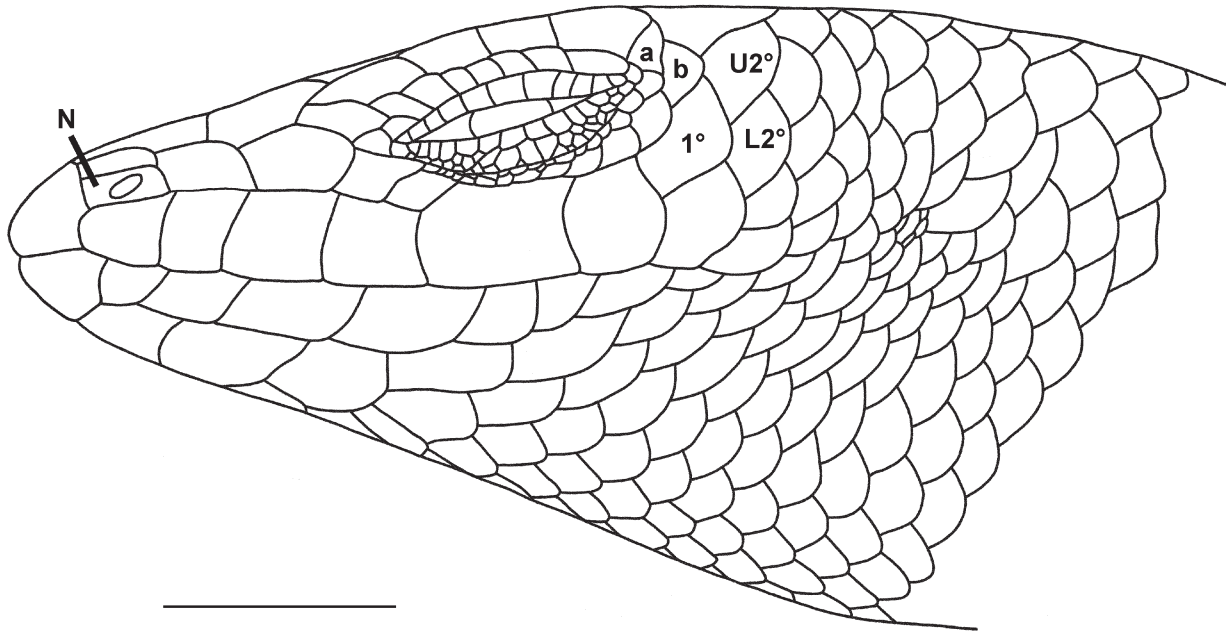


**FIGURE 1.** Holotype of *Mabuia wirzi* in dorsolateral view, with details of the lateral side of the head. Photos courtesy of Edi Stöckli (Naturhistorisches Museum, Basel).

Inger and Brown (1980) reviewed geographic variation among the species of *Dasia*, concluding that two species of *Dasia*, *D. olivacea* and *D. grisea*, coexisted on Sumatra and its surrounding islands. They differentiated *D. grisea* from *D. olivacea* in the Sumatra region by the broad contact of the supranasals (vs usual separation in *D. olivacea*: 9 of 11 specimens), prefrontals in contact (vs usually separated in *D. olivacea*: 7 of 11 specimens), generally stronger keeling of the dorsal scales, taller anterior loreal (height/length 0.88–0.95 vs 0.53–0.71), fewer midbody scales (26–28 vs 30–32) and more numerous ventral scales (57–59 vs 50–56). In having separated supranasal scales, 30 midbody scales, and a



relatively low anterior loreal (ratio of height to length on the left side 0.53), the holotype of *M. wirzi* better fits with *D. olivacea*. Inger and Brown (1980) did not define reference points for their ventral scale counts, but we presume they used a similar definition to that used previously by Inger, of scales between mental and vent (Inger 1958). On this basis, we count 53 ventrals on the holotype, again fitting with *D. olivacea*. While the contacting prefrontals of the holotype are more typical of *D. grisea*, they are within the range of variation of Indonesian *D. olivacea* (in contrast, populations in mainland south-east Asia more consistently have separated prefrontals; data on variation from Inger and Brown 1980). Further, the only *Dasia* specimen from Nias examined by Inger and Brown (1980), United States National Museum (USNM) 31677 (Fig. 3), was identified by them as *D. olivacea*. The species was also recorded from Nias by Fischer (1886) and de Rooij (1915). Hence, *D. olivacea* is the only species in the genus recorded from the type locality for *Mabuia wirzi* to date.



**FIGURE 2.** Head shields of *Dasia olivacea* in lateral view (Australian Museum R6815), showing the absence of a postnasal posterior to the nasal scale (N), the configuration of temporal scales, with a primary temporal ( $1^\circ$ ) and upper and lower secondary temporals ( $U2^\circ$  and  $L2^\circ$ ), and the very small ear in this species. Scales a and b are respectively the last supraciliary and the uppermost postsubocular, using the definitions of Taylor (1936). These two scales constitute the pretemporals of Greer (1983). Scale bar = 5mm.



**FIGURE 3.** USNM 31677, the only other specimen of *Dasia olivacea* reported from Pulau Nias, the type locality of *M. wirzi*. Photo courtesy of Esther M. Langan (Division of Amphibians & Reptiles, USNM, Smithsonian Institution).

The only character not typical of *D. olivacea* is the relatively uniform body dorsum. While *D. olivacea* typically has one-scale wide bands of dark and light streaks and flecks, separated by two or three scales, these may be poorly defined in insular and coastal habitats (Grismer 2011), and are absent in some individuals (Das 2004).

The synonymy of *Dasia olivacea* now becomes:

*Dasia olivacea* Gray, 1839

*Dasia olivacea* Gray, 1839: 331. Holotype: Museum Chatham [Museum of the Army Medical Department, Fort Pitt, Chatham] (now lost), from Prince of Wales' Island [= Pulau Pinang, Malaysia], collector unknown.

*Gongylus (Euprepes) Ernestii* Duméril & Bibron, 1839: 696. Holotype: Museum National d'Histoire Naturelle, Paris (MNHN) 7093, Java, via Leyden Museum [RMNH]. Synonymy by Gray (1845).

*Mabuia wirzi* Roux, 1925: 319. Holotype: NHMB 8957, Nias [= Pulau Nias, Indonesia], collected P. Wirz. Synonymy of this paper.

De Rooij (1915) also included *Mabuia saravacensis* Bartlett, 1895, syntypes from Santubong and Kuching, Sarawak, in the synonymy of *Dasia olivacea*. However, Inger and Brown (1980), who examined a syntype in the Natural History Museum London (cited by them as BMNH 99.1.20.6, though the syntype has original registration number 99.1.20.4, now reregistered as 1946.8.20.57, Kuching, Sarawak, presented Sarawak Museum—99.1.20.6 is a syntype of *Lygosoma bampfyldei* Bartlett, 1895), considered *Mabuia saravacensis* to be a synonym of *Dasia grisea* instead.

Smith (1943) and Taylor and Smith (1950), following examination of the holotype of *Euprepis microcephalus* Hallowell, 1856, suggested that this species, purportedly from Mexico, was a *Dasia* species with an incorrect locality, although they were unable to determine its affinities within *Dasia* as the head of the holotype was in poor condition. Uetz *et al.* (2019) go further in tentatively listing this name in the synonymy of *Dasia olivacea*. The small size of the holotype (given as 4 inches 9 lines [4.75 inches, = 121 mm] in total length by Hallowell 1856, with snout-vent length 2 inches 1 line [2.08 inches, = 53 mm] as given in a more extended description by Hallowell 1860) would be commensurate with a juvenile of the currently known species in the genus. Juveniles of *Dasia* species are strongly banded (Greer 1970; Inger & Brown 1980). Given this, the description of coloration by Hallowell (1860), uniform ash with traces of four longitudinal narrow dark-coloured lines extending the whole length of the trunk (earlier in the same description, Hallowell gives the number of dark lines as five), is not in agreement with any known *Dasia* species, suggesting that the assignment of this name to *Dasia* is incorrect. Hallowell (1856, 1860) also reports the ear having three lobules along the margin, and the body scales bearing 8-9 keels, the central pair more widely spaced than the others, features which do not fit with *Dasia*. We have examined low resolution photographs of the holotype (Academy of Natural Sciences at Drexel University (ANSP) 9531), and our suspicions have been confirmed—the specimen is clearly not a *Dasia*, but more likely a *Trachylepis* or *Eutropis* species. In addition to the features in the description, the ear is very much larger than that of *Dasia*, and there are no enlarged glandular scales on the heel. A more detailed assessment of the type will be needed for generic and species assignment, but for the moment the name should not be considered synonymous with *D. olivacea* or any *Dasia* species.

## Acknowledgments

We thank Allen Greer (formerly Australian Museum) for allowing us to access and use his notes in skink type specimens, on file at the Australian Museum, Urs Wuest and Edi Stöckli (Naturhistorisches Museum, Basel) for providing photographs of the holotype of *Mabuia wirzi*, Esther M. Langan, (Division of Amphibians & Reptiles, USNM, Smithsonian Institution) for providing photographs of the other record of *Dasia olivacea* from Nias, Patrick Campbell (Natural History Museum, London) for checking registration numbers for the syntype of *Mabuia saravacensis*, and Ned Gilmore (Academy of Natural Sciences of Drexel University) for providing photographs of the holotype of *Euprepis microcephalus*.

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