HERPETOFAUNA OF THE MEGHAMALAI WILDLIFE SANCTUARY, SOUTHERN WESTERN GHATS, INDIA: AN UPDATED CHECKLIST WITH ANNOTATIONS ON TAXONOMY AND NOMENCLATURE[1]

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Herpetofaunal surveys were conducted in the Meghamalai Wildlife Sanctuary in southern Tamil Nadu, India, over a period of two years, to assess species richness in this landscape. Sixty-four species of reptiles from 15 families and 31 species of amphibians from nine families were recorded. Eight species of reptiles and five species of amphibians are reported here for the first time, including the first record of a caecilian (*Uraeotyphlus* sp.) from this landscape. The rediscovery of a potentially divergent population of wood snake, bearing the now defunct nomen *Xylophis indicus* (presently in the synonymy of *X. stenorhynchus*), is reported *c*.140 years after its original description. A revised, collated checklist, accommodating taxonomic revisions from the recent past, is presented based on our surveys and prior literature. It constitutes 99 species of reptiles and 41 species of amphibians–a remarkable diversity that beseeches concerted conservation action in the region.

Keywords: Reptiles, Amphibians, High Wavys, Western Ghats, Pareidae, Ichthyophiidae

INTRODUCTION

The western escarpments and plateaus of the Western Ghats (WG) in peninsular India have enjoyed considerable attention with regard to herpetofaunal biodiversity and systematic studies in the recent past (Biju and Bossuyt 2009; Biju *et al.* 2008, 2011, 2013, 2014a, 2014b; Garg *et al*. 2017; Vijayakumar *et al.* 2014). These studies, albeit chiefly pertaining to anuran systematics, have revealed an apparent underestimation of the biodiversity in these regions (Surendran and Vasudevan 2015).

The biodiversity that the eastern slopes harbour is relatively understudied. These leeward slopes rely heavily on the northeast monsoon (October–December) for precipitation, as opposed to the western scarps that receive almost 80% of their rainfall between May–August, during the southwest monsoon (Anu *et al.* 2009). This dissimilarity in monsoon-dependence is hypothesized to have led to phenological differences amongst some congeneric populations from the eastern and western slopes (Janani *et al*. 2017). Consequently, the eastern slopes implore equally concerted, systematic biodiversity studies owing to the unique herpetological assemblages they potentially harbour. Meghamalai Wildlife Sanctuary (MWS), located on the eastern escarpments of WG, is a remarkable treasury of herpetofaunal diversity (Bhupathy and Babu 2013).

History of herpetofaunal studies

The earliest ophidian fauna described from MWS includes *Silybura* (now *Uropeltis*) *liura* Günther 1875, *Silybura madurensis* Boulenger 1878, and *Xylophis indicus* Beddome 1878, now a putative synonym of *X. stenorhynchus*. The dubious taxon *Trimeresurus* (now *Tropidolaemus*) *huttoni* Smith 1949, described based on a collection of two juvenile specimens by Angus F. Hutton (1946–1948) from MWS, has remained unobserved in subsequent herpetofaunal surveys of the region (Bhupathy *et al.* 2009, 2011, 2012; Chandramouli and Ganesh 2010; Hutton and David 2009). The first checklist of snakes from Meghamalai was published by Hutton and David (2009). Subsequent surveys (Bhupathy *et al.* 2009, 2011, 2012; Chandramouli and Ganesh 2010) report 90 species of reptiles. A singular checklist of anuran

diversity of the region by Srinivasan and Bhupathy (2013) reports 35 species.

Systematic revisions and recent taxonomic descriptions of herpetofauna from peninsular India, especially from the Western Ghats (Biju and Bossuyt 2009; Biju *et al.* 2008, 2011, 2014a, 2014b; Deepak *et al.* 2016; Garg *et al.* 2017; Vijayakumar *et al.* 2014), warrant a revalidated herpetofaunal checklist from MWS. An updated checklist from the region, collating records from our recent field surveys (2014–2016) and previous studies is presented herein. Records of previously unreported species, with some photographs and morphological diagnoses, are added to the checklist, combined with nomenclatural revisions for numerous past records. The rediscovery of a potentially divergent lineage of *Xylophis* bearing the now defunct nomen *X. indicus*, a putative synonym of *X. stenorhynchus* (Günther, 1875) after 140 years, and the discovery of a caecilian (*Uraeotyphlus* sp.) from this landscape for the first time, represent significant records in the checklist. Reports of species not observed in recent surveys (2009–2016) are discussed along with other taxonomic uncertainties.

MATERIAL AND METHODS

Meghamalai Wildlife Sanctuary is located between 9°31′–9°58′ N and 77°10′–77°45′ E (Fig. 1) in the leeward escarpments of the Western Ghats. These hills have an elevation gradient ranging from *c*. 200 to 1,900 m above msl. The major vegetation types include montane shola and grassland forests, tropical wet evergreen and west coast semi-evergreen forests, moist mixed deciduous forests, secondary moist mixed deciduous forests, dry mixed deciduous forests, Carnatic umbrella thorn forests, and dry deciduous scrub forests. The escarpments receive most of their rainfall from the retreating monsoon, while the hilltop plateaus get most of their precipitation from the southwest monsoon (Bhupathy and Babu 2013).

Visual and acoustic encounter surveys were carried out in accordance with permission from the Tamil Nadu Forest Department. The study area was surveyed at regular intervals between October 2014 and November 2016. Searches were timed to synchronize with the activity periods of diurnal, nocturnal, and crepuscular species (6:00–12:00 hrs and 17:00–23:00 hrs). Potential microhabitats such as stream banks, under decomposing wood and rocks, leaf litter, stagnant pools, rocky outcrops, marshy grasslands, bamboo clusters, and abandoned buildings were examined extensively. Each habitat type was surveyed at least once every season.

Representative individuals of all the species encountered were photographed for taxonomic evaluation and in their

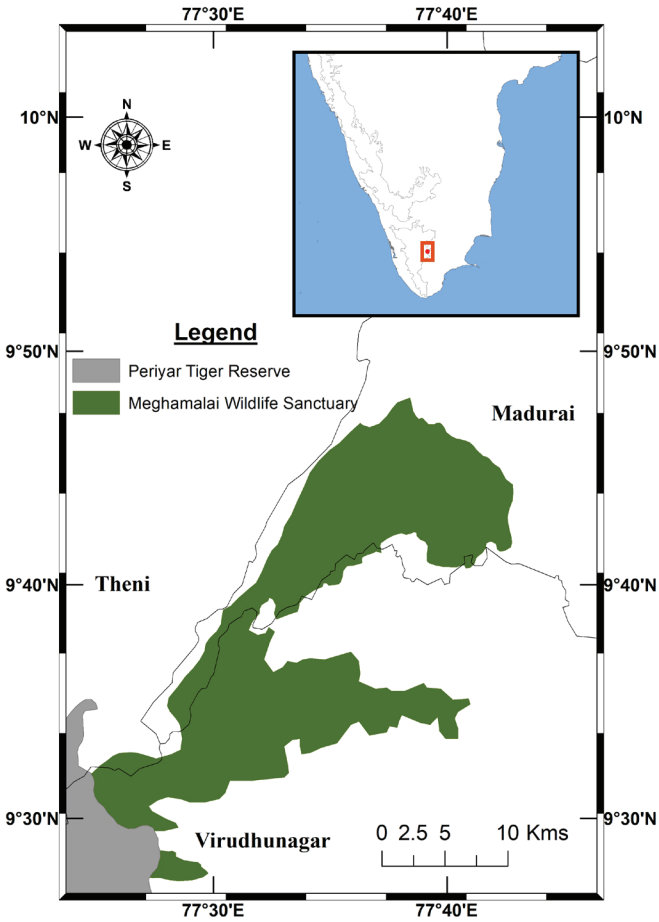

Fig. 1: Outline map of Meghamalai Wildlife Sanctuary and its environs

natural habitat. Meristic characters were counted by gently handling live animals, or by using voucher photographs of taxonomically significant characters. All specimens, including road kills, were identified based on available literature (Biju and Bossuyt 2009; Biju *et al*. 2008, 2011, 2014a, b; Deepak *et al.* 2016; Garg *et al.* 2017; Smith 1935, 1943; Vijayakumar *et al.* 2014; Whitaker and Captain 2008).

The checklist is grouped by order (suborder), family, genera, and species, each of which is arranged alphabetically. Specimens belonging to genera that have recently undergone systematic revision, but with uncertain identities, have been provisionally prefixed with 'cf' (Latin: 'confer', meaning 'comparable to') before their closest conforming specific nomen. Taxonomic uncertainty in these specimens is largely attributed to MWS representing a sampling gap in the systematic study of these genera across their range. Species that were originally described from MWS and its environs in the past have been identified to a specific rank, followed by 's.s.' (Latin: *sensu stricto* = in the strictest sense) to indicate a stable circumscription for the nomen. Specimens exhibiting morphological singularity amongst known congeners have

Table 1: Collated checklist of the Reptiles of Meghamalai Wildlife Sanctuary

S.No	Taxa	(A)	(B)	(C)	(D)	Distribution	Threat Status	Notes
Order : Squamata								
Suborder : Sauria								
Family : Agamidae Gray, 1827								
1.	*Calotes calotes* (Linnaeus, 1758)	+	–	–	+	NE	NA	
2.	*Calotes grandisquamis* Günther, 1875	+	–	–	+	E	LC	
3.	*Calotes rouxii* Duméril & Bibron, 1837	–	–	–	+	EI	LC	
4.	*Calotes versicolor* (Daudin, 1802)	+	–	–	+	NE	NA	
5.	*Monilesaurus acanthocephalus* Pal *et al.* 2018* s.s.	+	–	–	+	–	–	Revised from *C. ellioti*
6.	*Psammophilus blanfordanus* (Stoliczka, 1871)	+	–	–	+	EI	LC	
7.	*Salea anamallayana* (Beddome, 1878)	+	–	–	+	E	LC	
8.	*Sitana visiri* Deepak, 2016 s.s.	+	–	–	+	EI	NA	Revised from *S. ponticeriana*
9.	*Draco dussumieri* Duméril & Bibron, 1837	+	–	–	+	EI	LC	
Family : Chamaeleonidae Rafinesque, 1815								
10.	*Chamaeleo zeylanicus* Laurenti, 1768	+	–	–	+	NE	LC	
Family : Gekkonidae Gray, 1825								
11.	*Cnemaspis gracilis* (Beddome, 1870)	+	–	–	–	EI	LC	New record
12.	*Cnemaspis ornata* (Beddome, 1870)	+	–	–	+	E	NT	
13.	*Cnemaspis wynadensis* (Beddome, 1870)	+	–	–	?	–	–	New record
14.	*Cnemaspis* sp.	+	–	–	?	–	–	
15.	*Dravidogecko anamallensis* (Günther, 1875)	+	–	–	–	E	NT	New record
16.	*Hemidactylus flaviviridis* Rüppell, 1835	+	–	–	–	NE	NA	New record
17.	*Hemidactylus frenatus* Schlegel in Duméril & Bibron, 1836	+	–	–	+	NE	LC	
18.	*Hemidactylus leschenaultii* Duméril & Bibron, 1836	+	–	–	+	NE	NA	
19.	*Hemidactylus parvimaculatus* Deraniyagala, 1953	+	–	–	+	NE	NA	Revised from *H.* cf. *brooki*
20.	*Hemidactylus triedrus* (Daudin, 1802)	+	–	–	+	NE	NA	
21.	*Hemidactylus vanam* Chaitanya, Lajmi & Giri 2018* s.s.	+	–	–	+	E	NA	Revised from *H. maculatus*
22.	*Hemidactylus* sp.	+	–	–	?	–	–	
23.	*Hemiphyllodactylus aurantiacus* (Beddome, 1870)	–	–	–	+	EI	LC	See discussion
24.	*Cyrtodactylus collegalensis* (Beddome, 1870)	+	–	–	+	EI	LC	Reallocated from *Geckoella*
Family : Lacertidae Oppel, 1811								
25.	*Ophisops leschenaultii* (Milne-Edwards, 1829)	+	–	–	+	NE	NA	Revised from *O. leschenaultia*
Family : Scincidae Gray, 1825								
26.	*Dasia subcaeruleum* (Boulenger, 1891)	–	–	–	–	E	EN	See discussion
27.	*Eutropis carinata* (Schneider, 1801)	+	–	–	+	NE	NA	
28.	*Eutropis beddomii* (Jerdon, 1870)	–	–	–	+	EI	NA	
29.	*Eutropis macularia* (Blyth, 1853)	+	–	–	+	NE	NA	
30.	*Kaestlea travancorica* (Beddome, 1870)	+	–	–	+	E	LC	Reallocated from *Scincella*
31.	*Lygosoma punctata* (Gmelin, 1799)	–	–	–	+	NE	LC	
32.	*Lygosoma* sp.	+	–	–	–	–	–	
33.	*Ristella travancorica* (Beddome, 1870)	+	–	–	–	E	DD	New record

Table 1: Collated checklist of the Reptiles of Meghamalai Wildlife Sanctuary (*contd*.)

S.No	Taxa	(A)	(B)	(C)	(D)	Distribution	Threat Status	Notes
Family : Varanidae Merrem, 1820								
34.	*Varanus bengalensis* (Daudin, 1802)	+	–	–	+	NE	LC	
Suborder : Serpentes								
Family : Boidae Gray, 1825								
35.	*Eryx conicus* (Schneider, 1801)	+	–	–	+	NE	NA	Reallocated from *Gongylophis*
36.	*Eryx johnii* (Russell, 1801)	+	–	–	+	NE	NA	
Family : Colubridae Oppel, 1811								
37.	*Ahaetulla dispar* (Gunther, 1864)	+	+	+	+	E	NT	
38.	*Ahaetulla nasuta* (Lacépède, 1789)	–	+	+	+	NE	NA	
39.	*Ahaetulla perroteti* (Duméril, Bibron & Duméril, 1854)	–	+	–	+	E	EN	See discussion
40.	*Ahaetulla pulverulenta* (Duméril, Bibron & Duméril, 1854)	–	+	–	+	NE	LC	
41.	*Amphiesma stolatum* (Linnaeus, 1758)	–	+	–	+	NE	NA	
42.	*Argyrogena fasciolata* (Shaw, 1802)	–	+	–	–	NE	NA	
43.	*Atretium schistosum* (Daudin, 1803)	–	+	–	–	NE	LC	
44.	*Boiga beddomei* (Wall, 1909)	+	–	–	–	NE	DD	New record
45.	*Boiga ceylonensis* (Günther, 1858)	–	+	+	–	NE	NA	
46.	*Boiga flaviviridis* Vogel & Ganesh, 2013	+	–	–	+	EI	NA	
47.	*Boiga forsteni* (Duméril, Bibron & Duméril, 1854)	+	–	–	–	NE	LC	New record
48.	*Boiga nuchalis* (Günther, 1875)	+	–	–	+	E	NA	
49.	*Chrysopelea ornata* (Shaw, 1802)	+	–	–	+	NE	NA	
50.	*Coelognathus helena helena* (Daudin, 1803)	–	+	–	+	NE	NA	
51.	*Coelognathus helena monticollaris* (Schultz, 1992)	+	–	+	+	E	NA	
52.	*Dendrelaphis tristis* (Daudin, 1803)	–	–	–	+	NE	NA	
53.	*Hebius beddomei* (Günther, 1864)	+	+	+	+	E	LC	Reallocated from *Amphiesma*
54.	*Hebius monticola* (Jerdon, 1853)	–	–	–	+	E	LC	Reallocated from *Amphiesma*
55.	*Liopeltis calamaria* (Günther, 1858)	–	+	–	–	NE	NA	
56.	*Lycodon aulicus* (Linnaeus, 1758)	+	–	–	+	NE	NA	
57.	*Lycodon flavicollis* Mukherjee & Bhupathy, 2007	+	–	–	–	EI	NA	New record
58.	*Lycodon nympha* (Daudin, 1803)	–	+	–	+	NE	NA	Reallocated from *Dryocalamus*
59.	*Lycodon striatus* (Shaw, 1802)	–	–	–	+	NE	NA	
60.	*Lycodon travancoricus* (Beddome, 1870)	+	+	+	+	EI	LC	
61.	*Macropisthodon plumbicolor* (Cantor, 1839)	+	+	+	+	NE	NA	
62.	*Oligodon arnensis* (Shaw, 1802)	+	–	–	+	NE	NA	
63.	*Oligodon brevicauda* Günther, 1862	–	+	–	+	E	VU	
64.	*Oligodon taeniolatus* (Jerdon, 1853)	+	–	+	+	NE	LC	
65.	*Oligodon travancoricus* Beddome, 1877	+	+	+	–	E	DD	
66.	*Oligodon venustus* (Jerdon, 1853)	–	+	+	–	E	LC	See discussion
67.	*Ptyas mucosa* (Linnaeus, 1758)	+	+	+	+	NE	NA	
68.	*Sibynophis subpunctatus* (Duméril, Bibron & Duméril, 1854)	+	–	–	+	NE	NA	
69.	*Xenochrophis piscator* (Schneider, 1799)	+	+	+	+	NE	NA	

Table 1: Collated checklist of the Reptiles of Meghamalai Wildlife Sanctuary *(contd.)*

S.No	Taxa	(A)	(B)	(C)	(D)	Distribution	Threat Status	Notes
Family : Elapidae Boie, 1827								
70.	*Bungarus caeruleus* (Schneider, 1801)	–	–	–	+	NE	NA	
71.	*Calliophis nigrescens* Günther, 1862	+	+	+	+	E	LC	
72.	*Naja naja* (Linnaeus, 1758)	+	+	–	–	NE	NA	
73.	*Ophiophagus hannah* (Cantor, 1836)	–	+	–	–	NE	VU	
Family : Pythonidae Fitzinger, 1826								
74.	*Python molurus* (Linnaeus, 1758)	+	+	+	–	NE	NA	
Family : Typhlopidae Merrem, 1820								
75.	*Grypotyphlops acutus* (Duméril & Bibron, 1844)	+	–	–	+	EI	LC	
76.	*Indotyphlops braminus* (Daudin, 1803)	+	–	–	+	NE	NA	Reallocated from *Ramphotyphlops*
Family : Uropeltidae Müller, 1832								
77.	*Melanophidium punctatum* Beddome, 1871	–	+	–	+	E	LC	
78.	*Plectrurus perroteti* Duméril, Bibron & Duméril, 1854	–	+	–	–	E	LC	
79.	*Rhinophis sanguineus* Beddome, 1863	–	+	–	–	E	LC	
80.	*Rhinophis travancoricus* Boulenger, 1892	–	+	–	–	E	EN	
81.	*Uropeltis ceylanica* Cuvier, 1829	–	+	–	–	E	LC	Revised from *U. ceylanicus*
82.	*Uropeltis ellioti* (Gray, 1858)	–	+	–	–	EI	LC	
83.	*Uropeltis liura* (Günther, 1875)* s.s.	–	–	–	–	E	DD	See discussion
84.	*Uropeltis madurensis* (Beddome, 1878)* s.s.	+	–	+	–	E	NA	
85.	*Uropeltis pulneyensis* (Beddome, 1863)	+	+	–	–	E	LC	
86.	*Uropeltis rubromaculata* (Beddome, 1867)	–	+	–	–	E	LC	Revised from *U. rubromaculatus*
87.	*Uropeltis woodmasoni* (Theobald, 1876)	–	+	–	–	E	LC	
88.	*Uropeltis* cf. *dindigalensis* (Beddome, 1877)	–	–	+	–	–	–	
89.	*Uropeltis* cf. *phipsoni* (Mason, 1888)	–	–	–	+	–	–	See discussion
Family : Viperidae Oppel, 1811								
90.	*Daboia russelii* (Shaw & Nodder, 1797)	+	+	–	+	NE	NA	
91.	*Echis carinatus* (Schneider, 1801)	+	–	–	+	NE	NA	
92.	*Hypnale hypnale* (Merrem, 1820)	+	–	+	+	NE	NA	
93.	*Trimeresurus gramineus* (Shaw, 1802)	+	+	–	–	EI	LC	
94.	*Trimeresurus macrolepis* Beddome, 1862	+	+	+	+	E	NT	
95.	*Trimeresurus malabaricus* (Jerdon, 1854)	+	+	+	+	E	LC	
96.	*Tropidolaemus huttoni* (Smith, 1949)* s.s.	–	–	–	–	E	NA	See discussion
Family : Pareidae Romer, 1956								
97.	*Xylophis* sp.	+	–	–	–	E	DD	See results
Order : Testudines								
Family : Geoemydidae Theobald, 1868								
98.	*Geochelone elegans* (Schoepff, 1795)	–	–	–	+	NE	VU	
Family : Testudinidae Batsch, 1788								
99.	*Melanochelys trijuga* (Schweigger, 1812)	+	–	–	+	NE	NT	

A) Present study; B) Hutton & David (2009); C) Chandramouli & Ganesh (2010); D) Bhupathy *et al.* (2009, 2011, 2012).
Distribution: E – Endemic to the Western Ghats; EI – Endemic to India; NE – Not Endemic. Threat status: LC – Least Concern; DD – Data Deficient; VU – Vulnerable; NT – Near Threatened; EN – Endangered; CR – Critically Endangered; NA – Not available.
***** – Type locality in MWS and its environs.

been identified up to the generic rank, pending taxonomic revision. All other records of taxa belonging to groups that have not undergone recent genetics-based systematic revision, have been identified based on morphological similarities with other congeners and are to be treated as *sensu lato* (Latin: in the broad sense), conferring on them a more inclusive circumscription than sanctioned by current taxonomic practice.

Threat and endemism status were assessed based on the IUCN's Red List (2017) and historical occurrence records of species, respectively. Annotations are provided for new records, nomenclatural revisions, and certain specimens that exhibit morphological singularity from all known congeners. New records for MWS are indicated by [NR] after species authority in the annotations. Chresonymy is presented according to Dubois (2000).

RESULTS

The present collation of herpetofauna accounts for 99 species of reptiles (34 saurians, 63 ophidians, and 2 testudines) represented by 55 genera in 16 families – Colubridae Oppel with 33 species being the most diverse. Amphibians were represented by 41 species (40 anurans and 1 gymnophionan) in 18 genera and 9 families, of which family Rhacophoridae Hoffman was the most speciose, with 13 species. A total of 13 species in this checklist – 8 reptiles and 5 amphibians, are additions to lists from the recent past (Bhupathy *et al.* 2009, 2011, 2012; Chandramouli and Ganesh 2010; Hutton and David 2009). This includes the rediscovery of a woodsnake *Xylophis* sp. and the report of a caecilian *Uraeotyphlus* sp. for the first time from this landscape.

Among reptiles, one species each of the genera *Calotes* Cuvier, *Hemidactylus* Oken, *Lygosoma* Hardwicke & Gray, *Cnemaspis* Strauch, and *Xylophis* Beddome were identified up to the generic rank only, owing to notable morphological differences with all other peninsular Indian and Sri Lankan congeners (Table 1), as were one species each of the amphibian genera *Duttaphrynus* Frost *et al*., *Sphaerotheca* Günther, *Fejervarya* Bolkay, *Uperodon* Duméril & Bibron, *Indirana* Laurent, *Raorchestes* Biju *et al*., and *Uraeotyphlus* Peters (Table 2).

The threat status for 8 of the taxa reported from MWS is listed as Endangered (EN) in IUCN's Red List (2017) while 3 taxa are Critically Endangered (CR). MWS harbours 57 species that are endemic to the Western Ghats, while 14 others are considered endemic to India. MWS and its environs are also the type locality for 6 species of herpetofauna – 4 reptiles and 2 amphibians (Tables 1 and 2).

Select reptiles and amphibians of Meghamalai Wildlife Sanctuary

Note: Serial numbers against species in this section correspond to the serial numbers in the checklists (Tables 1 and 2). Numbers given after Class/Order indicate the number of families within them; numbers in square brackets indicate the number of genera; numbers in parentheses indicate the number of species.

Class: Reptilia 16 [55] (99) (Table 1)
Order: Squamata 14 [53] (97)
Family: Agamidae Gray, 1827 [5] (9)

***Genus: Monilesaurus* Pal *et al.* 2018 (1)**

5. *Monilesaurus acanthocephalus* Pal *et al.* 2018 (Fig. 2g)
Calotes ellioti [non *Calotes ellioti* Günther, 1864] – Bhupathy & Sathishkumar, 2013: 4959
Remarks: A recent taxonomic revision of *Calotes* from the Western Ghats identified two new generic lineages, *Monilesaurus* and *Microauris* (Pal *et al*. 2018). The individuals from MWS are identified based on type locality and overall morphological similarity, as *Monilesaurus acanthocephalus*.

Genus: *Sitana* Cuvier, 1829 (1)

8. *Sitana visiri* Deepak, 2016 (s.s.) (Fig. 2i)
Sitana ponticeriana [non *Sitana ponticeriana* Cuvier, 1829] – Bhupathy & Sathishkumar, 2013: 4959
Remarks: Populations of *Sitana* belonging to the plains of the MWS region were diagnosed as a new species *S. visiri* in a recent taxonomic revision of the genus *Sitana* (Deepak *et al.* 2016). Furthermore, Deepak *et al.* (2016) restrict the distribution range for *S. ponticeriana* to the northern plains of Tamil Nadu state.

Family: Gekkonidae Gray, 1825 [5] (14)
Genus: *Cnemaspis* Strauch, 1887 (4)

11. *Cnemaspis gracilis* (Beddome, 1870) [NR] (Fig. 2d)
Remarks: *Cnemaspis gracilis* was identified based on the following combination of characters: Paired postmentals, bounded by 2 scales; dorsal scales heterogeneous, intermixed with large, keeled tubercles in 12 rows; 2 preanal pores separated by 2 poreless scales; 4 femoral pores on each side (Manamendra-Arachchi *et al.* 2007).

13. *Cnemaspis wynadensis* (Beddome, 1870) [NR]
Remarks: *Cnemaspis wynadensis* was identified by the absence of spine-link tubercles on the flanks, the lack of preanal pores and the presence of 6 femoral pores on either side (Manamendra-Arachchi *et al.* 2007).

Genus: *Dravidogecko* Smith, 1933 (1)

15. *Dravidogecko anamallensis* (Günther, 1875) [NR] (Fig. 2b)

Remarks: Specimens of this monotypic Western Ghats-endemic genus were identified by the following suite of characters: undivided, transverse lamellae beneath moderately dilated feet; lack of enlarged tubercles on the dorsum; continuous series of preanal-femoral pores in males (Smith 1935).

Genus: *Hemidactylus* Oken, 1817 (7)

16. *Hemidactylus flaviviridis* Rüppell, 1835 [NR]

Remarks: This remarkably common, human-commensal gecko can be differentiated from other congeners by the absence of tubercles on the dorsum, presence of 11–14 lamellae under the 4th toe and 5–7 femoral pores on each side (Smith 1935).

19. *Hemidactylus parvimaculatus* Deraniyagala, 1953

Hemidactylus cf. *brookii* [non *Hemidactylus brookii* Gray, 1845] – Bhupathy & Sathishkumar, 2013: 4959

Remarks: Southern Indian and Sri Lankan morphotypes possessing 11–17 femoral pores with 1–3 poreless scales between them have been demonstrated to be conspecific with *H. parvimaculatus* (Lajmi *et al.* 2016). The "*H. brookii*" population in MWS was identified as *H. parvimaculatus* based on the presence of tubercles on the dorsum; 15(L) and 17(R) femoral pores separated by one poreless scale between them.

21. *Hemidactylus vanam* Chaitanya, Lajmi and Giri, 2018 (s.s.) (Fig. 2a)

Hemidactylus maculatus [non *Hemidactylus maculatus* Duméril & Bibron, 1836]–Bhupathy & Sathishkumar, 2013: 4959

Remarks: This population was recently described as a new species, *H. vanam.* It can be distinguished from *H. maculatus* by the number of poreless scales separating femoral pores (10–11 vs. 5–9), the shape of dorsal tubercles (heterogeneous vs. trihedral throughout) and the presence of a dense congregation of tubercles on the dorsal aspect of the thigh (Chaitanya *et al.* 2018).

Genus: *Cyrtodactylus* Gray, 1827 (1)

24. *Cyrtodactylus collegalensis* (Beddome, 1870) (Fig. 2c)

Geckoella collegalensis – Bhupathy & Sathishkumar, 2013:4959

Remarks: Revised from *Geckoella collegalensis*. *Geckoella*, though exclusively terrestrial, is relegated to a subgenus that is nested within the larger Southeast Asian, chiefly arboreal, *Cyrtodactylus* radiation (see Wood *et al.* 2012).

Family: Scincidae Gray, 1825 [5] (8)

Genus: *Kaestlea* Eremchenko & Das, 2004 (1)

30. *Kaestlea travancorica* (Beddome, 1870) (Fig. 2j)

Scincella travancoricum – Bhupathy & Sathishkumar, 2013: 4959

Remarks: The genus *Kaestlea*, a member of the *Sphenomorphus* group of lygosomine scincids was described based on differences in morphological traits with *Scincella* Mittleman, 1950. A Group II alpha palate (sensu Greer 1974), the presence of a clear eyelid, and rudimentary pterygoid teeth in some congeners, were used in support of this reassignment (Eremchenko and Das 2004).

Genus: *Ristella* Gray, 1839 (1)

33. *Ristella travancorica* (Beddome, 1870) [NR] (Fig. 2k)

Remarks: Skinks of the Western Ghats-endemic genus *Ristella* can be identified based on the following suite of characters: Lower eyelid scaly; no supranasals; claws seem to completely retract into a sheath; 4 fingers and 5 toes (Smith 1935). *Ristella travancorica* was identified in the field based on a well separated pair of pre-frontals and sharply keeled dorsal scales, distinguishing it from its congeners.

Family: Colubridae Oppel, 1811 [17] (33)

Genus: *Boiga* Fitzinger, 1826 (5)

44. *Boiga beddomei* (Wall, 1909) [NR] (Fig. 3i)

Remarks: *Boiga beddomei* was distinguished from its two closest congeners in the Western Ghats – *Boiga ceylonensis* (Günther) and *Boiga nuchalis* (Günther) – by the presence of 19 midbody dorsal scale rows (vs. 21 in *B. nuchalis*) and 254 ventral scales (vs. 214–235 in *B. ceylonensis*) (Smith 1943).

47. *Boiga forsteni* (Duméril, Bibron & Duméril, 1854) [NR]

Remarks: A large *Boiga* with total length up to 2,312 mm, with scales in 25–29 rows in the midbody, and 102–119 caudal scales (Smith 1943). A specimen was identified as *B. forsteni* based on its large size (1,920 mm), 25 mid-body scale rows in the dorsum and *c*. 110 subcaudal scales.

Genus: *Hebius* Thompson, 1913 (2)

53. *Hebius beddomei* (Günther, 1864) (Fig. 3g)

Amphiesma beddomei – Hutton & David, 2009: 307; Bhupathy & Sathishkumar, 2013: 4960; Chandramouli & Ganesh, 2010: 80

Remarks: A recent taxonomic revision of the genus *Amphiesma* Duméril, Bibron & Duméril, 1854 rendered it monotypic, with *A. stolatum* being the only representative (see Guo *et al.* 2014).

Table 2: Collated checklist of the Amphibians of Meghamalai Wildlife Sanctuary

S.No	Taxa	(A)	(B)	Distribution	Threat Status	Notes
Order : Anura						
Family : Bufonidae Gray, 1825						
1.	*Duttaphrynus melanostictus* (Schneider, 1799)	+	+	NE	LC	
2.	*Duttaphrynus microtympanum* (Boulenger, 1882)	+	+	E	VU	
3.	*Duttaphrynus scaber* (Schneider, 1799)	–	+	NE	LC	
4.	*Duttaphrynus* sp.	+	?	–	–	
Family : Dicroglossidae Anderson, 1871						
5.	*Euphlyctis cyanophlyctis* (Schneider, 1799)	+	+	NE	LC	
6.	*Euphlyctis hexadactylus* (Lesson, 1834)	–	+	NE	LC	
7.	*Hoplobatrachus tigerinus* (Daudin, 1802)	+	+	NE	LC	
8.	*Sphaerotheca breviceps* (Schneider, 1799)	+	+	NE	LC	
9.	*Sphaerotheca* sp.	+	–	–	–	
10.	*Fejervarya brevipalmata* (Peters, 1871)	+	+	E	DD	
11.	*Fejervarya mudduraja* Kuramoto *et al*., 2007	–	+	E	NA	
12.	*Fejervarya* sp.	+	–	–	–	
Family : Micrixalidae Boulenger, 1888						
13.	*Micrixalus* cf. *adonis* Biju *et al*., 2014	+	+	E	NA	Revised from *M. fuscus*
Family : Microhylidae Günther, 1858						
14.	*Microhyla ornata* (Duméril & Bibron, 1841)	+	+	NE	LC	
15.	*Microhyla rubra* Jerdon, 1854	–	+	NE	LC	
16.	*Uperodon montanus* (Jerdon, 1854)	+	+	E	NT	Reallocated from *Ramanella*
17.	*Uperodon systoma* (Schneider, 1799)	+	+	NE	LC	
18.	*Uperodon taprobanicus* (Parker, 1934)	+	+	NE	LC	Reallocated from *Ramanella*
19.	*Uperodon* sp.	+	?	–	–	
Family : Nyctibatrachidae Blommers-Schlösser, 1993						
20.	*Nyctibatrachus manalari* Garg *et al*., 2017*s.s.	+	+	E	NA	Revised from *N. beddomii*
21.	*Nyctibatrachus poocha* Biju *et al*., 2011 s.s.	+	+	E	NA	Revised from *N. aliciae*
Family : Ranidae Rafinesque, 1814						
22.	*Indosylvirana* cf. *doni* Biju *et al*., 2014	+	+	E	NA	Revised from *Hylarana temporalis*
Family : Ranixalidae Laurent, 1986						
23.	*Indirana beddomii* (Günther, 1876)	–	+	E	LC	
24.	*Indirana brachytarsus* (Günther, 1876)	+	–	E	EN	New record.
25.	*Indirana semipalmata* (Boulenger, 1882)	–	+	E	LC	
26.	*Indirana* sp.	+	?	E	–	
27.	*Walkerana leptodactyla* (Boulenger, 1882)	+	+	E	EN	Reallocated from *Indirana*
Family : Rhacophoridae Hoffman, 1932						
28.	*Ghatixalus magnus* Abraham *et al*., 2008 s.s	+	+	E	DD	Revised from *G. variabilis*
29.	*Polypedates maculatus* (Gray, 1830)	+	+	NE	LC	
30.	*Polypedates pseudocruciger* Das & Ravichandran, 1998	–	+	E	LC	
31.	*Pseudophilautus wynaadensis* (Jerdon, 1854)	–	+	E	EN	
32.	*Raorchestes beddomii* (Günther, 1876)	+	+	E	NT	
33.	*Raorchestes chlorosomma* (Biju & Bossuyt, 2009)	+	–	E	CR	New record

Table 2: Collated checklist of the Amphibians of Meghamalai Wildlife Sanctuary (*contd.*)

S.No	Taxa	(A)	(B)	Distribution	Threat Status	Notes
34.	*Raorchestes dubois* (Biju & Bossuyt, 2006)	+	–	E	VU	New record
35.	*Raorchestes flaviocularis* Vijayakumar *et al*., 2014*s.s.	–	–	E	NA	
36.	*Raorchestes griet* (Bossuyt, 2002)	+	+	E	CR	
37.	*Raorchestes* sp.	+	?	E	–	
38.	*Rhacophorus calcadensis* Ahl, 1927	+	–	E	EN	New record
39.	*Rhacophorus malabaricus* Jerdon, 1870	–	+	E	LC	
40.	*Rhacophorus pseudomalabaricus* Vasudevan & Dutta, 2000	+	+	E	CR	
Order : Gymnophiona						
Family : Ichthyophiidae Taylor, 1968						
41.	*Uraeotyphlus* sp.	+	–	E	–	New record

A) Present study; B) Srinivasan & Bhupathy (2013).
Distribution: E – Endemic to the Western Ghats; EI – Endemic to India; NE – Not Endemic.
Threat status: LC – Least Concern; DD – Data Deficient; VU – Vulnerable; NT – Near Threatened; EN – Endangered; CR – Critically Endangered; NA – Not Available.
* – Type locality in MWS and its environs.

54. *Hebius monticola* (Günther, 1864)
Amphiesma beddomei – Hutton & David, 2009: 307; Bhupathy & Sathishkumar, 2013: 4960; Chandramouli & Ganesh, 2010: 80
Remarks: See *Hebius beddomei*.

Genus: *Lycodon* Fitzinger, 1826 (4)
57. *Lycodon flavicollis* Mukherjee & Bhupathy, 2007 [NR] (Fig. 3e)
Remarks: This species was identified based on a single specimen with the following characteristics: single loreal broadly in contact with internasal but not with eye; 9 supralabials, 3rd–5th in contact with eye and 1st in contact with nasal; 10 infralabials; 1 preocular, 2 postoculars; 2 anterior and 3 posterior temporals on each side; dorsal scales in 17:17:15 rows; ventral scales 213, not angulate laterally; anal plate divided; subcaudals 71, paired (Mukherjee and Bhupathy 2007).

58. *Lycodon nympha* (Daudin, 1803)
Dryocalamus nympha – Hutton & David, 2009: 310; Bhupathy & Sathishkumar, 2013: 4960.
Remarks: The genus *Dryocalamus* has been provisionally subsumed with *Lycodon* to maintain monophyly of the latter (Figueroa *et al*. 2016; Wostl *et al*. 2017).

Family: Typhlopidae Merrem, 1820 [2] (2)
Genus: *Indotyphlops* Hedges *et al.* 2014 (1)
76. *Indotyphlops braminus* (Daudin, 1803)
Ramphotyphlops braminus – Bhupathy & Sathishkumar, 2013: 4959
Remarks: Revised from *Ramphotyphlops* Fitzinger, 1843 based on distribution, molecular and morphological data (Hedges *et al.* 2014). *Indotyphlops braminus* is now placed within the subfamily Asiatyphlopinae based on the new taxonomic framework for scolecophidians suggested by Hedges *et al*. (2014).

Family: Uropeltidae Müller, 1832 [4] (13)
Genus: *Uropeltis* Cuvier, 1829 (9)
81. *Uropeltis ceylanica* Cuvier, 1829
Uropeltis ceylanicus – Hutton & David, 2009: 303–310
Remarks: Revised from *Uropeltis ceylanicus* Cuvier (McDiarmid *et al.* 1999).

86. *Uropeltis rubromaculata* (Beddome, 1867)
Uropeltis rubromaculatus – Hutton & David, 2009: 304–310
Remarks: Revised from *Uropeltis rubromaculatus* Beddome (McDiarmid *et al.* 1999).

Class: Amphibia 9 [18] (41)
Order: Anura 8 [17] (40)
Family: Bufonidae Gray, 1825 [5] (9)

Genus: *Duttaphrynus* Frost *et al.* 2006 (4)
4. *Duttaphrynus* sp. (Fig. 4a)
Remarks: A highly aquatic, riparian *Duttaphrynus* with a streamlined body, indistinct tympanum and well-

Fig. 2: Select lizards of Meghamalai Wildlife Sanctuary: a) *Hemidactylus vanam*; b) *Dravidogecko anamallensis*; c) *Cyrtodactylus collegalensis*; d) *Cnemaspis gracilis*; e) *Calotes calotes*; f) *Calotes grandisquamis*; g) *Monilesaurus acanthocephalus*; h) *Salea anamallayana*; i) *Sitana visiri*; j) *Kaestlea travancorica*; k) *Ristella travancorica*; l) *Lygosoma* sp.

developed webbing on the hindlimbs that distinguish it from its congeners *D. melanostictus* (Schneider), *D. microtympanum* (Boulenger), and *D. parietalis* (Boulenger) in the WG region. This population may well represent a new aquatic, high elevation species and requires taxonomic assessment.

Family: Micrixalidae Boulenger, 1888 [1] (1)

Genus: *Micrixalus* Boulenger, 1882 (1)

13. *Micrixalus* cf. *adonis* (Fig. 4c)

Micrixalus fuscus [non *Ixalus fuscus* Boulenger, 1882] – Srinivasan & Bhupathy, 2013: 4975–4977

Remarks: The distribution of *M. fuscus* is restricted to populations south of the Shencottah Gap in the Western Ghats (Biju *et al*. 2014a). The populations from MWS could represent *Micrixalus adonis* Biju *et al*. 2014,

Fig. 3: Select snakes of Meghamalai Wildlife Sanctuary: a) *Uropeltis pulneyensis*; b) *Uropeltis madurensis*; c) *Xylophis* sp.; d) *Lycodon travancoricus*; e) *Lycodon flavicollis*; f) *Oligodon travancoricus*; g) *Hebius beddomei*; h) *Coelognathus helena monticollaris*; i) *Boiga beddomei*; j) *Calliophis nigrescens*; k) *Echis carinatus*; l) *Trimeresurus macrolepis*

a species belonging to the *M. fuscus* group (Biju *et al*. 2014a). *Micrixalus adonis* has been reported from Periyar Tiger Reserve (PTR), which abuts MWS in its south-west frontier. Meghamalai Wildlife Sanctuary represents a sampling gap in the systematics study of *Micrixalus* (Biju *et al*. 2014a) which, therefore, warrants further research to determine the taxonomic position of these populations.

Family: Microhylidae Günther, 1858 [2] (6)
Genus: *Uperodon* Duméril & Bibron, 1841 (4)
16. *Uperodon montanus* (Jerdon, 1854)
Ramanella montana – Srinivasan & Bhupathy, 2013: 4975–4977
Remarks: Reassigned from the genus *Ramanella* Rao & Ramanna according to the revised systematics of Microhylid frogs suggested by Peloso *et al*. (2016).

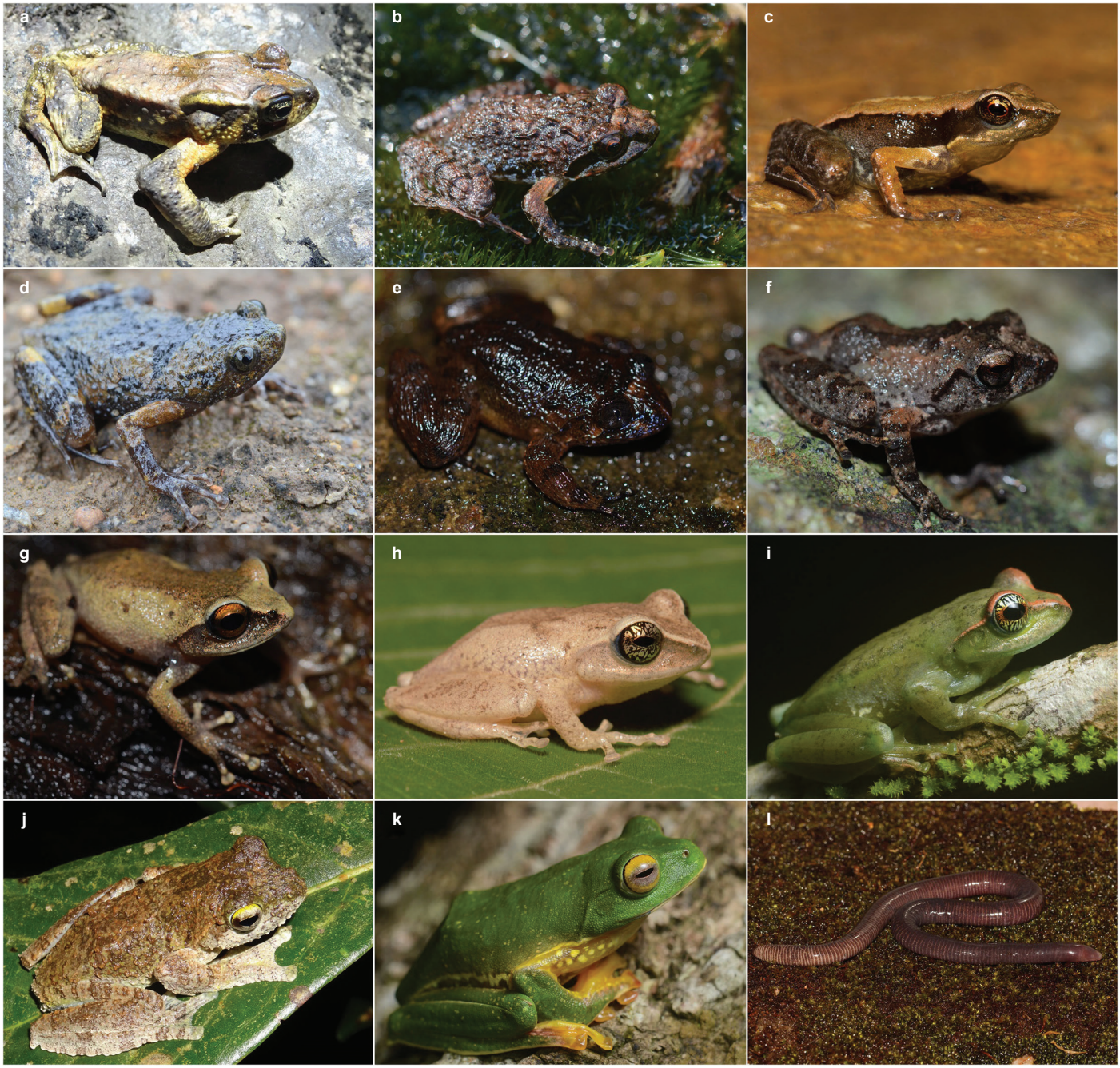

Fig. 4: Select amphibians of Meghamalai Wildlife Sanctuary: a) *Duttaphrynus* sp.; b) *Indirana* sp.; c) *Micrixalus* cf. *adonis*; d) *Uperodon* sp.; e) *Nyctibatrachus poocha*; f) *Raorchestes* sp.; g) *Raorchestes dubois*; h) *Raorchestes chlorosomma*; i) *Ghatixalus magnus*; j) *Rhacophorus calcadensis*; k) *Rhacophorus pseudomalabaricus*; l) *Uraeotyphlus* sp.

18. *Uperodon taprobanicus* (Parker, 1934)
Kaloula taprobanica – Srinivasan & Bhupathy, 2013: 4977
Remarks: Revised from the genus *Kaloula* Gray according to the revised systematics of Microhylid frogs of Peloso *et al*. (2016).

Family: Nyctibatrachidae Blommers-Schlösser, 1993 [1] (2)
Genus: *Nyctibatrachus* Boulenger, 1882 (2)

20. *Nyctibatrachus manalari* Garg *et al.*, 2017 (s.s.)
Nyctibatrachus beddomii [non *Nannobatrachus beddomii* Boulenger, 1882] – Srinivasan & Bhupathy, 2013: 4975–4977
Remarks: Recent systematic studies on small bodied *Nyctibatrachus* reveal that the populations from MWS represent a distinct species and are therefore reclassified as *Nyctibatrachus manalari* (Garg *et al*. 2017). Further, Biju *et al*. (2011) restrict the distribution range for *N. beddomii*

to south of the Shencottah Gap in the Western Ghats. The small bodied *Nyctibatrachus* reported by Srinivasan and Bhupathy (2013) are more likely to be conspecific with *N. manalari*.

21. *Nyctibatrachus poocha* Biju *et al*. 2011 (s.s.) (Fig. 4e)
Nyctibatrachus aliciae [non *Nyctibatrachus aliciae* Inger *et al*., 1984] – Srinivasan & Bhupathy, 2013: 4977
Remarks: Reclassified from *N. aliciae* as reported by Srinivasan and Bhupathy (2013), which is range restricted to Ponmudi in Kerala state (Biju *et al.* 2011). The populations of medium sized *Nyctibatrachus* from the MWS are conspecific with *N. poocha* (Biju *et al.* 2011). The populations reported by Srinivasan and Bhupathy (2013) in all likelihood belong to *N. poocha*.

Family: Ranidae Rafinesque, 1814 [1] (1)
Genus: *Indosylvirana* Oliver *et al*., 2015 (1)
22. *Indosylvirana* cf. *doni*
Hylarana temporalis [non *Ranatemporalis* Günther, 1864] – Srinivasan & Bhupathy, 2013: 4975–4977.
Remarks: The population in MWS belongs to the *Indosylvirana aurantiaca* group of Biju *et al.* (2014) and is provisionally identified as *Indosylvirana* cf. *doni* based on geographic distribution of the latter and overall morphological similarity. *Indosylvirana temporalis* is now known to be range-restricted to Sri Lanka (Biju *et al.* 2014b).

Family: Ranixalidae Laurent, 1986 [2] (5)
Genus: *Indirana* Laurent, 1986 (4)
24. *Indirana brachytarsus* (Günther, 1876) [NR]
Remarks: This species was identified by its extensive webbing, relatively shorter upper arm compared with other similar sized congeners from Western Ghats and its geographical affinity (Reddy *et al*. 2002).

Family: Rhacophoridae Hoffman, 1932 [5] (13)
Genus: *Ghatixalus* Biju *et al.* 2008 (1)
28. *Ghatixalus magnus* Abraham *et al*., 2015 (Fig. 4i)
Ghatixalus variabilis [non *Polypedates variabilis* Jerdon, 1853] – Srinivasan & Bhupathy, 2013: 4975– 4977.
Remarks: Populations of *Ghatixalus* south of the Palghat Gap, from Palni Hills and Munnar, were redescribed as *G. asterops* Biju *et al*., 2008 and *G. magnus* Abraham *et al.*, 2015.Populations from the MWS were studied and reported to be conspecific with *G. magnus* (Abraham *et al*., 2015). The distribution of *G. variabilis* is restricted to the Nilgiris region, north of the Palghat Gap (Biju *et al.* 2008).

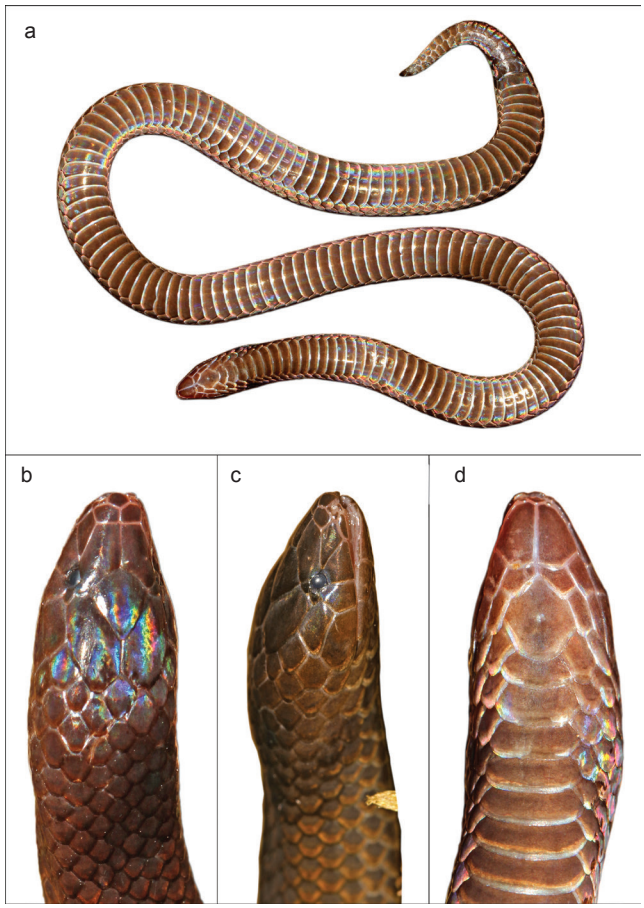

Fig. 5: *Xylophis* sp. from Meghamalai Wildlife Sanctuary; a) Full-body ventral; b) Head dorsal; c) Head lateral; d) Head ventral

Genus: *Raorchestes* Biju *et al*., 2010 (6)
33. *Raorchestes chlorosomma* (Biju & Bossuyt, 2009) [NR] (Fig. 4h)
Remarks: This species was identified in the field by the following suite of characters: Absence of supernumerary tubercles on hand and foot; greyish-green iris; groin brown, vermiculated with subequal black patches (Biju and Bossuyt 2009).

34. *Raorchestes dubois* (Biju & Bossuyt, 2006) [NR] (Fig. 4g)
Remarks: This species was identified in the field by the following suite of characters: Well-developed supernumerary tubercles on all toes; dorsum, lateral and ventral aspects of forelimb granular; thigh and shank coffee brown, intermixed with yellow blotches (Biju and Bossuyt 2006).

Genus: *Rhacophorus* Kuhl & Hasselt, 1822 (3)
38. *Rhacophorus calcadensis* Ahl, 1927 [NR] (Fig. 4j)
Remarks: A distinct *Rhacophorus*, diagnosed by pale greenish brown dorsum and mottling on flanks, with webbing

of similar coloration between fingers and toes. Skin flaps in fore and hind limbs with a spur on each hindlimb (Ahl 1927).

Order: Gymnophiona 1 [1] (1)
Family: Ichthyophiidae Taylor, 1968 [1] (1)
Genus: *Uraeotyphlus* Peters, 1879 (1)
41. *Uraeotyphlus* sp. [NR] (Fig. 4l)

Remarks: This is the first report of a caecilian from MWS. This specimen, belonging to the *Uraeotyphlus malabaricus* group (Gower and Wilkinson 2007), was identified by the following suite of characters: Presence of a tail; tentacular appendage below the nostril; lack of a clear distinction between primary and secondary annular grooves; 220 annuli when counted dorsally. It differs from its congeners in the *U. malabaricus* group by the number of annuli counted dorsally (>230 in *U. malabaricus* and <215 in *U. oomeni*), and distance from the type localities of the others (Gower and Wilkinson 2007). This population could well represent a new species belonging to the *U. malabaricus* group, and requires taxonomic research to establish its correct identity.

Rediscovery of a wood snake *Xylophis* Beddome, 1878 from MWS

Taxonomic history

Beddome (1878) established the genus *Xylophis* in the family Calamaridae, based on a specimen he collected (BMNH 78.8.2.1 deposited in the Natural History Museum, London) from "the dense heavy evergreen forests on the mountains at the south of the Cumbum Valley, Madura district". The region Beddome alluded to, falls within the confines of MWS. This species (also the type species for genus *Xylophis*) was described as *X. indicus*, broadly based on uniform coloration, *c*. 136 ventrals [possibly in error as Gower and Winkler (2007) report 131 ventrals for this specimen] and 26 [29, according to Gower and Winkler (2007)] bifid subcaudal scales. *Xylophis indicus* was later synonymized with *X. stenorhynchus* by Boulenger (1890), which has been followed by subsequent workers (e.g., Smith 1943). Specimens referred by Gower and Winkler (2007) to *X. stenorhynchus* were collected from Travancore (BMNH 1946.1.14.13, BMNH 1946.1.14.14, BMNH 1946.1.14.15 – all syntypes, and BMNH 83.1.12.64, CAS 17199 and 17200), except BNHS 1761 which was from "Paralai Anamallais", possibly Paralai tea estate in Valparai, Tamil Nadu state.

Summarized description (Figs 3c, 5a–c)

The individual presented herein, was a relatively large female specimen (Total length *c*. 235 mm), uniformly dark brown in life (Fig. 3c). Fifteen smooth scale rows in the mid-body dorsal region. Head narrow with abruptly tapering snout and rounded rostral scale. Nasals distinctly divided. Pre-frontals roughly pentagonal, touching the eye; frontal sub-triangular; parietals paired, large, with strong mid-line contact behind frontal (Fig. 5b). Five supralabials with 3rd and 4th touching the eye; 5th supralabial largest, sub-rectangular. A long, kite-shaped scale resembling a loreal between eye and nasal. Temporals 1+2 (Fig. 5c). Two pairs of genials, the anterior much larger, in strong contact and bordered anteriorly by a diminutive mental scale (Fig. 5d). Five infralabials, 2nd slightly larger than the 1st. Ventral scales (counted as per Gower and Winkler 2007) 140, wider than long, except the 1st which is roughly rhomboidal. Subcaudals bifid and in 18 pairs. Tail terminates abruptly in a blunt apical scute (Fig. 5a).

Diagnosis

This individual differs from *Xylophis perroteti* (Duméril, Bibron & Duméril, 1854) in having 15 dorsal scale rows at mid-body (vs. 13) and *X. captaini* Gower and Winkler, 2007 in having 140 ventrals (vs. 106–122), and a much longer midline contact between the parietals (vs. parietals barely touching each other). Superficially similar to *X. stenorhynchus* (Günther, 1875), this specimen can be distinguished from *X. stenorhynchus* sensu stricto by a greater number of ventrals (140 vs. 120–135), greater number of subcaudals in females (18 vs. 14 or 15), uniform dorsal coloration that lacks a pale collar band, and geographical isolation (Gower and Winkler 2007).

The uncollected female individual presented herein conforms to the *Xylophis indicus* of Beddome, based on geographical affinity. It differs from the holotype of *X. indicus* by a greater number of ventrals (140 vs. 131). However, this difference can easily be confined within the wide ranges in ventral scale numbers ascribed to putative species in this group (from Gower and Winkler 2007: 106–122 in *X. captaini*, 120–135 in *X. stenorhynchus*). The female specimen presented also exhibits a lesser number of subcaudals from the holotype which is male (18 vs. 29) – a difference that can be easily attributed to the sexual dimorphism in tail length within this group [from Gower and Winkler (2007): *X. captaini*, males 17–22 vs. females 10–14; *X. stenorhynchus*, males 24–29 vs. females 14 or 15].

Taxonomic status

We have no hesitation in placing this specimen in the circumscription of *Xylophis indicus*. However, the validity of *X. indicus*, currently a putative synonym of *X. stenorhynchus*, still remains equivocal (Gower and Winkler 2007). We therefore recognize this population only up to the generic rank in the checklist, pending reassessment of *X. indicus* using an

integrative taxonomic approach that employs multiple lines of evidence.

DISCUSSION

Taxonomic uncertainties

Smith (1943) reported a specimen of *Dasia subcaerulea* from MWS – a species that has since not been encountered from the region, though its type locality is present day Bodinayakkanur, Theni district, located across the Cumbum valley. Among the ophidian records, *Ahaetulla perroteti* reported by Hutton & David(2009) and Bhupathy & Sathishkumar (2013) has only been reported otherwise from the Nilgiris Biosphere Reserve (NBR), north of the Palghat Gap in recent times (Palot 2015; Princy *et al.* 2017). Similarly, *Uropeltis phipsoni* is known with certainty only from the state of Maharashtra (Whitaker and Captain 2008). Though the type localities of *Uropeltis liura* and *Tropidolaemus huttoni* are within MWS, both species have not been reported from here since their original descriptions. While many workers have alluded to *Uropeltis liura* from other parts of the southern Western Ghats based on morphological similarity (Pyron *et al.* 2016; Rajendran 1985; Whitaker and Captain 2008), we suggest employment of a comprehensive DNA-based comparison with freshly collected topotypic material before establishing conspecificity of these specimens. *Tropidolaemus huttoni* remains a prodigious mystery in Indian ophiology and has not been rediscovered since its original description. A recent report from Lonavala, Maharashtra, purportedly of this taxon (Boundy 2008), was shown to be that of *T. wagleri* (Ganesh *et al.* 2014). The report of *Oligodon venustus* (Ganesh and Chandramouli 2010) is of particular interest. Populations in NBR are considered conspecific to *O. venustus* (Santhoshkumar *et al*. 2017), despite its type locality being emended to North Canara district in Karnataka state (Smith 1943). The specimens reported from MWS possibly warrant reclassification pending further taxonomic studies.

The taxa identified herein only up to the generic rank (Tables1 and 2) or those circumscribed as sensu lato, could represent undescribed species, and necessitate concerted collections-based studies to resolve their taxonomy.

Conservation concerns

Meghamalai Wildlife Sanctuary harbours a fascinating assemblage of herpetofauna across a steep elevation gradient (200–1,900 m above msl) and diverse forest types. The Meghamalai plateau is a popular hill station among the locals and is highly affected by anthropogenic pressure. Tea cultivations in the upper reaches have ensured protracted and unremitting deforestation in this landscape, posing a serious threat to wildlife. Microhabitats such as bamboo forests, rocky outcrops and marshy grasslands, generally bereft of large trees, are considered suitable for human exploitation. In recent times, large rocky outcrops, the preferred habitat for many reptilians including *Hemidactylus vanam*, have been carved out in an effort to widen the approach road to Meghamalai hill station. These ecosystems nurture multiple species – habitat specialists whose survival depends wholly on the conservation of these so called "frivolous" forests. In the light of this remarkable biodiversity, MWS deserves a focused conservation action plan to protect the landscape from anthropogenic abuse.

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