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CHECKLIST AND KEY TO THE LIZARDS OF PAKISTAN



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Abstract:

Checklist and key to the identification of lizards in Pakistan is provided, with key, notes on distribution in and outside Pakistan.

Lizards in Pakistan fall in 8 families, 32 genera and 103 species and subspecies. They show extensive adaptive radiations, invading different types of forests, deserts and grasslands. None of the lizards in Pakistan is venomous.

INTRODUCTION

Lizards are the most diversified and widely distributed group of reptiles in Pakistan and richly represented in herpetological assemblages throughout the country (Khan, 1999b). Some reptiles are most familiar, since they are intimately associated with human settlements like: house lizards which has become almost integral part of the human inhabitations; monitors who lurch round barns attracted by resident rodents and poultry, eramid and mabuyad skinks inhabit tilled fields, feeding on crop pets and their larvae. Desert has its own peculiar lizard assemblage, showing bizarre morphological modifications enabling them to adapt to survive in extreme arid hot situations in stony silty, sandy terrain (Khan, 1999a).

Lizards are a very heterogeneous group of vertebrates, mostly have limbs, pectoral and pelvic girdles, lidded eyes etc. However, there are limbless, lidless eyed lizards, with weak limbs and reduced number of digits limbs, have ear openings distinguishing them apparently from snakes. In phrynocephalid lizards ear openings are absent. Lizards are most interesting animals showing enormous variations in their morphology to fit in different habitats, so are one of the most widely distributed vertebrates.

Background knowledge

Our basic knowledge about lizards of the subcontinent is based on G. A. Boulenger's (1890) volume in "*Fauna of British India*" series, which later was revised and updated in three volumes by M. A. Smith in three volumes, lizards were dealt in first volume in 1935.

After partition of the subcontinent, Minton (1966) and Mertens (1969) pioneered modern era in herpetological studies in Pakistan. They published results of their collections from throughout Pakistan. Since several reports have been published on herpetological collections from different parts of Pakistan adding much to our knowledge about the composition of herpetological assemblages in different parts of Pakistan (Khan, 1972, 1980a,b, 1985, 1986, 1987, 1988, 1989, 1990, 1991a, 1991b, 1991c, 1991d, 1991e, 1992, 1993a,b,c, 1994, 1997a,b, 1998, 1999a,b, 2000, 2001; Khan and Ahmed, 1987, Khan and Baig, 1988, 1992; Khan, M. S. and Khan. M. Z. 1997; Khan, M. S. and M. R. Mirza, 1977, Khan, M.S., and H. Rosler, 1999, Khan and Tasnim, 1990; W. Khan, 1997 unpublished; Baig, 1988, 1989, 1990, 1998; Baig and Bohme 1996; Börner, A-R. 1974, 1976, 1981).

Lizards

Lizards are the dominant group of reptiles in Pakistan. They belong to 8 families: Agamidae, Chamaeleonidae, Eublepharidae, Gekkonidae, Lacertidae, Scincidae, Uromastycidae and Varanidae. The number of lizards recorded from Pakistan have steadily arisen from Minton's (1966) 65 species, Mertens (1969) 82, Khan (1980) 88, to Khan (2006) 103 species and subspecies, in 32 genera.

Readers are advised to consult Khan (2000) for the explanation of different morphological terms used in the following keys. In this checklist families, genera and species are alphabetically arranged without phylogenetic relationships.

Key to the families of lizards in Pakistan

1. Head with small, irregularly arranged scales.....2
 Head with large, regularly arranged scales6
2. Head compressed, with an elevated median
 casque; digits fused in two bundlesChamaeleonidae
 Head depressed, no casque; digits free.....3
3. Head with granular scales; eye pupil vertical with pinholes4
 Head with flat scales; round pupil.....5
4. Eyelid movable.....Eublepharidae
 Eyelid immovable.....Gekkonidae
5. Head rectangular; nostrils very close to the tip of snout.....6
 Head elongated; nostrils close to eye or midway between
 eye and snoutVaranidae
6. Tail round elongated, with flat keeled scales.....Agamidae
 Tail flat with dorsal transversal rows of long spinous scales.....Uromastycidae
7. Scale surface rough with a keel; tail much
 longer than body; digits long.....Lacertidae
 Scales keeled or keelless, smooth; if keeled with multiple
 low keels; tail as long or a little longer than body; digits short.....Scincidae

Family Agamidae

This family is represented by 6 genera and 22 species in Pakistan.

Key to species of family Agamidae in Pakistan

1. Body laterally compressed.....2
 Body dorsoventrally depressed.....3
2. A distinct median dorsal row of pointed elevated scales,
 extending onto the tail*Calotes versicolor*
 A median dorsal row of indistinct elevated scale
 to midbody.....*Japalura kumaonensis*
3. Tympanum distinct.....4
 Tympanum concealed.....17

4. Tympanum large, superficial; fifth toe extends beyond second;
caudals in distinct annuli..... 5
Tympanum small, deeply sunk, caudal scale irregular.....13
5. Middorsum of body with several rows of
homogeneous enlarged scales.....6
Middorsum of body with several rows of
heterogeneous enlarged scales.....*Laudakia nuristanica*
6. Scales of dorsal rows smooth.....7
Scales of dorsal rows keeled.....8
7. A patch of strongly enlarged scales on flanks; male with a patch of
callous abdominal scales *Laudakia badkshana*
No patch of enlarged scales on flanks; male without callous
abdominal scales..... *Laudakia himalayana*
8. Caudal scales small, 30 or more round the base of tail.....9
Caudal scales large, >30 round the tail base.....10
9. Head with smooth scales; 8 rows of median dorsal
large scales..... *Laudakia. pakistanica*
Head with keeled scales; 10 or more
rows of median dorsal scales.....11
10. Large dorsal scale, larger than ventrals; flanks with
numerous enlarged scales..... *Laudakia agroreensis*
Largest dorsal scales, smaller than ventrals, flanks with few
enlarged scales *Laudakia tuberculata*
11. Caudal segments distinct, with two whorls of scales; tail short, thick,
not exceeding 1.5 times the body length..... *Laudakia caucasica*
Tail whorls one or three in a segment,
tail long, slender, longer than 1.5 times the body12
12. Enlarged dorsal in 12 or more rows; tail segment with
three annuli; adult with spiny excrescences round
ear opening..... *Laudakia nupta*
Enlarged dorsals in 10 or fewer rows;
tail segments with single whorl; spiny
excrescences around ear
opening small or absent..... *Laudakia melanura*
13. Dorsal scales subequal in size, disposed in irregular rows.....14
Larger dorsal scales about twice
the size of smaller and are irregular
in arrangement.....15
14. Tail exceeds body in length;
males with callous preanal scales.....*Trapelus agilis*
Tail equals or is slightly less than body length; males
without callous preanal scales.....*Brachysaura minor*
15. Enlarged dorsal scales rounded;
about 100 scales round the midbody..... *Trapelus rubrigularis*
Enlarged dorsal scales pointed; fewer
than 100 scales round the body.....16

16. Largest dorsals about twice the size of smallest; dorsum with reddish or orange ocelli, with dark borders..... *Trapelus megalonyx*
Largest dorsal scales more than twice the size of smallest; dorsal ocelli absent or without dark borders..... *Trapelus ruderata*
17. Dorsal scales markedly unequal in size.....18
Dorsal scales subequal.....19
18. Enlarged dorsal scales broad, nail-like, with free posterior borders; sides of head and neck without long spinose scales.....*Phrynocephalus scutellatus*
Enlarged dorsal scales without posterior free border; sides of head and neck with long spinose scales..... *Phrynocephalus luteoguttatus*
19. No spinose scales on head and neck.....20
Spinose scales on head and neck present..... *Phrynocephalus euptilopus*
20. Nasal scales in contact with each other.....21
Nasal scales not in contact with each other..... *Phrynocephalus maculatus*
21. A single elongated suborbital scale..... *Phrynocephalus clarkorum*
Two to three suborbital scales..... *Phrynocephalus ornatus*

Genus *Brachysaura* Blyth, 1856

Single species represented in Pakistan.

Brachysaura minor (Hardwicke and Gray)

(Short tail ground agama: *Dum-ktta kirla*)

1827 *Agama minor* Hardwicke and Gray, Zool. Jour. 3:218.

Type locality: Chittagong, Bangladesh.

Distribution in Pakistan: The short tail ground agama is rare and spotty in distribution. Its definite records are from Sindh and Punjab, District Jhang.

Distribution outside Pakistan: It is wide-ranging in the Indo-Gangetic plains. It ranges from Bangladesh through the Central and United Provinces of India Westward it extends into the upper and lower Indus Valleys in Pakistan,

Genus *Calotes* Cuvier, 1817

Single species represented in Pakistan.

Calotes versicolor (Daudin)

Common tree lizard: *Girgit*

1802 *Agama versicolor* Daudin, Hist. Nat. Rept. 3:395.

Type locality: India.

Distribution in Pakistan: Widely distributed in Pakistan especially in forested areas in Indus Valley. In deserticole habitat confined to the oases and vegetation growing along the water courses.

Distribution outside Pakistan: In southeast Asia extends from Sumatra to southern China, throughout India, Sri Lanka, and extends into Iran and southern Afghanistan.

Calotes versicolor farooqi Auffenberg and Rehman

1995 *Calotes versicolor farooqi* Auffenberg and Rehman, *Asiat. Herpetol. Res.* 6:27.

Type locality: Alpine Punjab, Pakistan

Distribution in Pakistan: Alpine Punjab, Pakistan.

Genus *Japalura* Gray, 1853

Single species represented in Pakistan.

Japalura kumaonensis (Annandale)

(Kumaon agama: *Kumaon kirail*)

1907 *Acanthosaura kumaonensis* Annandale, *Rec. Ind. Mus.* 1:152.

Type locality: Naini Tal, western Himalayas, India.

Distribution in Pakistan: In the forests of hilly tracts of north eastern NWFP.

Genus *Laudakia* Gray, 1845

Thirteen species represented in Pakistan.

Laudakia agorensis (Stoliczka)

(Agrore Valley agama: *Agror wadi kirla*)

1872 *Stellio agorensis* Stoliczka, *Proc. Asiatic Soc. Bengal*, Calcutta July 1872:128.

Type locality: Sussel Pass, Agrore Valley, Hazara District, NWFP, Pakistan.

Distribution in Pakistan: Widely distributed in Ooghi Valley, around Manshera and Abbottabad, extending down into the Jhelum Valley, and northward into Chitral.

Distribution outside Pakistan: Widely distributed in the sub Himalayan hills in northern India.

Laudakia badakhshana (Anderson and Leviton)

(Badkshshan rock agama: *Badkshshan kirla*)

1969 *Agama badakhshana* Anderson and Leviton, *Proc. Calif. Acad. Sci.*, 4th Ser. 37(2):33.

Type locality: Mazar-i-Sharif, northern Afghanistan.

Distribution in Pakistan: Recorded from Sost and Gulmit, near Khunjrab Pass, in northwestern Pakistan.

Distribution outside Pakistan: Northern Afghanistan.

Laudakia caucasia (Eichwald)

(Caucasian rock agama: *Kohkaf ka kirla*)

1831 *Stellio caucasia* Eichwald, *Zool. Spec.* 3:20.

Type locality: Tiflis and Baku, Caucasus.

Distribution in Pakistan: Waziristan and northern Balochistan, between 1800 and 3000 m.

Distribution outside Pakistan: This agama has been recorded from Caucasus extending eastward to Balochistan.

Laudakia badakhshana (Blanford)

(Yellow-head rock agama: *Pela kirla*)

1876 *Stellio nupta fusca* Blanford, East. Pers. Bound. Commis. 1870-1872. London, Vol. 2:319.

Type locality: Kalagan and Jalk, Balochistan, Iran.

Distribution in Pakistan: From Baluchistan and southwestern Sindh, Pakistan, up to an elevation of 1800 m. The author has seen it in the Kalabag area in northwestern Punjab, Pakistan.

Distribution outside Pakistan: The yellow-head agama is widely distributed in southern Iran,

Laudakia himalayana (Steindachner)

(Himalayan agama: *Himalayaie kirla*)

1869 *Stellio himalayanus* Steindachner, Reise Novara, Rept. 1867: 22.

Type locality: Lei (Leh) and Kargil, Ladakh Province, Kashmir.

Distribution in Pakistan: Recorded from remote areas of northern Pakistan, between 3000 and 3200 m of elevation, from Gilgit and Chitral.

Distribution outside Pakistan: From the western Himalayas to Tajikistan.

Laudakia melanura Blyth

(Black rock agama: *Siaah kirla*)

1854 *Laudakia melanura* Blyth, J. Asiat. Soc. Bengal, Calcutta 23:738.

Type locality: Salt Range, Punjab, Pakistan.

Distribution in Pakistan: Salt Range, Punjab, western hilly tracts of Sindh and Balochistan.

Distribution outside Pakistan: Moderate elevations in eastern Iranian Balochistan,

Laudakia nupta (de Filippi)

(Spiny-head rock agama: *Khaar-sar kirla*)

1843 *Agama nupta* de Filippi, Journ. Ist. Lomb. e Bib. Ital. 6:407.

Type locality: Persepolis, Iran.

Distribution in Pakistan: : Balochistan to southwestern Sindh extending on to the Waziristan Hills in NWFP, and the Kalabag area in northwestern Punjab, along the western bank of the Indus.

Distribution outside Pakistan: Its range extends from eastern Iraq, Afghanistan, and Iran,

Laudakia nuristanica Anderson and Leviton

(Nuristan agama: *Nuristan kirla*)

1969 *Agama nuristanica* Anderson and Leviton, Proc. Calif. Acad. Sci. 4th Ser. 37:39.

Type locality. Kamdesh, eastern Afghanistan.

Distribution in Pakistan: Recorded from Ziarat, NWFP, Pakistan, at 500-600 m of elevation.

Distribution outside Pakistan: Eastern Afghanistan.

Laudakia pakistanica pakistanica (Baig)

(North-Pakistan agama: *Pakistan kirla*)

1989 *Agama pakistanica* Baig, Bull. Kitakyushu Mus. Nat. Hist., 9:117-122.

Type locality: Ganglotgah, Gilgit, northern Pakistan.

Distribution in Pakistan: Widely distributed around Gilgit to Manshera, northeastern Pakistan, along the River Indus.

Laudakia pakistanica auffenbergi Baig and Bohme

1996 *Laudakia pakistanica auffenbergi* Baig and Bohme, Russian J. Herpetol. 3:1-10.

Type locality: Besham, District Swat, NWFP, Pakistan, elevation 700 mm.

Distribution in Pakistan: Known from its type locality.

Laudakia pakistanica khani Baig and Bohme

1996 *Laudakia pakistanica khani* Baig and Böhme, Russian J. Herpetol. 3:1-10.

Type locality: Hadar, Chilas, NWFP, Pakistan.

Distribution in Pakistan: Known from its type locality.

Laudakia tuberculata (Hardwicke and Gray)

(Blue rock agama: *Neela kirla*)

1827 *Agama tuberculata* Gray, Zool. Journ. 3:218.

Type locality: Bengal.

Distribution in Pakistan: Reported from northern Pakistan at elevations of 1500-2500 m.

Distribution outside Pakistan: Eastern Afghanistan, and Kashmir up to Nepal.

Genus *Phrynocephalus* Kaup, 1825

Six species represented in Pakistan.

Phrynocephalus clarkorum S. Anderson and Leviton

(Afghan toad agama: *Afghani gauk-sar*)

1967 *Phrynocephalus clarkorum* Anderson and Leviton, Proc. Calif. Acad. Sci., San Francisco (4)35:228.

Type locality: 20 miles south of Kandahar, Afghanistan.

Distribution in Pakistan: Western Balochistan.

Distribution outside Pakistan: Southern Afghanistan.

Phrynocephalus euptilopus Alcock and Finn

(Spotted toad agama: *Chittr gauk-sar*)

1896 *Phrynocephalus euptilopus* Alcock and Finn, J. Asiat. Soc. Bengal, Calcutta 65: 556.

Type locality: Darband, 900 m, northern Balochistan.

Distribution in Pakistan: Darband, Balochistan, at an elevation of 900 m.

Phrynocephalus luteoguttatus Boulenger

(Yellow speckled toad agama: *Peela goak-sar*)

1887 *Phrynocephalus luteoguttatus* Boulenger, Cat. Liz. Brit. Mus. 3: 497.

Type locality: Between Nushki and Helmand, and along the Afghanistan-Pakistan border.

Distribution in Pakistan: Known from western Balochistan around Nushki, southward to Las Bela.

Distribution outside Pakistan: Southern Afghanistan and western Iran.

Phrynocephalus maculatus J. Anderson

(Whip-tail toad agama: *Lambi-dum gauk-sar*)

1872 *Phrynocephalus maculatus* J. Anderson, Proc. zool. Soc. London 1872:389.

Type locality: Awada, Shiraz, Iran.

Distribution: Western Balochistan, Pakistan.

Distribution outside Pakistan: From from Arabia, Iraq, Afghanistan and Iran.

Phrynocephalus ornatus Boulenger

(Striped toad agama: *Daharidar gauk-sar*)

1887 *Phrynocephalus ornatus* Boulenger, Cat. Liz. Brit. Mus. 3:496.

Type locality: Between Nushki and Helmand, at the Balochistan and Afghanistan border.

Distribution in Pakistan: The striped agama is known from the Chagai Desert, extends to Las Bela.

Distribution outside Pakistan: Northwestern Afghanistan to southeastern Iran.

Phrynocephalus scutellatus Olivier

(Banded toad agama: *Pattay-dar gauk-sar*)

1807 *Phrynocephalus scutellatus* Olivier, Voy. Emp. Othom. 3:110.

Type locality: Ispahan, Iran.

Distribution in Pakistan: Balochistan desert.

Distribution outside Pakistan: Desert basins of Iran, Afghanistan, and Balochistan.

Genus *Trapelus* Cuvier, 1816

Five species represented in Pakistan.

Trapelus agilis (Boulenger)

(Common field agama: *Maidani Korrh-kirla*)

1885 *Agama isolepis* Boulenger, Cat. Liz. Brit. Mus. 1:342.

Type locality: Kutch, Quetta Division, Balochistan, Pakistan.

Distribution in Pakistan: Occurs below 1800 m in the plains of Punjab and Sindh, records from Balochistan and southern NWFP are confined to plain areas, it avoids hilly tracts.

Distribution outside Pakistan: The field agama extends from western Iran through Afghanistan and Central Asia (to southern Kazakhstan), Pakistan and Rajasthan,

Trapelus agilis pakistanensis Rastegar-Pouyani

1999 *Trapelus agilis pakistanensis* Rastegar-Pouyani, Asiatic Herpetol. Res. 8:90-101.

Type locality: Kirthar Range, southeastern Balochistan, Pakistan.

Distribution in Pakistan: Known from type locality.

Trapelus megalonyx Günther

(Ocellate ground agama: *Patta korrh-kirla*)

1864 *Trapelus megalonyx* Günther, Rept. Brit. Ind. :159.

Type locality: Afghanistan.

Distribution in Pakistan: Balochistan, Sindh and Cholistan Desert in Punjab, Pakistan, collected up to an elevation of 1800 m.

Distribution outside Pakistan: Extends from to southern Afghanistan to Iran.

Trapelus rubrigularis Blanford

(Red-throat ground agama: *Surakh-gani korrh-kirla*)

1876 *Trapelus rubrigularis* Blanford, Proc. Asiatic Soc. Bengal Calcutta 1875:233.

Type locality: Kirthar Range, western Sindh, Pakistan.

Distribution in Pakistan: Recorded from lower Sindh and coastal Balochistan.

Trapelus ruderata (Smith)

(Spotted ground agama: *Chittra korrh-kirla*)

1935 *Agama ruderata baluchiana* Smith, Faun. Brit. Ind. 2:223.

Type locality: Quetta District, Balochistan, Pakistan.

Distribution in Pakistan: Recorded from Quetta and Sibi Districts in Balochistan.

Family Chamaeleonidae

Represented by a single genus and a species in Pakistan.

Genus *Chamaeleo*

Chamaeleo zeylanicus Laurenti

Casque lizard: *Taj-sar girgit*

1768 *Chamaeleo zeylanicus* Laurenti, 1768:46.

Type locality: By inference, Sri Lanka.

Distribution in Pakistan: Extends into southeastern Sindh in Pakistan, where it is rare and local. Daniel's (1983) statement about extension of this species up to Peshawar is highly exaggerated.

Distribution outside Pakistan: Found in the wooded parts of peninsular India and Sri Lanka.

Family Eublepharidae

This family is represented by a single species of genus *Eublepharus* in Pakistan.

Genus *Eublepharis* Gray, 1827

A single species represented in Pakistan.

Eyelids moveable; digits not dilated, straight.....*Eublepharis macularius*

Eublepharis macularius (Blyth)

(Fat-tail gecko: *Khin-khin*, *Korrh kirly*)

1854 *Cyrtodactylus macularius* Blyth, J. Asiatic Soc. Bengal, Calcutta 23: 737-38.

Type locality: Salt Range, Punjab, Pakistan.

Distribution in Pakistan: In Pakistan it has been recorded from Azad Kashmir, NWFP, northern Punjab, Balochistan and lower Sindh.

Distribution outside Pakistan: The range of this gecko extends from Rajputana and Khandesh District of India.

Family Gekkonidae

Geckos are represented by 11 genera in Pakistan.

Key to the species of Family Gekkonidae in Pakistan

1. Digits dilated.....2
 Digits not dilated.....10
2. Dilated part of the digit confined to the
 terminal phalanx*Ptyodactylus homolepis*
 Dilated part of the digit extends along the whole digit 3
3. Tail swollen, covered with large flat imbricate
 scales; sub digital lamellae undivided.....*Teratolepis fasciata*
 Sub digital lamellae divided4
4. Dorsum with keeled enlarged tubercles,
 arranged in regular rows.....5
 Dorsum with hemispherical keelless
 tubercles irregularly arranged or absent.....8
5. Dorsal pattern of clearly defined
 broad dark saddles.....*Hemidactylus triedrus*
 Dorsal pattern of small spots, or uniformly colored.....6
6. Six to 10 lamellae under 4th toe,
 males with preanal and femoral pores..... *Hemidactylus brooki*

- Nine to 15 lamellae under 4th toe;
males with preanal pores only.....7
7. Eleven to 15 lamellae under 4th toe;
6 to 9 preanal pores..... *Hemidactylus persicus*
Nine to 12 lamellae under 4th toe; 4 to 6
preanal pores..... *Hemidactylus turcicus*
8. Inner toe less than half the length
of second toe; a continuous series
of 23 to 33 preano-femoral pores..... *Hemidactylus frenatus*
Inner toe more than half the length
of second; preanal and femoral
pores separated by at least six scales.....9
9. Dorsum with tubercles; 20 or more
femoral pores; 12 or fewer lamellae under 4th toe.....*Hemidactylus leschenaultii*
No dorsal tubercles; femoral pores
15 or fewer; 12 to 15 lamellae under 4th toe..... *Hemidactylus flaviviridis*
10. Digits straight.....11
Digits angularly bent between
last and penultimate phalanx16
11. Toes fringed on sides with pointed
flexible long scales12
Toes not fringed so.....*Bunopus tuberculatus*
12. Several series of large, thin
scales on tail dorsum; habitus robust13
Tail dorsum with small scales; habitus slender.....14
13. Body with large cycloid scales,
30 to 35 round the midbody.....*Teratoscincus scincus*
Body scales small, 100 or more round
midbody..... *Teratoscincus. microlepis*
14. Unregenerated tail shorter than
body; in male fewer than five preanal pores.....*Crossobamon orientalis*
Tail longer than body; preanal pores six or more.....15
15. Dorsum with numerous tubercles;
dorsal pattern of transverse bands *Crossobamon lumsdenii*
Few or no dorsal tubercles;
dorsal pattern of longitudinal stripes..... *Crossobamon maynardi*
16. Body and tail depressed; tail longer than body.....19
Body and tail cylindrical, equal or subequal in length.....17
17. Three nasal scales; dorsal pattern of transverse bands
which are much narrower than interspaces, tending to
break in spots on sides*Cyrtodactylus mintoni*
Two nasal scales; dorsal pattern of
transverse bands, band as broad or
broader than interspaces.....18
18. Dorsal bands broader than interspaces;
mid-ventrals 85 to 162..... *Cyrtodactylus dattanensis*

- Dorsal bands breaking into a reticulum;
mid-ventrals 194 to 205..... *Cyrtodactylus battalensis*
19. Tail with even taper; limbs small,
heel not reaching axilla.....22
Tail tapering abruptly; limbs long
and slender; heels reaching axilla or beyond.....20
20. Nasal scales strongly projecting
vertically carrying naris at higher level;*Rhinogecko misonnei*
Nasal scales not as above.....21
21. A row of enlarged scales under the thigh;
tail longer than snout-vent length.....*Agamura femoralis*
No enlarged scales under thighs; tail
shorter than snout-vent length.....*Agamura persicus*
22. Body non tuberculated.....23
Body tuberculated.....25
23. Internasals not differentiated from
surrounding scales; four scales border naris.....*Tropicolotes depressus*
Internasals well differentiated,
followed by a second pair of large
scales; 5 scales border naris..... *Tropicolotes. persicus*
24. Trihedral tubercles on body and tail;
body moderately depressed.....25
Trihedral tubercles on tail only;
body much depressed.....30
25. Interspaces between tubercles much
smaller than size of the tubercles.....26
Interspaces as large or larger than
size of the tubercles.....27
26. Interorbital scales more than 14;
dorsal tubercles often in contact with
each other; mid-ventrals more than 120;
snout-vent length less than
48 mm.....*Tenuidactylus montiumsalsorum*
- Interorbital scales less than 14; dorsal
tubercles always separated by 1 to 3
granular imbricate scales; midventral
scales less than 120; snout-vent length
more than 50 mm..... *Tenuidactylus kohsulaimanai*
27. Two whorls of subcaudals to a caudal
segment.....28
Three whorls of subcaudals to a caudal segment.....*Cyrtopodion agamuiroides*
28. Subcaudals small, as broad
as long, in two rows..... *Cyrtopodion kachhenses*
Subcaudals broader than long,
in a single row.....29
29. Scales across mid-abdomen less

- than 25..... *Cyrtopodion scabrum*
 Scales across mid-abdomen more than 25..... *Cyrtopodion watsoni*
30. Caudal tubercles trihedral, arising
 from last annulus of caudal segment.....31
 Caudal tubercles nontrihedral, arising
 from center of caudal segment.....33
31. Only preanal pore present in male.....32
 Preanal and femoral pores in a series.....*Tenuidactylus rohtasfortai*
32. Flat dorsal tubercles keeled..... *Tenuidactylus indusoani*
 Dorsal tubercles feebly keeled or
 keelless..... *Tenuidactylus fortmunroi*
33. Dorsal tubercles round with raised center.. *Tenuidactylus walli*
 Dorsal tubercles flat, with or without a
 keel.....*Cyrtodactylus baturensis*

Genus *Agamura* Blanford, , 1874

Two species in Pakistan.

Agamura femoralis Smith

(Pointed-tail spider-gecko: *Nook-dum makra-chapkali*)

1933 *Agamura femoralis* Smith, Rec. Indian Mus. Calcutta 35:17.

Type locality: Kharan, Balochistan.

Distribution: It has been reported from Kharan and Chagai Deserts, close to the rocky outcrops.

Agamura persica (A. Dumeril)

Persian spider gecko: *Irani makra-chapkali*

1856 *Gymnodactylus persicus* A. Dumeril, Arch. Mus. Hist. Nat. Paris 8: 481.

Type locality: Persia.

Distribution in Pakistan: From Karachi northward to the Waziristan Hills, between 25 and 100 m of elevation.

Distribution outside Pakistan: The blunt-tailed spider gecko is reported from Iran.

Genus *Bunopus* Blanford, 1874

A single species represented in Pakistan.

Bunopus tuberculatus Blanford

(Tuberculated desert gecko: *Khurdari reg chapkali*)

1874 *Bunopus tuberculatus* Blanford, Ann. Mag. Nat. Hist. London (4) 13: 454.

Type locality: Persian Balochistan.

Distribution in Pakistan: Common in Balochistan, to southern Sindh, Las Bela, and around Hyderabad, below 2000 m.

Distribution outside Pakistans: It ranges from Syria, Iraq, eastern Arabia, southern Iran, southern Afghanistan. .

Genus *Crossobamon* Boettger, 1888

Three species represented in Pakistan.

***Crossobamon lumsdenii* (Boulenger)**

(Smooth-belled sand gecko: *Naram kanghi-ungusht*)

1887 *Stenodactylus lumsdenii* Boulenger, Cat. Liz. Brit. Mus. 3: 479.

Type locality: Between Nushki and Helmand, northern Balochistan, Pakistan.

Distribution in Pakistan: Recorded in Pakistan between Nushki and Helmand in northern Balochistan.

***Crossobamon maynardi* (Smith)**

(Striped sand gecko: *Dharidar kanghi-ungusht*)

1933 *Stenodactylus maynardi* Smith, Rec. Ind. Mus. Calcutta 35: 18.

Type locality: Balochistan, near the Afghanistan border.

Distribution in Pakistan: The striped sand gecko has been collected from northwestern Balochistan.

***Crossobamon orientalis* (Blanford)**

(Yellow tailed sand gecko: *Pelee-dum kanghi-ungusht*)

1876 *Stenodactylus orientalis* Blanford, J. Asiatic Soc. Bengal, Calcutta (2)45: 21.

Type locality: Rohri and Shikarpur Districts, upper Sindh, Pakistan.

Distribution in Pakistan: Widely distributed throughout the Thar, Cholistan, and Thal Deserts; moreover, it has been recorded from Sindh Delta and Las Bela, southern Balochistan.

Distribution outside Pakistan: Southeastern Iran and Afghanistan.

Genus *Cyrtodactylus* Gray, 1827

There are seven species in Pakistan.

***Cyrtodactylus battalensis* Khan**

(Reticulate plump-bodied gecko: *Jal-dar goal-jasm*)

1993 *Cyrtodactylus battalensis* Khan, Pakistan J. Zool. 25(1): 67-73.

Type locality: Batgram, Manshera, NWFP, Pakistan.

Distribution in Pakistan: Known only from its type locality, Batgram, District Manshera, NWFP, Pakistan.

***Cyrtodactylus baturensis* Khan and Baig**

(Batura glacier gecko: *Batura chapkali*)

1993 *Tenuidactylus baturensis* Khan and Baig, Pakistan J. Zool. 24(4): 273-277.

Type locality: Passu and Khyber, Gilgit Agency, northern Pakistan.

Distribution in Pakistan: Known from its type locality in Gilgit Agency, northeastern Pakistan.

***Cyrtodactylus dattanensis* (Khan)**

Plump banded gecko: *Datta goal-jasm*

1980 *Gymnodactylus dattanensis* Khan, Pakistan J. Zool. 12 (1): 11-16.

Type locality: Datta, Manshera, NWFP, Pakistan.

Distribution in Pakistan: Widely distributed in alpine Punjab and eastern Northwestern Frontier Province, Pakistan.

***Cyrtodactylus mintoni* (Golubev and Szerbak)**

(Plump Swati gecko: *Swati goal-jasm*)

1981 *Gymnodactylus mintoni* Golubev and Szczerbak, Faun. Syst. 1981: 40-50.

Type locality: Udigram, Swat, NWFP, Pakistan.

Distribution in Pakistan: This gecko is known by its type specimen, which was collected from Udigram, Swat, NWFP, Pakistan.

Genus *Cyrtopodion* Fitzinger, 1843

Seven species known from Pakistan.

Cyrtopodion agamuroides (Nokolsky)

(Makran spider gecko: *Makrani makra chapkali*)

1900 *Gymnodactylus agamuroides* Nokolsky, Ann. Mus. Zool. St. Petersburg, 4: 384.

Type locality: Pensarch (Pendzhsara), eastern Kirman, Iran.

Distribution in Pakistan: Makran coast and Las Bela.

Distribution outside Pakistan: From Kirman, Sistan, and Baluchistan Province of Iran.

Cyrtopodion kachhense kachhense (Stoliczka)

(Kachh spotted ground-gecko: *Kachh chapkali*)

1872 *Gymnodactylus kachhense* Stoliczka, Proc. Asiatic Soc. Bengal, Calcutta (1): 79.

Type locality: Kutch, southwestern Sindh, Pakistan.

Distribution in Pakistan: The spotted ground gecko has been collected from most of Kutch, coastal Sindh, and Las Bela, Pakistan.

Cyrtopodion kachhense ingoldbyi Khan

(Western rock gecko: *Chattani chapkali*)

1923 *Gymnodactylus ingoldbyi* Proctor, J. Bombay Nat. Hist. Soc. 29:121.

1997 *Cyrtopodion kachhense ingoldbyi* Khan, Russian J. Herpetol. 4: 83-88.

Type locality: Ladha, Dera Ismael Khan, southern NWFP, Pakistan.

Distribution in Pakistan: Widely distributed in the hills along Khar-Rakhni-Quetta road, about 10 km west of Fort Munro.

Cyrtopodion kohsulaimanai (Khan)

(Sulaiman Range gecko: *Koh-Sulaiman chapkali*)

1991 *Tenuidactylus kohsulaimanai* Khan, J. Herpetol., 25:199-204.

Type locality: Sakhisarwar village, Dera Ghazi Khan District, north-western Punjab, Pakistan.

Distribution in Pakistan: This gecko is known from two localities, Sakhisarwar and Rakhni Gorge, along Dera Ghazi Khan-Fort Munro road, in District Dera Ghazi Khan, northwestern Punjab, Pakistan.

Cyrtopodion montiumsalsorum (Annandale)

(Salt Range ground-gecko: *Koh-namak chapkali*)

1913 *Gymnodactylus montiumsalsorum* Annandale, Rec. Indian Mus. Calcutta 9:309-326.

Type locality: Salt Range, Punjab, Pakistan.

Distribution in Pakistan: Salt Range, Punjab, Pakistan.

Cyrtopodion potoharensis Khan

(Potohar gecko: *Potohar chapkali*)

2001 *Cyrtopodion potoharensis* Khan, Pakistan J. Zool. 33(1):15-16.

Type locality: Nazampur, District Attock, northern Punjab, Pakistan.

Distribution in Pakistan: The Potwar gecko was collected from different localities in central Potwar Plateau, Salt Range, Punjab.

Cyrtopodion scabrum (Heyden)

(Common tuberculate ground-gecko: *Toor chapkali*)

1827 *Stenodactylus scaber* Heyden, in: Ruppell, Atlas N. Afr. Rept. :15.

Type locality: Arabia.

Distribution in Pakistan: In Pakistan, it has been reported from the upper and lower Indus Valleys, and along the eastern edge of the Thar Desert. It is widely distributed in Balochistan and Waziristan.

Distribution outside Pakistan: This gecko is wide-ranging, from Arabia, Egypt to Rajputana, India.

Cyrtopodion watsoni (Murray)

Northern spotted ground-gecko: *Shamali chapkali*

1892 *Gymnodactylus watsoni* Murray, Zool. Belooch. :68.

Type locality: Quetta, Balochistan, Pakistan.

Distribution in Pakistan: Reported from Salt Range, Punjab; Manshera, NWFP; and Quetta, Balochistan, Pakistan.

Genus *Hemidactylus* Oken, 1817

Seven species known from Pakistan.

Hemidactylus brookii Gray

(Spotted barn gecko: *Barani chapkali*)

1845 *Hemidactylus brookii* Gray, Cat. Liz. Brit. Mus. :153.

Type locality: Borneo, southeast Asia.

Distribution in Pakistan: Common gecko in the plains, avoiding higher northern mountains, and extends into the peripheral humid areas around deserts and oases.

Distribution outside Pakistan: Wide range in Southeast Asia, from Borneo, China, through tropical and subtropical Asia, extending through India, Pakistan and the Middle East to northern Africa. There are reports of it from the West Indies.

Hemidactylus flaviviridis Ruppell

Yellow-belly common house-gecko: *Ghar chapkali*

1835 *Hemidactylus flaviviridis* Ruppell, Neue Wirb. Faun. Abyss.:18.

Type locality: Massaua Islands, Eritrea.

Distribution in Pakistan: Reported from throughout the plains below 1000 m, always in association with man.

Distribution outside Pakistan: Wide ranging in the Palearctic Region, from the Red Sea to the coasts of Arabia and Iran, Pakistan, and India to Bangladesh. Human agency has played an important role in its wide distribution.

Hemidactylus frenatus Schlegel

(Waif gecko: *Awara chapkali*)

1836 *Hemidactylus frenatus* Schlegel, in: Dumeril and Bibron., Erpet. Gen. 3:366.

Type locality: Java, Southeast Asia.

Distribution in Pakistan: Frequent along sea coast, has been collected from the lower Indus Delta.

Distribution outside Pakistan: Pantropic species, coastal in distribution throughout subcontinent.

Hemidactylus leschenaultii Dumeril and Bibron

(Tree-bark gecko: *Chaal chapkali*)

1836 *Hemidactylus leschenaultii* Dumeril and Bibron, Erpet. Gen. 3:364.

Type locality: Sri Lanka.

Distribution in Pakistan: where it is recorded from various localities in the lower Indus Delta and Las Bela in southern Balochistan.

Distribution outside Pakistan: Extends from Assam, Bangladesh, eastern and southern India, along the western coast, reaching the lower Sindh in Pakistan.

Hemidactylus persicus Anderson

(Persian house-gecko: *Irani chapkali*)

1872 *Hemidactylus persicus* Anderson, Proc. Zool. Soc. : 378.

Type locality: Shiraz, Persia.

Distribution in Pakistan: Reported from the southern Potwar Plateau, in central Punjab, Pakistan. Common in lower Indus Valley and Balochistan coastal strip, extending up to Waziristan.

Distribution outside Pakistan: From eastern Arabia, through southern Iran, to Rajasthan coast.

Hemidactylus triedrus (Daudin)

(Blotched house gecko: *Sahali chapkali*)

1802 *Gecko triedrus* Daudin, Hist. Nat. Rept. :155.

Type locality: Unknown.

Distribution in Pakistan: Karachi and localities in lower Indus Delta.

Distribution outside Pakistan: From Sri Lanka and peninsular India.

Hemidactylus turcicus (Linnaeus)

Mediterranean house gecko: *Turk chapkali*

1758 *Lacerta turcica* Linnaeus, Syst. Nat. Ed. (10)1:202.

Type locality: Asiatic Turkey.

Distribution in Pakistan: Along the seacoast Karachi.

Distribution outside Pakistan: From Morocco to Egypt To Somalia, Kenya,

Coastal Mediterranean and Red Sea.

Genus *Ptyodactylus* Goldfuss, 1820

Single genus and species in Pakistan.

Ptyodactylus homolepis Blanford

Fan-toed gecko: *Pankh-ungusht chapkali*

1876 *Ptyodactylus homolepis* Blanford, J. Asiatic Soc. Bengal, Calcutta 45(2):19.

Type locality: Mahar Division, Shikarpur District, northwestern Sindh, Pakistan.

Distribution in Pakistan: There is no subsequent report of this gecko from Pakistan. It is yet known only from its type locality.

Genus *Rhinogecko* de Witte, 1973

Single genus and species in Pakistan.

***Rhinogecko misonnei* de Witte**

Long-nose gecko: *Nakali chapkali*

1973 *Rhinogecko misonnei* de Witte, Bull. Inst. R. Sci. Nat. Belg., Bruxellesd 49:1.

Type locality: Dast-i-Lut Desert, Iran.

Distribution in Pakistan: Known from Dasht-i-Lut along the Iran-Pakistan border.

Distribution outside Pakistan: Western Iran.

Genus *Tenuidactylus* Szczerbak and Golubev, 1884

***Tenuidactylus fortmunroi* Khan**

(Fort Munro sandstone gecko: *Munro reg-sang chapkali*)

1993 *Tenuidactylus fortmunroi* Khan, Pakistan J. Zool. 25:217-221.

Type locality: Khar Gardens, Fort Munro, District Dera Ghazi Khan, western Punjab, Pakistan.

Distribution in Pakistan: This gecko is known from Fort Munro and Khar village, in the northwestern Dera Ghazi Khan District, Punjab, Pakistan.

***Tenuidactylus indusoani* (Khan)**

Soan gecko: *Soan reg-sang chapkali*

1988 *Cyrtodactylus indusoani* Khan, J. Herpetol. 22:241-243.

Type locality: Pirpeahai, Iskinderabad, District Mianwali, northwestern Punjab, Pakistan.

Distribution in Pakistan: The gecko is known from the northwestern border of the Salt Range, Punjab, Pakistan.

***Tenuidactylus rhodocaudus* Baig**

Red-tail sandstone gecko: *Surakh-dum reg-sang*

1998 *Tenuidactylus rhodocaudus* Baig, Hamadryad 23:127-132.

Type locality: Tanishpa, District Kila Saifullah, Balochistan.

Distribution in Pakistan: The gecko is known from its type locality.

***Tenuidactylus rohtasfortai* Khan and Tasnim**

Rohtas gecko: *Rohtas reg-sang chapkali*

1990 *Tenuidactylus rohtasfortai* Khan and Tasnim, Herpetologica 46: 142-148.

Type locality: Ahmadyyah Mosque, Goi Madan, Kotli, Azad Kashmir.

Distribution in Pakistan: *Tenuidactylus rohtasfortai* is a widely distributed species in alpine Punjab and southeastern Azad Kashmir. It extends into the hilly terrain of the Potwar Plateau, especially from Jhelum to Islamabad.

***Tenuidactylus walli* (Ingoldby)**

(Chitral gecko: *Chatra chapkali*)

1922 *Gymnodactylus walli* Ingoldby, J. Bombay Nat. Hist. Soc. 28:1051.

Type locality: Drosh Fort, Chitral, NWFP, Pakistan.

Distribution in Pakistan: The gecko has been collected from Drosh Fort, Karakal village in Bumhoet Valley, and Ghariet village, Chitral, all in NWFP, Pakistan.

Genus *Teratolepis* Günther, 1870

Single species occurs in Pakistan.

***Teratolepis fasciata* (Blyth)**

Flat-tail gecko: *Chapti-dum chapkali*

1853 *Homonota fasciata* Blyth, in: Jerdon, J. Asiatic Soc. Bengal Calcutta, 22: 468.

Type locality: Jaulna, Hyderabad Province, southern India.

Distribution in Pakistan: The gecko is recorded from different localities in the lower Indus Delta in Pakistan.

Genus *Teratoscincus* Strauch, 1863

Two species occur in Pakistan.

***Teratoscincus microlepis* Nikolsky**

Baloch sand-gecko: *Bloch reg-chapkali*

1899 *Teratoscincus microlepis* Nikolsky, Ann. Mus. Zool. Acad. Sci. St. Petersburg, 4: 145.

Type locality: Duz Abad, Eastern Kirman, Iran.

Distribution in Pakistan: The gecko has been collected from Nushki and Kharan in Balochistan;

Distribution outside Pakistan: Collected westward to Dasht-i-Lut, near Kirman, Iran.

***Teratoscincus scincus* (Schlegel)**

Turkish sand-gecko: *Turkish reg-chapkali*

1858 *Stenodactylus scincus* Schlegel, Handl. Beoefening Dierkunde 2:16.

Type locality: Ili River, eastern Turkestan.

Distribution in Pakistan: Western Balochistan.

Distribution in Pakistan This gecko has a wide range in the west from the Caspian Sea to Tadjikistan.

Genus *Tropicolotes* Peters, 1880

Szczerbak and Golubev (1996) for this genus.

***Tropicolotes depressus* Minton & J. A. Anderson**

Mountain dwarf gecko: *Chattani chipolia*

1965 *Tropicolotes depressus* Minton and J. Anderson, Herpetologica 21: 59.

Type locality: Kach, Quetta Division, Balochistan, Pakistan.

Distribution in Pakistan: The gecko is recorded from hilly tracts north of Quetta, Balochistan.

***Tropicolotes persicus* (Nikolsky)**

Persian banded gecko: *Irani chipolia*

1903 *Alsophylax persicus* Nikolsky, Ann. Zool. Mus. Imp. Acad. Sci. 8: 95.

Type locality: Vikus Dehak, Iranian Balochistan.

Distribution in Pakistan: Southeastern Sindh, Pakistan.

Distribution outside Pakistan: Southwestern Iran.

***Tropicolotes persicus euphorbiacola* Minton et al.**

Sndhi dwarf-gecko: *Sindhi chipolia*

1907 *Microgecko helenae* Nikolsky, Ann. Mus. Zool. Acad. Sci. St. Petersburg, 10: 265.

1970 *Tropicolotes persicus euphorbiacola*, Minton, S. Anderson, and J. A. Anderson, Proc. California Acad. Sci. ser. 4, 37 (9):354.

Type locality: Las Bela, Pakistan.

Distribution in Pakistan: This gecko has been reported from Las Bela, Balochistan and lower Sindh, Pakistan.

Family Lacertidae

Four genera and 12 are reported from Pakistan.

Key to species of Family Lacertidae in Pakistan

1. Naris in contact with first supralabial.....2
 Naris not in contact with first supralabial.....4
2. Dorsals scarcely larger than laterals; usually seven
 light stripes on body; tail tip yellow.....*Acanthodactylus micropholis*
 Dorsals much larger than laterals; usually
 six stripes on dorsum; tail tip blue, gray or pink.....3
3. Median dorsals and laterals are of almost
 equal size; mid-dorsals 40 to 46 across
 mid-body; gulars 18 to 20.....*A. blanfordii*
 Median dorsals distinctly larger
 than laterals, 26 to 36; gulars 26 to 36.....*A. cantoris*
4. Eyelids immovable, forming spectacle;
 dorsals pointed, imbricate and keeled; no collar.....5
 Eyelids movable, lower with
 transparent disc; dorsals granular,
 subimbricate or juxtaposed; collar present.....6
5. Head with rugose scales; 25 to 35 scales round midbody.....*Ophisops jerdonii*
 Head scales smooth; 31 to 38 scales round the midbody..... *Ophisops elegans*
6. Ventrals in straight longitudinal
 rows, an occipital scale present7
 Ventrals in oblique longitudinal rows;
 occipital scale absent8
7. Occipital scale in contact with
 interparietals; transparent scale in
 lower eyelid, edged with black.....*Mesalina watsonana*
 Occipital scale not in contact with
 interparietals; transparent scale in
 lower eyelid not edged with black..... *Mesalina brevirostris*
8. A distinct fringe of pointed scales on the fourth toe.....9
 No fringe on the fourth toe.....11

9. The fringe is only on the outer side of fourth toe.....*Eremias scripta*
 The fringe on the both sides of fourth toe.....10
 10. Femoral pores present..... *Eremias. acutirostris*
 Femoral pores absent..... *Eremias aporosceles*
 11. Dorsals 55 or more at midbody..... *Eremias velox*
 Dorsals 50 or fewer at midbody..... *Eremias fasciata*

Genus *Acanthodactylus* Wiegmann, 1834

Three species reported from Pakistan.

***Acanthodactylus blanfordii* Boulenger**

(Red-tail sand lizard: *Surakh-dum chalpaya*)

1918 *Acanthodactylus cantoris* var. *blanfordi*, Bull. Soc. Zool. France 43:154.

Type locality: Bam, Persia; Mand, Balochistan, Pakistan.

Distribution in Pakistan: Recorded from the western Balochistan and along the Makran coast.

Distribution outside Pakistan: Extending into southern Afghanistan.

***Acanthodactylus cantoris* Günther**

(Blue-tail sand lizard: *Neeli-dum chalpaya*)

1864 *Acanthodactylus cantoris* Günther, Rep. Brit. India, 73.

Type locality: Ramnagar, India

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***Acanthodactylus micropholis* Blanford**

(Yellow-tail sand lizard: *Peeli-dum chalpaya*)

1874 *Acanthodactylus micropholis* Blanford, Ann. Mag. Nat. Hist. London (4) 13: 33.

Type locality: Magas, Balochistan.

Distribution in Pakistan: Along coastal Makran, Las Bela; northward it extends to central Balochistan.

Distribution outside Pakistan: Southeastern Iran.

Genus *Eremias* Wiegmann, 1834

Five species of eremiad lizards are reported from Pakistan.

***Eremias acutirostris* (Boulenger)**

(Lesser reticulate desert lizard: *Lakeer-dar taiz-rao*)

1887 *Scapteira acutirostris* Boulenger, Cat. Liz. Brit. Mus. 3: 114.

Type locality: Between Nushki and Helmand, Balochistan, Pakistan.

Distribution in Pakistan: Ranges from desert basins of northwestern Balochistan, Pakistan.

Distribution outside Pakistan: Eastern Iran and southern Afghanistan.

***Eremias aporosceles* (Alcock and Finn)**

(Greater reticulate sand lacerta: *Baloch taiz-rao*)

1896 *Scapteira aporosceles* Alcock and Finn, J. Asiatic Soc. Bengal, Calcutta 65: 559.

Type locality: Near Nushki, northern Balochistan, Pakistan.

Distribution: It has been recorded from around Koh Malik-do-Khand, at the Afghanistan-Pakistan border.

Eremias fasciata Blanford

(Striped sand lacerta: *Patti-dar taiz-rao*)

1874 *Eremias fasciata* Blanford, Ann. Mag. Nat. Hist. London (4) 14: 32.

Type locality: Saidabad, southwest of Kirman, Iran (restricted by Smith 1935).

Distribution in Pakistan: Balochistan upto Waziristan and Dera Ismael Khan.

Distribution outside Pakistan: Ranges from Iran to Afghanistan.

Eremias scripta (Strauch)

(Vermiculate sand lacerta: *Jal-dar taiz-rao*)

1867 *Podarcis scripta* Strauch, Mel. Biol. Bull. Acad. St. Petersburg 4: 424.

Type locality: Aralo-Caspian desert.

Distribution in Pakistan: Northern Balochistan to east of Nushki.

Distribution outside Pakistan: From Transcaspia to eastern Khazakistan, Iran, Afghanistan and northern Balochistan.

Eremias persica (Blanford)

(Persian sand lacerta: *Irani taiz-rao*)

1874 *Eremias persica* Blanford, Ann. Mag. Nat. Hist. London (4)13: 31.

Type locality: Ispahan, Iran.

Distribution in Pakistan: Northern Waziristan, Quetta and Nushki, from elevation upto 1000 m.

Distribution outside Pakistan: Northern Iran.

Genus *Mesalina* Gray, 1838

Two species recorded from Pakistan.

Mesalina brevirostris (Blanford)

Short-snout desert lacerta: *Chotta-sar taiz-rao*

1874 *Mesalina brevirostris* Blanford, Ann. Mag. Nat. Hist. London (4)13: 32.

Type locality: Kalabag, northwestern Punjab, Pakistan., and Tumb-Insel, Persian Gulf, Iran.

Distribution in Pakistan: From District Mianwali, in northwestern Punjab, to coastal Las Bela.

Distribution outside Pakistan: It has extensive distribution in the west to Syria.

Mesalina watsonana (Stoliczka)

(Spotted lacerta: *Chittra taiz-rao*)

1872 *Eremias watsonana* Stoliczka, Proc. Asiatic Soc. Bengal, Calcutta 1872:86.

Type locality: Sindh, between Karachi and Sukkur, Pakistan.

Distribution in Pakistan: Occurs throughout the plains, excluding the deserts. It extends from sea level to 2000 m of elevation.

Distribution outside Pakistan: From Rajputana to southern Afghanistan, and Iran.

Genus *Ophisops* Ménétriés, 1832

Two species reported from Pakistan.

Ophisops elegans Ménétriés

(Smooth spectacled lacerta: *Naram chishma-chalpaya*)

1832 *Ophisops elegans* Ménétriés, Cat. Rais. Obj. Zool. Caucas. : 63.

Type locality: Near Baku, Caspian Sea.

Distribution in Pakistan: Mianwali District and Waziristan hilly tracts.

Distribution outside Pakistan: Widely distribution in the west, extending to the Caspian region and west to Turkey and the Levant.

Ophisops jerdonii Blyth

(Rugose spectacled lacerta: *Khudra chisma-chalpaya*)

1853 *Ophisops jerdonii* Blyth, J. Asiatic Soc. Bengal, Calcutta 22: 653.

Type locality: Alpine Punjab, Pakistan.

Distribution in Pakistan: Widely distributed in plains and semihilly regions in the Punjab and Sindh plains, from alpine Punjab, Salt Range, Waziristan, Quetta, and Khuzdar in Balochistan.

Distribution outside Pakistan: India.

Family Scincidae

Seven genera and 17 species of family Scincidae occur in Pakistan.

Key to species of family Scincidae in Pakistan

1. Body serpentine; limbs short and vestigial.....2
Body not markedly serpentine; limbs well developed.....5
2. Fingers four; toes three.....3
Both fingers and toes three.....4
3. Scales rows at midbody 20.....*Ophiomorus blanfordii*
Scales row at midbody 22..... *Ophiomorus brevipes*
4. Parietals in contact with anterior temporal *Ophiomorus tridactylus*
Parietal and anterior temporal separated by posterior temporal..... *Ophiomorus raithmai*
5. Eyelids fused to form spectacles.....6
Eyelids movable.....7
6. Ear hidden beneath scales.....*Ablepharus grayanus*
Ear opening small but distinct..... *Ophiomorus pannonicus*
7. Supranasal scale present.....8
Supranasal scale absent.....9
8. Scales of middorsal rows much wider than laterals.....10
Dorsals of equal size throughout.....12
9. Scales at midbody 24-30.....*Scincella himalayana*
Scales at midbody 32-36..... *Scincella ladacensis*
10. A single row of broad dorsals.....*Eumeces taeniolatus*
Double row of broad dorsals.....11
11. Middorsals 26-30; dorsum uniform brown or with more or less distinct three dark stripes.....*Eumeces schneiderii*
Middorsals 52-56; 5-7 dark brown dorsal stripes..... *Eumeces indothalensis*
12. Naris piercing nasals.....13
Naris between nasals and rostral.....*Chalcides ocellatus*
13. Limbs well developed, pentadactyle.....14

- Limbs short and vestigial.....*Lygosoma punctata*
 14. Dorsals with three keels.....*Mabuya dissimilis*
 Dorsals with 3-7 keels..... *Mabuya macularia*

Genus *Ablepharus* Fitzinger, 1823

(Fühn 1969; Eremchenko and Szczerbak 1986).

Two species known from Pakistan.

***Ablepharus grayanus* (Stoliczka)**

(Earless snake-eyed skink: *Bahri saamp-chishm*)

1872 *Blepharosteres grayanus* Stoliczka, Proc. Asiatic Soc. Bengal, Calcutta 1872: 74.

Type locality: Waggur District, northeast Kutch, India.

Distribution in Pakistan: This lizard is recorded from throughout Pakistan at low elevations, especially grass fields in the Indus riparian system. It has also been recorded from hills around Fort Munro, Dera Ghazi Khan at an elevation of 1800 m.

***Ablepharus pannonicus* (Fitzinger)**

(Red tail snake-eyed skink: *Surakh-dum saamp-chishm*)

1823 *Scincus pannonicus* Fitzinger in Liechtenstein in Eversmann, Reise von Orenburg nach Buchara.... Berlin : 103.

Type locality: Bukhara.

Distribution in Pakistan: Reported from around Quetta, Waziristan hills, Chitral and the Salt Range.

Distribution outside Pakistan: From the Arabian Peninsula and North Arabian Desert, through Iran to circum-Mediterranean region, Tadzhikistan and Afghanistan.

Genus *Chalcides* Laurenti, 1768

Single species known from Pakistan.

***Chalcides ocellatus* (Forskål)**

(Ocellate skink: *Goal-jisam baamani*)

1775 *Lacerta ocellatus* Forskål, Descript. Anim.: 13.

Type locality: Egypt.

Distribution in Pakistan: . In Pakistan it has been recorded from along the coastal strip, around Karachi and Astola Island.

Distribution in Pakistan: Widely distributed in the west, from the Mediterranean through northern Saudi Arabia, the Persian Gulf to the Makran coast

Genus *Eumeces* Wiegmann, 1834

Three species are recorded from Pakistan.

***Eumeces blythianus* (J. Anderson)**

Orange tail skink: *Maltai-dum reg-mahi*

1871 *Mabouia blythiana* John Anderson, Proc. Asiatic Soc. Bengal, Calcutta. 1871: 186.

Type locality: Purchased in Amritsar, Punjab, India.

Distribution in Pakistan: The orange tail skink has been collected from coastal areas of Pakistan. It has also been reported from near the Khyber Pass in northwestern Pakistan, close to the Afghan border.

Eumeces indothermalensis M. S. Khan and M.R.Z. Khan

(Thal mole skink: *Thal reg-mahi*)

1997 *Eumeces indothermalensis* M.S. Khan and M. Z. Khan, Asiatic Herpetol. Res. 7:61-67.

Type locality: Bar Ginga Village, 9 km southwest of Bakkar western Punjab, Pakistan.

Distribution in Pakistan: The skink is known from the southwestern Thal Desert, close to the left bank of the River Indus, southwestern Punjab, Pakistan.

Eumeces taeniolatus Blyth

(Common mole skink: *Maidani reg-mahi*)

1854 *Eurylepis taeniolatus* Blyth, J. Asiatic Soc. Bengal, Calcutta 23: 739.

Type locality: Salt Range, Punjab, Pakistan.

Distribution in Pakistan: Collected from throughout the plains of Punjab and Sindh to an elevation of 2000 m.

Distribution outside Pakistan: From Arabia to the Transcaspia, Kutch, and Sindh to Kashmir.

Eumeces zarudnyi Nikolsky

(Red stripe skink: *Surkh dahari reg-mahi*)

1900 *Eumeces zarudnyi* Nikolsky, Ann. Mus. Zool. Acad. Sci. St. Petersburg 1899: 399.

Type locality: Bazman and Schur-Ad in Kirman; Labe-Ab in Seistan, Iran.

Distribution in Pakistan: Recorded from Astola Island, 10 km off the coast of Karachi.

Distribution in Pakistan: Reported from central to southeastern Iran.

Genus *Lygosoma* Hardwick & Gray, 1827

A single species represented in Pakistan.

Lygosoma punctata (Linnaeus)

Spotted garden skink: *Chitri baghban baamani*

1766 *Lacerta punctata* Linnaeus, Syst. Nat. (12)1:369.

Type locality: Asia.

Distribution in Pakistan: Restricted to the eastern strip of Punjab plain, northward it extends into Hazara Division.

Distribution outside Pakistan: Wide range in the Indo-Gangetic plains, from Bangladesh through India and Sri Lanka.

Genus *Mabuya* Fitzinger, 1826

Two species are reported from Pakistan.

Mabuya dissimilis (Hallowell)

(Striped grass skink: *Lakeer-dar gaas-goodi*)

1860 *Euprepes dissimilis* Hallowell, Transact. Amer. Phil. Soc. Philadelphia 11: 78.

Type locality: Bengal.

Distribution in Pakistan: Rawalpindi, upper Indus Valley to Waziristan, and extends into the Indus Delta.

Distribution in Pakistan: Widely distributed from western Bengal, Bihar, across the Gangetic plain.

Mabuya macularia (Blyth)

(Bronze grass skink: *Bhoori gaas-goodi*)

1853 *Euprepes macularius* Blyth, J. Asiatic Soc. Bengal, Calcutta 22: 652.

Type locality: Rangpur, Bengal.

Distribution in Pakistan: Reported from the plains and highland of the Salt Range, in Punjab, around Karachi and Las Bela.

Distribution outside Pakistan: Range of this skink extends from Laos and Cambodia to northern Malaya, Burma, western Bengal and Bihar, across the Indo-Gangetic Plain, to the Iranian Plateau.

Genus *Ophiomorus* Dumeril and Bibron, 1839

Four species are reported from Pakistan.

Ophiomorus blanfordi Boulenger

Makran sand-swimmer: *Makran reg-tyair*

1887 *Ophiomorus blanfordi* Boulenger, Cat. Liz. Brit. Mus. 3: 395.

Type locality: Chah Bahar, Balochistan, Pakistan.

Distribution in Pakistan: Known from coastal Makran.

Distribution outside Pakistan: Extends into the adjoining coastal Iran.

Ophiomorus brevipes (Blanford)

(Four finger sand-swimmer: *4-ungusht reg-tyair*)

1874 *Zygnopsis brevipes* Blanford, Ann. Mag. Nat. Hist. London 14 (4): 33.

Type locality: Saadatabad, southwest of Kirman, Iran.

Distribution in and outside Pakistan: Recorded from along the Iran and Pakistan border.

Ophiomorus raithmai S. Anderson and Leviton

(Three-fingered sand-fish: *3-ungusht reg-tyair*)

1966 *Ophiomorus raithmai* S. Anderson and Leviton, Proc. Calif. Acad. Sci. San Francisco 33: 519.

Type locality: Ghizri, Karachi District, Pakistan.

Distribution in Pakistan: From various localities in Sindh and Las Bela.

Distribution outside Pakistan: Kathiwar, in India,

Ophiomorus tridactylus (Blyth)

(Three toed sand-swimmer: *3-ungushti reg-tyair*)

1853 *Sphenocephalus tridactylus* Blyth, J. Asiatic Soc. Bengal, Calcutta 22: 654.

Type locality: Afghanistan.

Distribution in and outside Pakistan: Reported from along the borders between Afghanistan, Iran, and Pakistan. In Pakistan it is known from western Balochistan.

Genus *Scincella* Mittleman, 1950

Two species known from Pakistan.

Scincella himalayanus (Günther)

(Himalayan skink: *Hamalayi baahmani*)

1864 *Eumeces himalayanus* Günther, Rept. Brit. Ind. :86.

Type locality: Kashmir; Garhwal, Simla, India.

Distribution in Pakistan:. In Pakistan it abounds in marginal vegetation along water courses in alpine Punjab, Salt Range, Chitral, Waziristan, and Kalabag, District Mianwali.

Distribution outside Pakistan:. A mountain lizard, recorded from Nepal to Turkmenistan

Scincella ladacensis (Günther)

(Ice field skink: *Barfani baahmani*)

1864 *Eumeces ladacensis* Günther, Rept. Brit. Ind. : 88.

Type locality: Ladak, Baltistan, Kashmir.

Distribution in Pakistan: Reported from Baltistan.

Distribution outside Pakistan: Kahajeng Khola, in Nepal, the highest altitude (6000 m) so far reported for any cold-blooded vertebrate.

Family Uromastycidae

Single genus represented by two species in Pakistan.

Key to the identification to the species of family Uromastycidae in Pakistan

1. Body dorsum with uniform granular scales, caudal spines smaller, 20-24 in a row at the base of the tail..... *Uromastyx hardwickii*
Dorsal body scales granular interspersed with transverse rows of spiny scales;
caudal spines larger, 8-10 in a row at the base..... *Uromastyx asmussi*

Genus *Uromastyx* Merrem, 1820

Two species are recorded from Pakistan.

Uromastyx asmussi (Strauch)

Seistan spiny-tail ground lizard: *Sestani sanda*

1863 *Centrotrachelus asmusse* Strauch, Bull. Acad. Sci. St. Petersburg 6:479.

Type locality: Sar-i-tschah, Persia.

Distribution in Pakistan: Reported from the Chagai, Balochistan.

Distribution outside Pakistan: Collected from the southern Iran and along the Afghan-Iran border.

Uromastyx hardwickii Gray

Indus Valley spiny-tail ground lizard: *Maidani sanda*

1827 *Uromastyx hardwickii* Gray, Zool. Journal London 3: 219.

Type locality: Kanauj District, United Provinces, India.

Distribution in Pakistan: Recorded from throughout the Indus Valley and extends into Las Bela, southern Balochistan.

Family Varanidae

Four species and subspecies of genus *Varanus* are recorded from Pakistan.

Family **Varanidae**

1. Tail compressed with a median dorsal ridge; scales on side of neck keeled.....2
 Tail round, ridge slightly indicated in the middle of tail;
 scales on the sides of neck conical..... *Varanus griseus*
2. Naris nearer to the tip of snout than eye *Varanus flavescens*
 Naris nearer to eye than the tip of snout..... *Varanus bengalensis*.

Genus **Varanus** Merrem, 1820

Four species and subspecies of genus *Varanus* are recorded from Pakistan.

Varanus bengalensis (Daudin)

(Bengal monitor: *Bengali goh*)

1802 *Tupinambis bengalensis* Daudin, Hist. Nat. Rept. 3:67.

Type locality: Bengal.

Distribution in Pakistan: Throughout the plains of Punjab and Sindh, sub-Himalayan tracts, and Waziristan.

Distribution outside Pakistan: Assam, Burma, Nepal, Sikkim, throughout India, and Sri Lanka. and extends westward into Pakistan, southeastern Iran and eastern Afghanistan.

Varanus flavescens (Hardwicke and Gray)

(Yellow monitor: *Peeli goh*)

1827 *Monitor flavescens* Hardwicke and Gray, Zool. Journal London 3:226.

Type locality: India.

Distribution in Pakistan: This varanid has a restricted distribution range. It has been reported from Salt Range and District Sialkot in northern Punjab, and the Sindh Delta in Pakistan.

Distribution outside Pakistan: It is known to extend to the western Bengal.

Varanus griseus (Daudin)

Desert monitor: *Patti-dar goh*

1803 *Tupinambis griseus* Daudin, Hist. Nat. Rept. 8:352.

Type locality: Egypt.

Distribution in and outside Pakistan: The varanid has a wide range in the arid desert areas of India, Pakistan, and the Middle East. It ranges from Rajasthan to the Caspian Sea and North Africa. Distinguished in two races:

Varanus griseus caspius (Eichwald)

Caspian monitor: *Koh-kaf goh*

1831 *Psammosaurus caspius* Eichwald, Zool. Spec. 3:190.

Type locality: Eastern coast of the Caspian Sea.

Distribution in Pakistan: Northern and western Balochistan.

Distribution outside Pakistan: From the Transcaspian Desert to southern Kazakhstan and Afghanistan, extending into Pakistan.

Varanus griseus koniecznyi Mertens

Indo-Pak desert monitor: *Hindo-Pak Goh*

1954 *Varanus griseus koniecznyi* Mertens, Senckenb. Biol. Frankfurt a.M. 35: 355.

Type locality: Korangi, Karachi, Pakistan.

Distribution in Pakistan: Cholistan, Sindh, and the Kharan Desert.

Distribution outside Pakistan: Central India.

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