

# A NEW GENUS OF ASIAN PITVIPER (SERPENTES: VIPERIDAE).

Raymond Hoser

488 Park Road, Park Orchards, Victoria, 3114, Australia.

Phone: +61 3 9812 3322 Fax: 9812 3355 E-mail: viper007@live.com.au

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## ABSTRACT

This paper formally recognises the Taiwan Mountain Pitviper *Trimeresurus gracilis* Oshima, 1920 as being sufficiently distinct from similar pitvipers of the genus *Trimeresurus* Lacépède, 1804 (type species *T. viridis*) to be placed in a different genus.

While several other genera have been created to accommodate species previously placed within or likely to be placed within *Trimeresurus sensu lato*, the taxon *Trimeresurus gracilis* Oshima, 1920 does not fit within any.

Therefore this paper formally names and diagnoses a new genus *Oxyus* gen. nov. to accommodate this taxon.

At the present time this is a monotypic genus.

**Keywords:** new genus; *Trimeresurus*; *gracilis*; *Oxyus*; Viperidae; Crotalinae; Hoser; snake; genus.

## INTRODUCTION

The pitviper genus *Trimeresurus* Lacépède 1804 *sensu lato* has been subject of intense research in recent years, with numerous new taxa being formally described and proposals made to split the genus as recognised to smaller divisions.

Notable published studies of the systematics of these snakes include those of Das and Yaakob (2007), David, et. al. (2011), Gumprecht, et. al. (2004), Guo, et. al. (2007), Guo, et. al. (2009), Guo and Wang, (2011), Malhotra and Thorpe (2004), Malhorta, et. al. (2011), McDiarmid, et. al., (1999), Tu, et al. (2000) and Zhao and Adler (1993).

Recent divisions within *Trimeresurus* *sensu lato* or interpretations of it, has resulted in the transfer of species to the following genera: *Garthius* Das and Yaakob 2007, *Ovophis* Burger 1981, *Protobothrops* Hoge and Romano-Hoge 1983, *Sinovipera* Guo and Wang 2011, *Tropidolaemus* Wagler 1830, *Triceratolepidophis* Ziegler, et. al. 2000, *Parias* Gray 1849, *Crytelytrops* Cope 1860, *Peltopelor* Günther 1864, *Himalayophis* Malhotra and Thorpe 2004, *Popeia* Malhotra and Thorpe 2004, *Viridovipera* Malhotra and Thorpe 2004, *Cryptelytrops* Cope 1860, as well as the

retention of a generally monophyletic group within the original *Trimeresurus* Lacépède 1804.

Various other generic names have been proposed for different species within the above group, but have not necessarily come into use for a variety of reasons.

This use or non-use of given generic names is not relevant to the taxon subject of this paper in as much as it fits within none.

Some of the above cited generic names may even be questionable under the current and most recently past zoological codes as published by the ICBN.

By way of example, the series of names proposed by Malhotra and Thorpe 2004 (namely *Himalayophis* Malhotra and Thorpe 2004, *Popeia* Malhotra and Thorpe 2004 and *Viridovipera* Malhotra and Thorpe 2004) were not defined in accordance with the code (several articles) and therefore unless properly defined since, remain unavailable for the purposes of zoological nomenclature.

While it would be prudent for me to properly describe the relevant genus level taxa so that names are in fact

"available", as a matter of correct ethics, I have instead refrained from doing so and herein provided Anita Malhorta the opportunity now to correct the anomaly and retain "naming rights" over the subject genera and to stabilize the nomenclature.

*Ceratimeresurus* Liang and Liu (2003) was synonymised with *Protobothrops* in 2008 (David et. al. 2008). *Ermia* Zhang 1993 is not an available name for snake taxa (already a genus name for something else) and *Zhaeremia* Gumprecht and Tillack 2004 was later found to be synonymous with *Protobothrops* (Guo et. al. 2007).

Several studies have highlighted the significant differences between *Trimeresurus gracilis* Oshima 1920 and other apparently similar vipers in the genera listed above.

These include the results of Malhorta and Thorpe 2004 and more recently Pyron et. al. 2011 both of whom have shown differences between the taxon *gracilis* and others within the genus *Trimeresurus sensu lato*.

Relying on this material and the obvious physical differences between these snakes and others placed within *Trimeresurus sensu lato* and the absence of an appropriate genus to place this taxon within, a new genus is formally described below.

#### GENUS OXYUS GEN. NOV.

**Type species:** *Trimeresurus gracilis* Oshima 1920

**Diagnosis:** Separated from all other similar pitvipers by the following suite of characters: A small snake; with total adult length not exceeding 60 cm; there are 15-27 (19-21 at mid-body) rows of scales, which are keeled and rough, except for the first or second scale rows; anal scale is entire, and subcaudals are paired; head is broad, more-or-less triangular, covered with small scales, and distinct from neck; body is stout or robust; tail is small; there is a prominent angular ridge from upper eye to end of nose, and a prominent pit between eye and nostril; eye is medium-sized, high on the head and forms slight bulge on the upper head; the iris is light brown to tan dappled with dark pigment which blends with color of head, and there may be a horizontal brown to brown-black band of diffuse pigment across middle of eye, which is in line with dark brown band posterior to eye; the pupil is vertically elliptical, black, with narrow, indistinct margin of white; tongue is dark gray to black, with stem lighter than fork tips; fangs are large, movable, in sheath in anterior part of upper jaw; dorsal head is brown to dark brown, with designs of darker brown of varying intensities; there is a dark band extending from eye to corner of mouth which is bordered by stripes of whitish or light brown; sides of head are dirty white to tan, or white and mosaicked with black; upper body is light brown to red brown with many designs or shades of chocolate to brown black; there is a mid-dorsal series of dark designs, and a lateral one on each side which tends to be in line with the mid-dorsal one; the dark designs may or may not have narrow whitish margins; some individuals may have small white dots on the tail; ventral head is off-white to tan and may be shaded by varying quantities of scattered black pigment; ventrals are off-white to light brown, becoming darker towards the rear of the body; it is conspicuously mottled with diffuse black to red brown spots, which may be square and arranged roughly as a checkerboard or form moderately broad irregular longitudinal lines along sides.

Endemic to the Island of Taiwan.

Common name is Taiwan Mountain Pitviper.

Viviparous and reported to produce litters of 2-8.

The genus is monotypic for the species *gracilis*.

**Etymology:** Named in honour of our pet Great Dane, whom we always treat as an equal, named *Oxyuranus* (who we called "Oxy" for short), hence the genus name, who's faithful services from 2004 to 2012 deserve an honour.

PS. *Oxyuranus* is the genus name for an Australasian elapid.

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