Australasian Journal of Herpetology **41:18-28.**
Published 1 August 2019.

ISSN 1836-5698 (Print)
ISSN 1836-5779 (Online)

Further dismemberment of the pan-continental Lizard genus *Scincella* Mittleman, 1950 with the creation of four new genera to accommodate divergent species and the formal descriptions of six new species.

LSID urn:lsid:zoobank.org:pub:816D2F9D-3C4E-46C0-9B97-79F433D67996

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Received 11 November 2018, Accepted 11 May 2019, Published 1 August 2019.

ABSTRACT

The genus *Scincella* Mittleman, 1950 as currently recognized has been shown in numerous studies to be paraphyletic. Since the creation of the genus, some divergent species have been split off into separate genera (e.g. *Kaestlea* Eremchenko and Das, 2004 and *Asymblepharus* Eremchenko and Szczerbak, 1980) or transferred to others.

Continuing with this dismemberment of the genus, this paper relies on both morphological and molecular evidence to further refine the genus-level classification of *Scincella sensu lato.*

Four new genera for Asiatic species are formally erected according to the rules of the International *Code of Zoological Nomenclature* (Ride *et al.* 1999) as well as two subgenera within one of the new genera.

Six obviously unnamed species are also formally named in this paper, so that their conservation and management can be properly implemented and before any species runs the increased risk of becoming extinct through indifference both by the scientific community and regulatory authorities who depend on them.

Included in this group are two species within the genus *Asymblepharus.*

Four other species from Taiwan and a nearby island, until now treated as various other species of "*Scincella*" are formally named for the first time.

Keywords: Taxonomy; Nomenclature; Skinks; Lizards; Asia; *Scincella*; *Asymblepharus*; *sikimmensis*; *ladacensis*; *boettgeri*; *formosensis*; New genus; *Asiascincella*; *Ferescincella*; *Quaziscincella*; *Divergesaurus*; new subgenus; *Ovipascincella*; *Sinoscincella*; new species; *insignipicturaconlus*; *ventrealbis*; *flavolateralis*; *yonagunijimaensis*; *aurisovalibus*; *lateralibusdorsoclavo.*

INTRODUCTION

The small skink lizards of the genus *Scincella* Mittleman, 1950 as currently recognized in 2019 are familiar to herpetologists in Asia and North America, where they are common.

The taxonomy of the group at both genus and species level is in flux and notwithstanding this paper, are likely to remain so for some time.

As recognized by herpetologists in year 2019 they are a broadly monophyletic group. This remains the case even after several genera have been split off from the group and other species transferred out to other already named genera.

By ways of example *Kaestlea* Eremchenko and Das, 2004 and *Asymblepharus* Eremchenko and Szczerbak, 1980 are both composed wholly of species formerly placed within *Scincella.*

Another genus, *Paralipinia* Darevsky and Orlov, 1997, monotypic for the species *Paralipinia rara* Darevsky and Orlov, 1997 has since been subject of contention among taxonomists. *Paralipinia*, originally separated from *Scincella* by having double rows of subdigital lamellae on basal fingers and toes, was synonymized with *Scincella* by Greer and Shea (2003) based on the secondary temporal scale overlap pattern (lower scale overlapping upper one). Nguyen *et al.* (2010) rejected that contention and considered *Paralipinia* as a valid genus, which is the position I also take here, not that this particular opinion has any material relevance to the taxonomic acts in this paper, other than to place that species outside of the other genera being discussed in this paper.

Within the assemblage currently known as *Scincella* are several divergent lineages of deep antiquity.

As numerous molecular and morphological studies have confirmed these taxa as divergent (e.g. Ouboter 1986, Pyron *et al.* 2013), this paper takes the logical step of assigning them to relevant genera, four of which are formally named for the first time.

These are created in accordance with the rules of the *International Code of Zoological Nomenclature* (Ride *et al.*

1999).

I mention that the genus *Livoromica* Ermchenko, 2003, based on a species described as "*Livorimica bacboensis* Ermchenko, 2003" was synonymized with *Sphenomorphus* (*sensu lato*) by Nguyen *et al.* 2011 based on the diagnostic features of *Livorimica* shared with members of *Sphenomorphus* (e.g., *S. buenloicus* Darevsky *et al.*, 1983, *S. cryptotis* Darevsky *et al.* 2004, *S. incognitus* (Thompson, 1912), *S. indicus* Schmidt, 1928, *S. mimicus* Taylor, 1962 and *S. tonkinensis* Nguyen *et al.* 2011): supranasals absent; lower eyelids scaly; nuchals oriented flush with parietals; scales on dorsal surface of base of digit IV in three rows; medial precloacals enlarged, inner scales overlapping outer scales; and palm with tubercles. Furthermore, the six supralabials of *L. bacboensis* also occur in *Sphenomorphus bukitensis* Grismer, 2007 and *S. butleri* (Boulenger, 1912).

Therefore that name does not apply to Asiatic species within *Scincella sensu lato.*

Scincella is herein confined to the remaining North American species, including the type species for the genus.
The list of recognized species within *Scincella* as of 2019 following the publication of this paper is therefore as follows:

Scincella lateralis (Say, 1822) (type species); *S. assata* (Cope, 1864); *S. caudaequinae* (Smith, 1951); *S. cherriei* (Cope, 1893); *S. forbesorum* (Taylor, 1937); *S. gemmingeri* (Cope, 1864); *S. incerta* (Stuart, 1940); *S. kikaapoa* (García-Vázquez, Canseco-Márquez and Nieto-Montes de Oca, 2010); *S. silvicola* (Taylor, 1937).

Existing genera composed of species formerly within *Scincella*, such as *Kaestlea* Eremchenko and Das, 2004 or *Asymblepharus* Eremchenko and Szczerbak, 1980 are not dealt with in this paper or the descriptions below, save for when relevant to the treatment herein (e.g. for the formal descriptions of *Asymblepharus aurisovalibus sp. nov.* and *A. lateralibusdorsoclavo sp. nov.* in this paper).

As already inferred, some obvious unnamed species are also formally named for the first time in this paper so that they can be properly managed and conserved in the future.

Included herein are three species from Taiwan and another from the nearby island of Yonagunijima, Yaeyama Islands, Japan, all recently confused with other taxa as identified in the relevant descriptions.

MATERIALS, METHODS AND RESULTS

These are inferred in both the abstract and introduction, but as a matter of trite I spell them out in a little more explicit detail.
The available literature was examined relevant to the genus *Scincella sensu lato* and other phylogentically close taxa.

Additional to this has been inspection of specimens as required and possible in order to ascertain the classification of the genera or species within the genera, both as defined or including unnamed taxa when they are evident.
Available information in the form of photos of specimens with good available locality data and other information was also utilized in this study.

I also note that, notwithstanding the theft of relevant materials from this author in an illegal armed raid on 17 August 2011, which were not returned in breach of undertakings to the court (Court of Appeal Victoria 2014 and VCAT 2015), I have made a decision to publish this paper, even though it would be clearly improved if I took some further years to get further data,

This is in view of the conservation significance attached to the formal recognition of unnamed taxa at all levels and on the basis that further delays may in fact put these presently unnamed or potentially improperly assigned taxa at greater risk of extinction (as outlined by Hoser 2019a, 2019b).

This comment is made noting the extensive increase in human population in the relevant region and the general environmental destruction across the planet as documented by Hoser (1991), including low density areas without a large permanent human population.

I also note the abysmal environmental record of various National, State and Local governments in the relevant region over the past 200 years as detailed by Hoser (1989, 1991, 1993, 1996 and 2010, 2019a, 2019b) in the face of ongoing threats as diverse as introduced species, habitat destruction and modification, introduced pathogens and other factors and combinations thereof.

It is also noteworthy that I cannot guarantee another illegal armed raid on our facility, involving theft of materials and data again at some unspecified date in the future. Therefore it is important that the taxonomy of this group be largely resolved herein, rather than be potentially delayed indefinitely and with the negative conservation outcomes this is likely to entail.

Published literature relevant to the taxonomy and nomenclature adopted within this paper includes the following: Barbour (1912, 1927), Bartlett and Bartlett (1999), Bedriaga (1909), Bobrov and Semenov (2008), Blyth (1853), Bocourt (1878), Boulenger (1887a, 1887b, 1888, 1890, 1893), Bourret (1937), Campbell (1998), Chen *et al.* (2001a, 2001b), Cochran (1927, 1941), Cope (1864, 1875, 1893), Cox *et al.* (1998), Darevsky and Orlov (1997), Darevsky and Van Sang (1983), Darevsky *et al.* (1986, 2004), Elpatjevsky (1901), Eremchenko (2003), Eremchenko and Das (2004), Eremchenko and Szczerbak (1986), Eremchenko (1980, 1983), Fawcett and Smith (1971), García-Vázquez and Feria-Ortiz (2006a, 2006b), García-Vázquez *et al.* (2010), Gonzalez et al. (2005), Goris and Maeda (2004), Gray (1838), Greer (1974), Greer and Shea (2003), Günther (1864, 1888, 1896), Guo *et al.* (1999), Hu and Djao (1966), Kashtchenko (1909), Kastle *et al.* (2013), Köhler (2000, 2008), Koizumi *et al.* (2014), Kolbintzev *et al.* (2000), Lee (1996, 2000), Linkem *et al.* (2011), Mittleman (1950, 1952), Myers and Donnelly (1991), Neang *et al.* (2018), Nguyen *et al.* (2009), Nguyen *et al.* (2010, 2011), Nikolsky (1902), Ouboter (1986), Pyron *et al.* (2013), Ride *et al.* (1999), Savage (2002), Say (1822), Schmidt (1925, 1927), Shea and Greer (2002), Shreve (1940), Sindaco and Jeremcenko (2008), Smith (1939, 1941, 1946, 1951), Smith and Taylor (1950), Smith (1916), Steindachner (1867), Stejneger (1907, 1925), Stuart and Emmett (2006), Stuart (1940, 1948), Szczerbak (2003), Taylor (1937, 1956, 1963), Taylor and Elbel (1958), Van Denburgh (1912a, 1912b), Vedmederya *et al.* (2009), Venugopal (2010), Whiting *et al.* (2003), Zhao and Adler (1993), Zhao and Huang (1982), Ziegler *et al.* (2006) and sources cited therein.

In terms of the following descriptions the following points should be noted:
1/ All descriptions of specimens in terms of form and colour relate to normal adult specimens of typical form with original tails for each taxon unless otherwise stated.

2/ Spellings of names assigned to genera or species should not be altered in any way unless mandated by the *International Code of Zoological Nomenclature* (Ride *et al.* 1999) or superseding nomenclatural rules.
3/ In the unlikely event a first reviser seeks to merge any genera or species formally named herein, the name to be used is that of the first name used in terms of page priority, also as listed in the abstract keywords.
4/ There is no conflict of interest in terms of this paper or the conclusions arrived at herein.

GENUS *ASIASCINCELLA GEN. NOV.*

LSID urn:lsid:zoobank.org:act:A5AFF47F-1874-4BC3-BB91-B0F418B6542B

Type species: *Tiliqua reevesii* Gray, 1838, now known widely as *Scincella reevesii* (Gray, 1838).

Diagnosis: Species within the genus *Asiascincella gen. nov.* would until now have been diagnosed as being within *Scincella* Mittleman, 1950 as defined by Ouboter (1986) on pages 10 and 11.

The genus *Scincella* (*sensu lato* and including both *Asiascincella gen. nov.* and *Ferescincella gen. nov.*) can be

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diagnosed by the following combination of characters: (1) body size medium (SVL usually < 65 mm); (2) alpha palate (Greer, 1974) with nine premaxillary teeth; (3) long, thin postorbital bone usually present; and (4) with a transparent window in a movable lower eyelid. Transparent window may be lacking in southern north American populations of *S. cheerei* (1893) (taken from Linkem, Diesmos and Brown, 2011).

Scincella species (*sensu lato* and including both *Asiascincella gen. nov*. and *Ferescincella gen. nov*.) are further characterized by their small size, elongated body, short limbs, relatively long tail, smooth subcycloid scales (most species), small oblong head with transparent disc in a movable lower eyelid, absence of supranasals, pentadactyl hindlimbs, one row of basal subdigital lamellae (most species), median preanals overlapping lateral ones, four or more scales bordering the parietals between the upper secondary temporals, and lower secondary temporal overlapping the upper one (diagnosis follows Greer and Shea, 2003; Lim, 1998; Nguyen *et al.* 2010a, 2010b, 2010c). Furthermore, the genus *Scincella* is differentiated from closely related *Sphenomorphus* Fitzinger by the presence of a transparent window in the lower eyelid as opposed to lower eyelid covered with polygonal scales in *Sphenomorphus* (*sensu lato*) (Greer, 1974; Nguyen *et al.* 2010a) (taken from Neang *et al.* 2018).

Asiascincella gen. nov. are however separated from all other *Scincella sensu lato* (including *Ferescincella gen. nov.*) by the following unique combination of characters: Upper postocular wide; hindlegs moderately sized or short (x ratio S-V length/ length hindlegs 2.8 or more); transparent disc moderately sized or small (x ratio S-V length/length transparent disc more than 51.5); lateral dark band distinctly broken up by whitish spots; usually more than 30 scales around midbody (exceptionally 29); large number of ciliars (x between 10.7 ± 1.5 and 12.2 ± 1.6).

Species within the nominate subgenus *Asiascincella subgen. nov*. the live bearers in the genus are separated from the egg-layers in subgenera *Sinoscincella subgen. nov.* and *Ovipascincella subgen. nov.* by the following unique suite of characters: Prefrontals forming a suture; always some scales between the fifth supralabial and the granules of the lower eyelid; usually the eye is visible through the supraoculars as a dark area; black spots on the back often concentrated in the vertebral region; body somewhat elongated; head rather small (x ratio S-V length/head width 7.9 ± 0.7); enlarged dorsal scales.

The diagnosis for the subgenus *Sinoscincella subgen. nov.* is as for the genus *Asiascincella gen. nov.* (this paper) but separated from other species in that genus (the other two subgenera) by the unique combination of: Prefrontals usually separated or just meeting in a point; rarely scales between the fifth supralabial and the granules of the lower eyelid; eye not visible through the supraoculars; black spots on the back usually not concentrated in the vertebral region, versus:

Prefrontals forming a suture; always some scales between the fifth supralabial and the granules of the lower eyelid; usually the eye is visible through the supraoculars as a dark area; black spots on the back often concentrated in the vertebral region (in the nominate subgenus of *Asiascincella gen. nov.* and *Ovipascincella subgen. nov.*).

The genus *Scincella* is in turn separated from the genus *Ferescincella gen. nov*. by having a larger number of supracilliaries (7-8 against 5-6 in *Ferescincella gen. nov.*) and a larger number of subdigital lamellae under the fourth toe (14-16 (x = 15.2) against 10-17 (x = 13.3) in *Ferescincella gen. nov.*). Ear is very large in *Scincella* as opposed to that in *Ferescincella gen. nov*. (x ratio S-V length/width ear: 41.0 ± 6.2 in *Scincella*; versus 54.3 ± 10.8 in *Ferescincella gen. nov.*). In *Scincella* there are no scales between the fifth supralabial and the granules of the lower eyelid; in *Ferescincella gen. nov*. these scales are present in all but aberrant specimens.

Distribution: Indochina and immediately adjacent areas.

Etymology: Named in reflection of a closely related genus from North America and where this group comes from.

Content: *Asiascincella reevesii* (Gray, 1838) (type species); *A. doriae* (Boulenger, 1887)

A. huanrenensis (Zhao and Huang, 1982); *A. kohtaoensis* (Cochran, 1927); *A. melanosticta* (Boulenger, 1887), *A. nigrofasciata* (Neang, Chan and Poyarkov, 2018); *A. ochracea* (Bourret, 1937); *A. rupicola* (Smith, 1916); *A. rufocaudata* (Darevsky and Nguyen Van Sang, 1983).

SUBGENUS *OVIPACINCELLA SUBGEN. NOV.*

LSID urn:lsid:zoobank.org:act:D7A2AA86-6DB8-4244-AB6F-3B231C2DC306

Type species: *Lygosoma melanostictum* Boulenger, 1887.

Diagnosis: Species within the genus *Asiascincella gen. nov.* would until now have been diagnosed as being within *Scincella* Mittleman, 1950 as defined by Ouboter (1986) on pages 10 and 11.

The genus *Scincella* (*sensu lato* and including both *Asiascincella gen. nov*. and *Ferescincella gen. nov*.) can be diagnosed by the following combination of characters: (1) body size medium (SVL usually < 65 mm); (2) alpha palate (Greer, 1974) with nine premaxillary teeth; (3) long, thin postorbital bone usually present; and (4) with a transparent window in a movable lower eyelid. Transparent window may be lacking in southern north American populations of *S. cheerei* (1893) (taken from Linkem, Diesmos and Brown, 2011).

Scincella species (*sensu lato* and including both *Asiascincella gen. nov*. and *Ferescincella gen. nov*.) are further characterized by their small size, elongated body, short limbs, relatively long tail, smooth subcycloid scales (most species), small oblong head with transparent disc in a movable lower eyelid, absence of supranasals, pentadactyl hindlimbs, one row of basal subdigital lamellae (most species), median preanals overlapping lateral ones, four or more scales bordering the parietals between the upper secondary temporals, and lower secondary temporal overlapping the upper one (diagnosis follows Greer and Shea, 2003; Lim, 1998; Nguyen *et al.* 2010a, 2010b, 2010c). Furthermore, the genus *Scincella* is differentiated from closely related *Sphenomorphus* Fitzinger by the presence of a transparent window in the lower eyelid as opposed to lower eyelid covered with polygonal scales in *Sphenomorphus* (*sensu lato*) (Greer, 1974; Nguyen *et al.* 2010a) (taken from Neang *et al.* 2018).

Asiascincella gen. nov. are however separated from all other *Scincella sensu lato* (including *Ferescincella gen. nov.*) by the following unique combination of characters: Upper postocular wide; hindlegs moderately sized or short (x ratio S-V length/ length hindlegs 2.8 or more); transparent disc moderately sized or small (x ratio S-V length/length transparent disc more than 51.5); lateral dark band distinctly broken up by whitish spots; usually more than 30 scales around midbody (exceptionally 29); large number of ciliars (x between 10.7 ± 1.5 and 12.2 ± 1.6).

Species within the nominate subgenus *Asiascincella subgen. nov*. the live bearers in the genus are separated from the egg-layers in subgenera *Sinoscincella subgen. nov.* and *Ovipascincella subgen. nov.* by the following unique suite of characters: Prefrontals forming a suture; always some scales between the fifth supralabial and the granules of the lower eyelid; usually the eye is visible through the supraoculars as a dark area; black spots on the back often concentrated in the vertebral region; body somewhat elongated; head rather small (x ratio S-V length/head width 7.9 ± 0.7); enlarged dorsal scales.

The diagnosis for the subgenus *Sinoscincella subgen. nov.* is as for the genus *Asiascincella gen. nov.* (this paper) but separated from other species in that genus (the other two subgenera) by the unique combination of: Prefrontals usually separated or just meeting in a point; rarely scales between the fifth supralabial and the granules of the lower eyelid; eye not visible through the supraoculars; black spots on the back usually not concentrated in the vertebral region, versus:

Prefrontals forming a suture; always some scales between the fifth supralabial and the granules of the lower eyelid; usually the eye is visible through the supraoculars as a dark area; black spots on the back often concentrated in the vertebral region (in the nominate subgenus of *Asiascincella gen. nov.* and *Ovipascincella subgen. nov*.).

The reverse of the preceding in turn diagnoses *Ovipascincella subgen. nov*. separating it from the other two subgenera.

The genus *Scincella* is in turn separated from the genus *Ferescincella gen. nov*. by having a larger number of supracilliaries (7-8 against 5-6 in *Ferescincella gen. nov*.) and a larger number of subdigital lamellae under the fourth toe (14-16 (x = 15.2) against 10-17 (x = 13.3) in *Ferescincella gen. nov*.). Ear is very large in *Scincella* as opposed to that in *Ferescincella gen. nov*. (x ratio S-V length/width ear: 41.0 ± 6.2 in *Scincella*; versus 54.3 ± 10.8 in *Ferescincella gen. nov*.). In *Scincella* there are no scales between the fifth supralabial and the granules of the lower eyelid; in *Ferescincella gen. nov*. these scales are present in all but aberrant specimens.

Distribution: Indochina, China, Korea and adjacent islands.

Etymology: Named in reflection of the fact that these species are egg layers as opposed to live-bearers in the nominate subgenus.

Content: *Asiascincella* (*Ovipascincella*) *melanosticta* (Boulenger, 1887) (type species); *A.* (*Ovipascincella*) *kohtaoensis* (Cochran, 1927); *A.* (*Ovipascincella*) *nigrofasciata* (Neang, Chan and Poyarkov, 2018); *A.* (*Ovipascincella*) *rupicola* (Smith, 1916); *A.* (*Ovipascincella*) *rufocaudata* (Darevsky and Nguyen Van Sang, 1983).

SUBGENUS *SINOSCINCELLA SUBGEN. NOV.*

LSID urn:lsid:zoobank.org:act:B208E433-2C8F-4426-81C7-7E1B51A25F36

Type species: *Lygosoma doriae* Boulenger, 1887 now most widely known as *Scincella doriae* (Boulenger, 1887).

Diagnosis: This diagnosis for the subgenus *Sinoscincella subgen. nov.* is as for the genus *Asiascincella gen. nov.* (this paper) but separated from other species in that genus by the unique combination of: Prefrontals usually separated or just meeting in a point; rarely scales between the fifth supralabial and the granules of the lower eyelid; eye not visible through the supraoculars; black spots on the back usually not concentrated in the vertebral region, versus:

Prefrontals forming a suture; always some scales between the fifth supralabial and the granules of the lower eyelid; usually the eye is visible through the supraoculars as a dark area; black spots on the back often concentrated in the vertebral region (in the nominate subgenus of *Asiascincella gen. nov.* and *Ovipascincella subgen. nov*.).

The preceding formal description of *Asiascincella gen. nov.* should also be treated as part of this formal description.

Distribution: China, Vietnam, Burma (known places).

Content: *Asiascincella* (*Sinoscincella*) *doriae* Boulenger, 1887 (monotypic).

GENUS *FERESCINCELLA GEN. NOV.*

LSID urn:lsid:zoobank.org:act:AA5BBEA4-C087-49D7-835F-5817CF5EFDDE

Type species: *Eumeces modestus* Günther, 1864, better known as *Scincella modesta* (Günther, 1864).

Diagnosis: Species within the genus *Ferescincella gen. nov.* would until now have been diagnosed as being within *Scincella* Mittleman, 1950 as defined by Ouboter (1986) on pages 10 and 11.

The genus *Scincella* (*sensu lato* and including both *Asiascincella gen. nov*. and *Ferescincella gen. nov*.) can be diagnosed by the following combinations of characters: (1) Body size medium (SVL usually less than 65 mm); (2) Alpha palate (Greer, 1974) with nine premaxillary teeth; (3) Long, thin postorbital bone usually present; and (4) With a transparent window in a movable lower eyelid. Transparent window may be lacking in southern North American populations of *S. cheerei* (1893) (taken from Linkem, Diesmos and Brown, 2011).

Scincella species (*sensu lato* and including both *Asiascincella gen. nov*. and *Ferescincella gen. nov*.) are further characterized by their small size, elongated body, short limbs, relatively long tail, smooth subcycloid scales (most species), small oblong head with transparent disc in a movable lower eyelid, absence of supranasals, pentadactyl hindlimbs, one row of basal subdigital lamellae (most species), median preanals overlapping lateral ones, four or more scales bordering the parietals between the upper secondary temporals, and lower secondary temporal overlapping the upper one (diagnosis follows Greer and Shea, 2003; Lim, 1998; Nguyen *et al*. 2010a, 2010b, 2010c).

Furthermore, the genus *Scincella* is differentiated from closely related *Sphenomorphus* Fitzinger by the presence of a transparent window in the lower eyelid as opposed to lower eyelid covered with polygonal scales in *Sphenomorphus* (*sensu lato*) (Greer, 1974; Nguyen *et al*. 2010a) (taken from Neang *et al*. 2018).

Asiascincella gen. nov. are however separated from all other *Scincella sensu lato* (including *Ferescincella gen. nov*.) by the following unique combination of characters: Upper postocular wide; hindlegs moderately sized or short (x ratio S-V length/length hindlegs 2.8 or more); transparent disc moderately sized or small (x ratio S-V length/length transparent disc more than 51.5); lateral dark band distinctly broken up by whitish spots; usually more than 30 scales around the midbody (exceptionally 29); large number of ciliars (x between 10.7 ± 1.5 and 12.2 ± 1.6).

The genus *Scincella* is in turn separated from the genus *Ferescincella gen. nov*. by having a larger number of supracilliaries (7-8 against 5-6 in *Ferescincella gen. nov*.) and a larger number of subdigital lamellae under the fourth toe (14-16 (x = 15.2) against 10-17 (x = 13.3) in *Ferescincella gen. nov*.). Ear is very large in *Scincella* as opposed to that in *Ferescincella gen. nov*. (x ratio S-V length/width ear: 41.0 ± 6.2 in *Scincella*; versus 54.3 ± 10.8 in *Ferescincella gen. nov*.). In *Scincella* there are no scales between the fifth supralabial and the granules of the lower eyelid; in *Ferescincella gen. nov*. these scales are present in all but aberrant specimens.

Distribution: Indochina and immediately adjacent areas, including north-east Asia.

Etymology: "*Fere*" means "not quite" in Latin and hence the name *Ferescincella* reflects that this genus is not quite "*Scincella*".

Content: *Ferescincella modesta* (Günther, 1864) (type species); *F. barbouri* (Stejneger, 1925); *F. boettgeri* (Van Denburgh, 1912); *F. capitanea* (Ouboter, 1986); *F. darevskii* (Nguyen, Ananjeva, Orlov, Ryaltovsky and Böhme, 2010); *F. devorator* (Darevsky, Orlov and Cuc, 2004); *F. flavolateralis sp. nov.*; *F. formosensis* (Van Denburgh, 1912); *F. insignipicturaconlus sp. nov.*; *F. macrotis* (Steindachner, 1867); *F. monticola* (Schmidt, 1925); *F. potanini* (Günther, 1896); *F. przewalskii* (Bedriaga, 1912); *F. punctatolineata* (Boulenger, 1893); *F. schmidti* (Barbour, 1927); *F. tavesae* (Smith, 1935); *F. tsinlingensis* (Hu and Zhao, 1966); *F. vandenburghi* (Schmidt, 1927); *F. ventrealbis sp. nov.*; *F. yonagunijimaensis sp. nov.*

GENUS *QUAZISCINCELLA GEN. NOV.*

LSID urn:lsid:zoobank.org:act:F4A4DF54-2120-4C5C-B7F4-66D9362F769F

Type species: *Lygosoma victorianum* Shreve, 1940.

Diagnosis: The genus *Quaziscincella gen. nov.* is readily separated from all other species within *Scincella* Mittleman, 1950 and genera recently associated with it, including those formally named within this paper by the distinctly keeled dorsal scales.

The genus *Quaziscincella gen. nov*. is further diagnosed as follows: A robust lizard with well developed limbs. A small

number of body scales. Dorsal and lateral scales about equal in size. Frontal rather long (x ratio length frontal/length parietals -I- interparietal: 1.3 ± 0.1). The number of scales around the eye is normal: supracilliaries 5-7 (x = 5.7 ± 1.1); ciliars 8-10 (x = 8.7 ± 1.1); postoculars + postsuboculars 5-6 (x = 5.2 ± 0.4), of which two are postsuboculars. Upper

postocular narrow. Only the fifth supralabial is situated under the eye. Ear round, sometimes bearing a small granule on the anterior margin; tympanum deeply sunk. Three pairs of enlarged nuchals. The number of body scales is small: scale rows between the parietals and the thighs 50-54 (x = 52.0

± 2.8); gulars + ventrals 53-56 (x = 54.4 ± 2.1); 26 scales around mid-body. Dorsals and laterals about equal in size. Dorsal scales distinctly keeled; in front of the forelegs four longitudinal scale rows with bicarinate scales, between the fore and hindlegs six longitudinal scale rows with tricarinate scales, on the tail the scales become bicarinate again and only four scale rows are keeled. There are 11 subdigital lamellae under the fourth finger and 15 under the fourth toe. Fore and hindlegs well-developed and rather long (x ratio S-V length/length limbs: 3.7 ± 0.1 and 2.8 ± 0.1 for fore and hindlegs resp.). Maximum snout-vent length 57.5 mm.

In preservative the colour dorsally is light brown, with some golden and dark brown spots. Dark brown lateral band dorsally bordered by an indistinct whitish line. On the back, adjacent to this line some dark brown spots. A grey lateral streak on the lower flanks, more distinct and whiter anteriorly. Venter is greyish or whitish (taken from Ouboter 1986).

Ouboter (1986) and Shreve (1940), both noted the affinity of this taxon to what is now known as *Asymblepharus* (*Himablepharus*) *sikkimensis* (Blyth, 1854), however it is sufficiently divergent from both *Asymblepharus* and *Scincella* to warrant being placed in its own genus.

Distribution: Known only from the type locality at Mt. Victoria, Pokokku-Chin Hills, Myanmar (Burma).

Etymology: "Quazi" means resembles, hence this genus resembles *Scincella* Mittleman, 1950.

Content: *Quaziscincella victorianum* (Shreve, 1940).

GENUS *DIVERGESAURUS GEN. NOV.*

LSID urn:lsid:zoobank.org:act:B40C2DED-2A2D-42B6-B0DD-A9BF9652AEAD

Type species: *Scincella apraefrontalis* Nguyen, Nguyen, Böhme and Ziegler, 2010.

Diagnosis: The genus *Divergesaurus gen. nov*. is monotypic for the type species, *D. apraefrontalis* (Nguyen, Nguyen, Böhme and Ziegler, 2010) and hence the species diagnosis for this taxon in the original description also applies to the genus. The taxon is so divergent to other species within *Scincella* Mittleman, 1950 or similar genera such as *Sphenomorphus* Fitzinger, 1843 *sensu lato*, that it must be placed within its own genus.

Divergesaurus gen. nov. is readily separated from all other species within *Scincella* by the following unique combination of characters: Small skink (36.1 mm SVL); supranasals absent; prefrontals absent; nuchals two or three pairs; nasal and first supralabial fused; loreal single; supralabials six; infralabials five; lower eyelid with undivided opaque window; external ear openings absent; midbody scales in 18 rows; limbs short, pentadactyl, widely separated when adpressed; subdigital lamellae in one row under the digits, numbering eight on fourth toe; dorsum and tail base bronze brown with some indistinct darker spots in anterior part of each scale; laterals paler with three or four longitudinal dark brown stripes. No species within *Scincella* has 18 midbody rows. All have 20 or more and most species in the range of 24-34, or narrower boundaries in that general range.
Nguyen *et al.* (2010) gives more detail and direct comparisons between this species/genus and all other relevant taxa.

Distribution: It is known only from the type locality at Huu Lien Nature Reserve, Huu Lung District, Lang Son Province, Vietnam (21.40 N, 106.20 E), elevation about 200 m.

Etymology: Named in reflection of that fact the genus is a divergent lizard, being divergent from the genus it was originally placed in and for that matter divergent from many people's perception of a lizard.

Content: *Divergesaurus apraefrontalis* (Nguyen, Nguyen, Böhme and Ziegler, 2010) (monotypic).

FERESCINCELLA INSIGNIPICTURACONLUS SP. NOV.

LSID urn:lsid:zoobank.org:act:7AAE4432-02D7-4118-9855-257C0534B4F5

Holotype: A preserved specimen at the University of Michigan, Museum of Zoology, USA, Herpetology Collection, specimen number UMMZ Herps 199857 collected from Taipei, Taiwan, Latitude 25.03 N., Longitude 121.56 E. This facility allows access to its holdings.

Paratype: A preserved specimen at the Museum of Vertebrate Zoology, UC Berkeley, USA, specimen number MVZ:Herp:23539 collected from Yang-ming-shan, North of Taipei, Taipei County, Taiwan.

Diagnosis: Until now the species *Ferescincella insignipicturaconlus sp. nov.* has been treated as a population of *F. formosensis* (Van Denburgh, 1912) or *F. modesta* (Günther, 1864), separated from others in the genus "*Scincella*", using the diagnosis of "*Scincella modesta* (Günther, 1864)" on pages 51-45 in Ouboter (1986).

The species *F. modesta* (Günther, 1864) from mainland China is separated from all the Taiwan and Ryukyus Islands species in the genus by the unique combination of colouration in adults being brown with scattered black spots or flecks on the dorsal surface of the body, a well-defined black dorsolateral stripe on either side, whitish on the lower flanks, heavily peppered to give a greyish colour and an absence of any white line (full, broken, or indistinct) on the lower flank of the body and brown forelimbs with blackish marbling.

The species *F. formosensis* of the type form from the vicinity of Guanziling, Taiwan on the mid west-coast side of the island, is readily separated from other Taiwan species in the genus by the unique combination of colouration in adults being brown with few if any scattered black spots or flecks on the upper body, peppering on the sides of the tail but not top of the tail along the mid-dorsal line (in original tails) a semi-distinct black dorsolateral stripe on either side of the dorsum of somewhat irregular boundaries (at top) and at bottom fading to peppered grey on the lower margin, yellowish on the venter, excluding the head and neck, which is whitish and peppered with grey anteriorly and light brown forelimbs with semi-distinct irregular cross-bands.

The species *F. insignipicturaconlus sp. nov.* from the far north of Taiwan, is unique among Taiwan species in the genus by possessing the following unique suite of colouration in adults being well defined markings on the labials, neck and flanks of the fore-body being a combination of white and blackish brown bars and spots, a greyish brown dorsum on the body with numerous regular black flecks on the entire surface, but fading slightly near the rear legs, the dark dorsolateral lines are thick and well-defined, almost completely black, save for limited white or brown flecks, being of a smooth and regular boundary at the top (as in a smooth line) and at the bottom is bounded by a thin, partly broken line of whitish-yellow. Forelimbs are dark with scattered white flecks. Venter is usually white.

The species *F. ventrealbis sp. nov*. from Miaoli County in western Taiwan and nearby areas is readily separated from other Taiwan species in the genus by the unique combination of colouration in adults being light brown with numerous scattered black spots or flecks on the upper body, a thin white line bordering the darker dorsolateral line on the flanks; the dark dorsolateral line itself is heavily peppered with white and bounded at the bottom with a thick white line in turn bounded by darker peppering on a white background that in turn runs into a whitish venter. This means the darker peppering on the lower

margin of the white line above it in turn forms a semi-distinct darkish line on the lower flanks. The labials and face are whitish and devoid of distinct markings save for darker centers of some anterior scales and a few posterior to each eye. Venter is white. All limbs are generally light brown with indistinct darker brown flecks or markings.

The species *F. flavolateralis sp. nov*. from the south of Taiwan is readily separated from other Taiwan species in the genus by the unique combination of colouration in adults being light brown dorsally with few if any darker flecks, this including on the head which in line with nominate *F. formosensis* has an immaculate coloured head and neck as well (on the upper surface); the dark dorsolateral line on the upper flanks of this species is weakly defined by comparison with all other species on Taiwan. In this species the upper boundary is an irregular and often broken dark brown line, fading at the lower margin to light brown (this same area being blackish in the other species) and then on the mid flanks to yellow or even whitish yellow, which remains the colour on the venter. Limbs are yellowish or light brown with scattered medium sized brown spots and there are no obvious bars or makings of any sort on the upper or lower labials. The tail (original) is light brown with widely scattered dark flecks.

F. boettgeri (Van Denburgh, 1912) from the Ryukyus Islands (Japan), is similar in most respects to *F. ventrealbis sp. nov*. from which it can be differentiated by the fact that the dark line on the upper flanks starts at the snout and runs through the eye and neck to the upper flanks and it is dark and prominent and well-defined along the entire length. By contrast this line only forms behind the ear in *F. ventrealbis sp. nov*.. *F. boettgeri* is further separated from *F. ventrealbis sp. nov*. by having blackish coloured limbs.

The species *F. yonagunijimaensis sp. nov.* from Yonagunijima Island, west Ryukyus Islands (Japan), until now treated as a population of *F. boettgeri* is separated from that species by the fact that in the former the tail (original tails) in adults is a peppered grey-brown on the flanks and orange on the mid-dorsal line, versus generally flecked all over in *F. yonagunijimaensis sp. nov.*. *F. boettgeri* is further separated from *F. yonagunijimaensis sp. nov.* by the significant dark peppering on the head and neck on the dorsal surface.

Distribution: *F. insignipicturaconlus sp. nov.* occurs in the far north of Taiwan in the vicinity of Taipei and areas north of there.

Etymology: The name *insignipicturaconlus* in Latin means prominent markings on neck, in reflection of the adult colouration of this taxon.

FERESCINCELLA VENTREALBIS SP. NOV.

LSID urn:lsid:zoobank.org:act:8B342722-5ABF-4F62-8E2A-29953D4C3040

Holotype: A preserved specimen at the Department of Zoology, Kyoto University, Kyoto, Japan, specimen number 36100, collected at Miaoli, Taiwan, Latitude 22.62 N., Longitude 120.71 E.

This facility allows access to its holdings.

Paratypes: 38 preserved specimens at the Department of Zoology, Kyoto University, Kyoto, Japan, specimen numbers 36101-2, 36114-6, 37400-17, 37496-7, 37511-24, collected at Miaoli, Taiwan, Latitude, 22.62 N., Longitude 120.71 E.

Diagnosis: Until now the species *Ferescincella ventrealbis sp. nov.* has been treated as a population of *F. formosensis* (Van Denburgh, 1912) or *F. modesta* (Günther, 1864), separated from others in the genus "*Scincella*", using the diagnosis of "*Scincella modesta* (Günther, 1864)" on pages 51-45 in Ouboter (1986).

The species *F. modesta* (Günther, 1864) from mainland China is separated from all the Taiwan and Ryukyus Islands species in the genus by the unique combination of colouration in adults being brown with scattered black spots or flecks on the dorsal surface of the body, a well-defined black dorsolateral stripe on either side, whitish on the lower flanks, heavily peppered to give a greyish colour and an absence of any white line (full, broken, or indistinct) on the lower flank of the body and brown forelimbs with blackish marbling.

The species *F. formosensis* of the type form from the vicinity of Guanziling, Taiwan on the mid west-coast side of the island, is readily separated from other Taiwan species in the genus by the unique combination of colouration in adults being brown with few if any scattered black spots or flecks on the upper body, peppering on the sides of the tail but not top of the tail along the mid-dorsal line (in original tails) a semi-distinct black dorsolateral stripe on either side of the dorsum of somewhat irregular boundaries (at top) and at bottom fading to peppered grey on the lower margin, yellowish on the venter, excluding the head and neck, which is whitish and peppered with grey anteriorly and light brown forelimbs with semi-distinct irregular cross-bands.

The species *F. insignipicturaconlus sp. nov.* from the far north of Taiwan, is unique among Taiwan species in the genus by possessing the following unique suite of colouration in adults being well defined markings on the labials, neck and flanks of the fore-body being a combination of white and blackish brown bars and spots, a greyish brown dorsum on the body with numerous regular black flecks on the entire surface, but fading slightly near the rear legs, the dark dorsolateral lines are thick and well-defined, almost completely black, save for limited white or brown flecks, being of a smooth and regular boundary at the top (as in a smooth line) and at the bottom is bounded by a thin, partly broken line of whitish-yellow. Forelimbs are dark with scattered white flecks. Venter is usually white.

The species *F. ventrealbis sp. nov*. from Miaoli County in western Taiwan and nearby areas is readily separated from other Taiwan species in the genus by the unique combination of colouration in adults being light brown with numerous scattered black spots or flecks on the upper body, a thin white line bordering the darker dorsolateral line on the flanks; the dark dorsolateral line itself is heavily peppered with white and bounded at the bottom with a thick white line in turn bounded by darker peppering on a white background that in turn runs into a whitish venter. This means the darker peppering on the lower margin of the white line above it in turn forms a semi-distinct darkish line on the lower flanks.

The labials and face are whitish and devoid of distinct markings save for darker centers of some anterior scales and a few posterior to each eye. Venter is white. All limbs are generally light brown with indistinct darker brown flecks or markings.

The species *F. flavolateralis sp. nov*. from the south of Taiwan is readily separated from other Taiwan species in the genus by the unique combination of colouration in adults being light brown dorsally with few if any darker flecks, this including on the head which in line with nominate *F. formosensis* has an immaculate coloured head and neck as well (on the upper surface); the dark dorsolateral line on the upper flanks of this species is weakly defined by comparison with all other species on Taiwan. In this species the upper boundary is an irregular and often broken dark brown line, fading at the lower margin to light brown (this same area being blackish in the other species) and then on the mid flanks to yellow or even whitish yellow, which remains the colour on the venter.

Limbs are yellowish or light brown with scattered medium sized brown spots and there are no obvious bars or makings of any sort on the upper or lower labials. The tail (original) is light brown with widely scattered dark flecks.

F. boettgeri (Van Denburgh, 1912) from the Ryukyus Islands (Japan), is similar in most respects to *F. ventrealbis sp. nov*. from which it can be differentiated by the fact that the dark line on the upper flanks starts at the snout and runs through the eye and neck to the upper flanks and it is dark and prominent and well-defined along the entire length. By contrast this line only forms behind the ear in *F. ventrealbis sp. nov*.. *F. boettgeri* is further separated from *F. ventrealbis sp. nov*. by having blackish coloured limbs.

The species *F. yonagunijimaensis sp. nov.* from Yonagunijima

Island, west Ryukyus Islands (Japan), until now treated as a population of *F. boettgeri* is separated from that species by the fact that in the former the tail (original tails) in adults is a peppered grey-brown on the flanks and orange on the mid-dorsal line, versus generally flecked all over in *F. yonagunijimaensis sp. nov.. F. boettgeri* is further separated from *F. yonagunijimaensis sp. nov.* by the significant dark peppering on the head and neck on the dorsal surface.

Distribution: *F. ventrealbis sp. nov*. is found in Miaoli County in western Taiwan and nearby areas.

Etymology: The name *ventrealbis* in Latin means white belly, in reflection of the normal adult colouration of this taxon.

FERESCINCELLA FLAVOLATERALIS SP. NOV.

LSID urn:lsid:zoobank.org:act:88966CC3-D8C8-45B0-BA36-A6E11917575B

Holotype: A preserved specimen at the Department of Zoology, Kyoto University, Kyoto, Japan, specimen number 45074, collected at, Kaohsiung, Taiwan, Latitude 22.63 N., Longitude 120.30 E.

This facility allows access to its holdings.

Paratypes: 12 preserved specimens at the Department of Zoology, Kyoto University, Kyoto, Japan, specimen numbers45075-85 and 46902, collected at Kaohsiung, Taiwan, Latitude 22.63 N., Longitude 120.30 E.

Diagnosis: Until now the species *Ferescincella flavolateralis sp. nov.* has been treated as a population of *F. formosensis* (Van Denburgh, 1912) or *F. modesta* (Günther, 1864), separated from others in the genus "*Scincella*", using the diagnosis of "*Scincella modesta* (Günther, 1864)" on pages 51-45 in Ouboter (1986).

The species *F. modesta* (Günther, 1864) from mainland China is separated from all the Taiwan and Ryukyus Islands species in the genus by the unique combination of colouration in adults being brown with scattered black spots or flecks on the dorsal surface of the body, a well-defined black dorsolateral stripe on either side, whitish on the lower flanks, heavily peppered to give a greyish colour and an absence of any white line (full, broken, or indistinct) on the lower flank of the body and brown forelimbs with blackish marbling.

The species *F. formosensis* of the type form from the vicinity of Guanziling, Taiwan on the mid west-coast side of the island, is readily separated from other Taiwan species in the genus by the unique combination of colouration in adults being brown with few if any scattered black spots or flecks on the upper body, peppering on the sides of the tail but not top of the tail along the mid-dorsal line (in original tails) a semi-distinct black dorsolateral stripe on either side of the dorsum of somewhat irregular boundaries (at top) and at bottom fading to peppered grey on the lower margin, yellowish on the venter, excluding the head and neck, which is whitish and peppered with grey anteriorly and light brown forelimbs with semi-distinct irregular cross-bands.

The species *F. insignipicturaconlus sp. nov.* from the far north of Taiwan, is unique among Taiwan species in the genus by possessing the following unique suite of colouration in adults being well defined markings on the labials, neck and flanks of the fore-body being a combination of white and blackish brown bars and spots, a greyish brown dorsum on the body with numerous regular black flecks on the entire surface, but fading slightly near the rear legs, the dark dorsolateral lines are thick and well-defined, almost completely black, save for limited white or brown flecks, being of a smooth and regular boundary at the top (as in a smooth line) and at the bottom is bounded by a thin, partly broken line of whitish-yellow. Forelimbs are dark with scattered white flecks. Venter is usually white.

The species *F. ventrealbis sp. nov*. from Miaoli County in western Taiwan and nearby areas is readily separated from other Taiwan species in the genus by the unique combination of colouration in adults being light brown with numerous scattered black spots or flecks on the upper body, a thin white line bordering the darker dorsolateral line on the flanks; the dark dorsolateral line itself is heavily peppered with white and bounded at the bottom with a thick white line in turn bounded by darker peppering on a white background that in turn runs into a whitish venter. This means the darker peppering on the lower margin of the white line above it in turn forms a semi-distinct darkish line on the lower flanks.

The labials and face are whitish and devoid of distinct markings save for darker centers of some anterior scales and a few posterior to each eye. Venter is white. All limbs are generally light brown with indistinct darker brown flecks or markings.

The species *F. flavolateralis sp. nov*. from the south of Taiwan is readily separated from other Taiwan species in the genus by the unique combination of colouration in adults being light brown dorsally with few if any darker flecks, this including on the head which in line with nominate *F. formosensis* has an immaculate coloured head and neck as well (on the upper surface); the dark dorsolateral line on the upper flanks of this species is weakly defined by comparison with all other species on Taiwan. In this species the upper boundary is an irregular and often broken dark brown line, fading at the lower margin to light brown (this same area being blackish in the other species) and then on the mid flanks to yellow or even whitish yellow, which remains the colour on the venter.

Limbs are yellowish or light brown with scattered medium sized brown spots and there are no obvious bars or makings of any sort on the upper or lower labials. The tail (original) is light brown with widely scattered dark flecks.

F. boettgeri (Van Denburgh, 1912) from the Ryukyus Islands (Japan), is similar in most respects to *F. ventrealbis sp. nov.* from which it can be differentiated by the fact that the dark line on the upper flanks starts at the snout and runs through the eye and neck to the upper flanks and it is dark and prominent and well-defined along the entire length. By contrast this line only forms behind the ear in *F. ventrealbis sp. nov.*. *F. boettgeri* is further separated from *F. ventrealbis sp. nov*. by having blackish coloured limbs.

The species *F. yonagunijimaensis sp. nov.* from Yonagunijima Island, west Ryukyus Islands (Japan), until now treated as a population of *F. boettgeri* is separated from that species by the fact that in the former the tail (original tails) in adults is a peppered grey-brown on the flanks and orange on the mid-dorsal line, versus generally flecked all over in *F. yonagunijimaensis sp. nov.. F. boettgeri* is further separated from *F. yonagunijimaensis sp. nov.* by the significant dark peppering on the head and neck on the dorsal surface.

Distribution: *F. flavolateralis sp. nov*. is found in the south of Taiwan around Kaohsiung and nearby areas.

Etymology: The name *flavolateralis* in Latin means yellow sides, in reflection of the normal adult colouration of this taxon.

FERESCINCELLA YONAGUNIJIMAENSIS SP. NOV.

LSID urn:lsid:zoobank.org:act:FB304A30-9728-45DA-BB5B-BA74CC295BEC

Holotype: A preserved specimen at the Department of Zoology, Kyoto University, Kyoto, Japan, specimen number 412, collected at, Yonagunijima, Yaeyama Islands, Japan, Latitude 24.46 N., Longitude 122.99 E. This facility allows access to its holdings.

Paratypes: 33 preserved specimens at the Department of Zoology, Kyoto University, Kyoto, Japan, specimen numbers 413, 444, 1364-6, 13052-73, 13132-6 and 47494 collected at, Yonagunijima, Yaeyama Islands, Japan, Latitude 24.46 N., Longitude 122.99 E.

Diagnosis: Until now the species *Ferescincella yonagunijimaensis sp. nov.* has been treated as a population of *F. boettgeri* (Van Denburgh, 1912), *F. formosensis* (Van Denburgh, 1912) or *F. modesta* (Günther, 1864), separated from others in the genus "*Scincella*", using the diagnosis of "*Scincella modesta* (Günther, 1864)" on pages 51-45 in Ouboter (1986).

The species *F. modesta* (Günther, 1864) from mainland China is separated from all the Taiwan and Ryukyus Islands species in

the genus by the unique combination of colouration in adults being brown with scattered black spots or flecks on the dorsal surface of the body, a well-defined black dorsolateral stripe on either side, whitish on the lower flanks, heavily peppered to give a greyish colour and an absence of any white line (full, broken, or indistinct) on the lower flank of the body and brown forelimbs with blackish marbling.

The species *F. formosensis* of the type form from the vicinity of Guanziling, Taiwan on the mid west-coast side of the island, is readily separated from other Taiwan species in the genus by the unique combination of colouration in adults being brown with few if any scattered black spots or flecks on the upper body, peppering on the sides of the tail but not top of the tail along the mid-dorsal line (in original tails) a semi-distinct black dorsolateral stripe on either side of the dorsum of somewhat irregular boundaries (at top) and at bottom fading to peppered grey on the lower margin, yellowish on the venter, excluding the head and neck, which is whitish and peppered with grey anteriorly and light brown forelimbs with semi-distinct irregular cross-bands.

The species *F. insignipicturaconlus sp. nov.* from the far north of Taiwan, is unique among Taiwan species in the genus by possessing the following unique suite of colouration in adults being well defined markings on the labials, neck and flanks of the fore-body being a combination of white and blackish brown bars and spots, a greyish brown dorsum on the body with numerous regular black flecks on the entire surface, but fading slightly near the rear legs, the dark dorsolateral lines are thick and well-defined, almost completely black, save for limited white or brown flecks, being of a smooth and regular boundary at the top (as in a smooth line) and at the bottom is bounded by a thin, partly broken line of whitish-yellow. Forelimbs are dark with scattered white flecks. Venter is usually white.

The species *F. ventrealbis sp. nov*. from Miaoli County in western Taiwan and nearby areas is readily separated from other Taiwan species in the genus by the unique combination of colouration in adults being light brown with numerous scattered black spots or flecks on the upper body, a thin white line bordering the darker dorsolateral line on the flanks; the dark dorsolateral line itself is heavily peppered with white and bounded at the bottom with a thick white line in turn bounded by darker peppering on a white background that in turn runs into a whitish venter. This means the darker peppering on the lower margin of the white line above it in turn forms a semi-distinct darkish line on the lower flanks.

The labials and face are whitish and devoid of distinct markings save for darker centers of some anterior scales and a few posterior to each eye. Venter is white. All limbs are generally light brown with indistinct darker brown flecks or markings.

The species *F. flavolateralis sp. nov*. from the south of Taiwan is readily separated from other Taiwan species in the genus by the unique combination of colouration in adults being light brown dorsally with few if any darker flecks, this including on the head which in line with nominate *F. formosensis* has an immaculate coloured head and neck as well (on the upper surface); the dark dorsolateral line on the upper flanks of this species is weakly defined by comparison with all other species on Taiwan. In this species the upper boundary is an irregular and often broken dark brown line, fading at the lower margin to light brown (this same area being blackish in the other species) and then on the mid flanks to yellow or even whitish yellow, which remains the colour on the venter.

Limbs are yellowish or light brown with scattered medium sized brown spots and there are no obvious bars or makings of any sort on the upper or lower labials. The tail (original) is light brown with widely scattered dark flecks.

F. boettgeri (Van Denburgh, 1912) from the Ryukyus Islands (Japan), is similar in most respects to *F. ventrealbis sp. nov*. from which it can be differentiated by the fact that the dark line on the upper flanks starts at the snout and runs through the eye and neck to the upper flanks and it is dark and prominent and well-defined along the entire length. By contrast this line only forms behind the ear in *F. ventrealbis sp. nov*.. *F. boettgeri* is further separated from *F. ventrealbis sp. nov*. by having blackish coloured limbs.

The species *F. yonagunijimaensis sp. nov.* from Yonagunijima Island, west Ryukyus Islands (Japan), until now treated as a population of *F. boettgeri* is separated from that species by the fact that in the former the tail (original tails) in adults is a peppered grey-brown on the flanks and orange on the mid-dorsal line, versus generally flecked all over in *F. yonagunijimaensis sp. nov.*. *F. boettgeri* is further separated from *F. yonagunijimaensis sp. nov.* by the significant dark peppering on the head and neck on the dorsal surface.

Distribution: *F. yonagunijimaensis*in *sp. nov*. is known only from the type locality of Yonagunijima, Yaeyama Islands, Japan.

Etymology: The name *yonagunijimaensis*in reflects the only known location the species occurs or is likely to occur.

ASYMBLEPHARUS AURISOVALIBUS SP. NOV.

LSID urn:lsid:zoobank.org:act:F0BB04A9-94A8-4EA7-AD68-ACDF70B7F8F8

Holotype: A preserved specimen at the Museum of Natural History, London, UK, specimen number BMNH 1955.1.13.45-56 collected at Sikha, 26 miles northwest of Pokhara, 8000 ft elevation, Annapurna region, Nepal. This facility allows access to its holdings.

Paratype: A preserved specimen at the Museum of Natural History, London, UK, specimen number BMNH 1955.1.13.63-67 collected at Ulleri, 19 miles northwest of Pokhara, 6000-7000 ft elevation, Annapurna region, Nepal.

Diagnosis: *Asymblepharus aurisovalibus sp. nov.* has until now been treated as a western population of *Asymblepharus sikimmensis* (Blyth, 1853), as defined by Ouboter (1986) as "*Scincella sikimmensis* (Blyth, 1853)" at pages 24-31 and in the key on pages 14-16.

A. aurisovalibus sp. nov. is however readily separated from *A. sikimmensis* by an ear opening that is oval or slit shaped, versus smaller and rounded in shape in *A. sikimmensis*. Midbody scale rows are in excess of 25 in *A. aurisovalibus sp. nov.* versus 25 or less in *A. sikimmensis.*

In both *A. aurisovalibus sp. nov.* and *A. sikimmensis* the dorsum is bronze-brown, usually with some irregularly arranged dark brown to black spots. However in *A. aurisovalibus sp. nov.* these are arranged into an obvious vertebral band.

Both holotype and paratype of this species are held at the Museum of Natural History, UK as "*Scincella himalayana*" as of 2018.

Distribution: Known only from the area of the type locality at Annapurna, Nepal.

Etymology: The name "*aurisovalibus*" in Latin means oval ear, in reflection of the physical reality of this species having an oval-shaped ear opening.

ASYMBLEPHARUS LATERALIBUSDORSOCLAVO SP. NOV.

LSID urn:lsid:zoobank.org:act:6151B94C-012D-4143-8C37-5EB9AA12EFCA

Holotype: A preserved specimen at the Museum of Natural History, London, UK, specimen number 1896.11.20.1-4 collected at 5000-9000 ft elevation near Gulmerg, Kashmir, India. This facility allows access to its holdings.

Diagnosis: *Asymblepharus lateralibusdorsoclavo sp. nov.* has until now been treated as a western population of *Asymblepharus ladacensis himilayana* (Günther, 1864), as defined by Ouboter (1986) as "*Scincella ladacensis himalayana* (Günther, 1864)" at pages 21-24 and in the key on pages 14-16.

A. lateralibusdorsoclavo sp. nov. is however readily separated from *A. himilayana* (Günther, 1864) (treated herein as a species separate from *Asymblepharus ladacensis ladacensis* (or simply *A. ladacensis*) as defined by Ouboter 1986), by its distinctive dorsal colouration incorporating a pair of very prominent dorsolateral grey to yellow-golden stripes, which are either

absent or indistinct in *A. ladacensis* and *A. himilayana.*

Distributon: Known only from the type locality being in the vicinity of Gulmerg, Kashmir, India.

Etymology: The word "*lateralibusdorsoclavo*" in Latin refers to the dorsolateral line seen in this species.

CONCLUSION

The taxonomy and nomenclature herein provides a robust framework for further urgent research into the relevant taxa. With the massively increasing human population in the south-east Asian region accompanied by land clearing and other forms of ecosystem destruction, it is important that the skink biodiversity of the region be properly catalogued, named and conserved as soon as possible and before species are lost as documented in the examples of Hoser (2019a, 2019b).

As further evidence becomes available, it is likely that species within the genera subject of this paper may need to be further divided at the genus and subgenus levels and further unrecognized (to date) species will need to be formally named.

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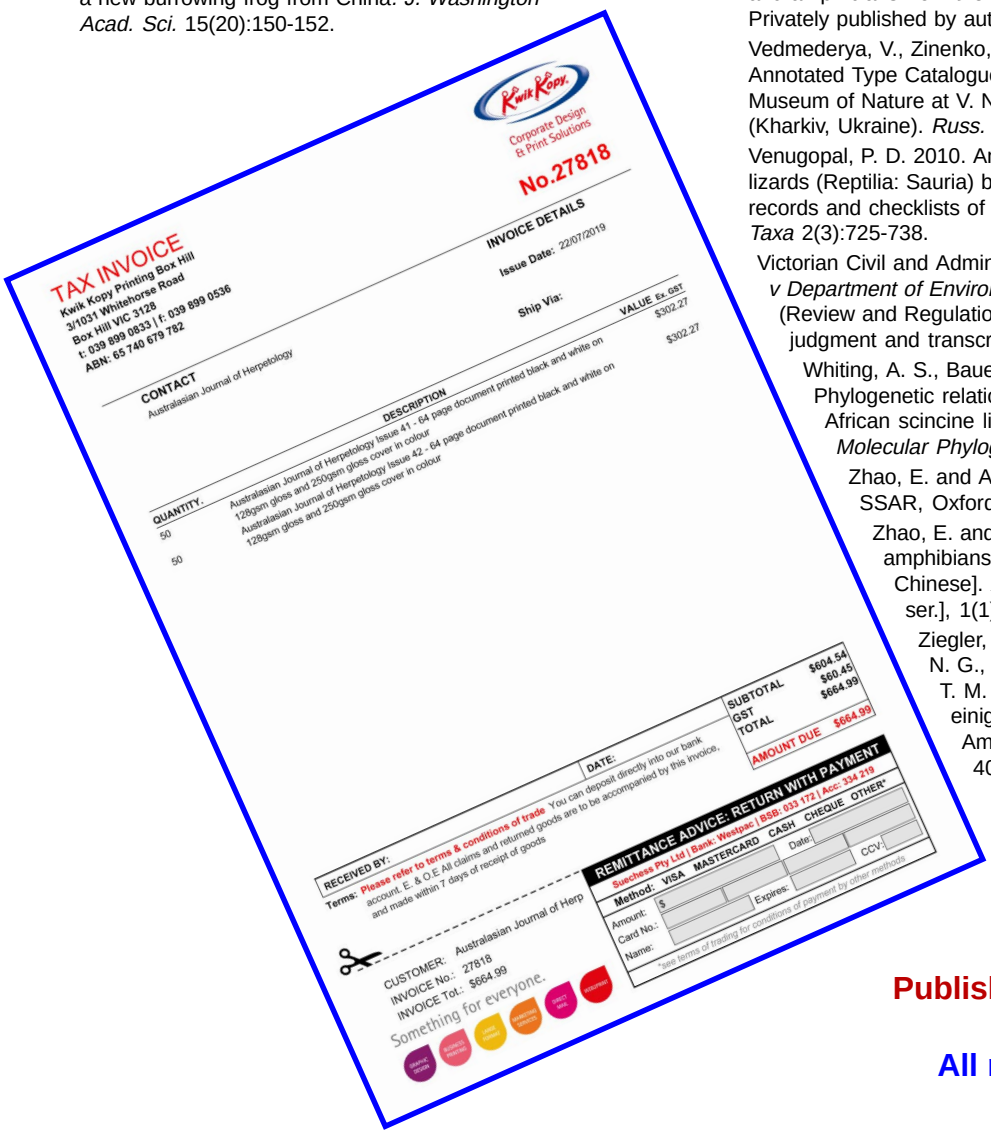

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Published 1 August 2019