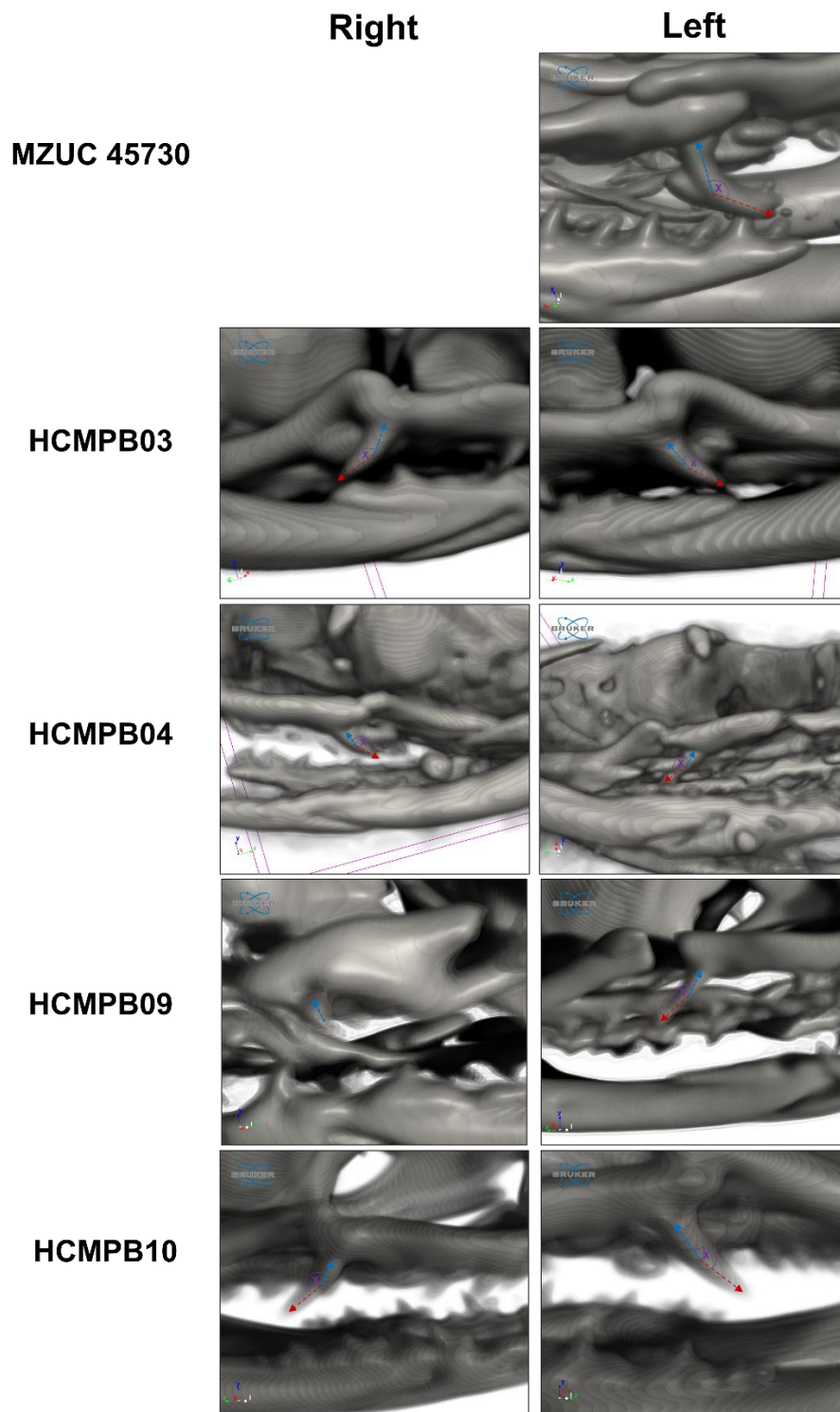


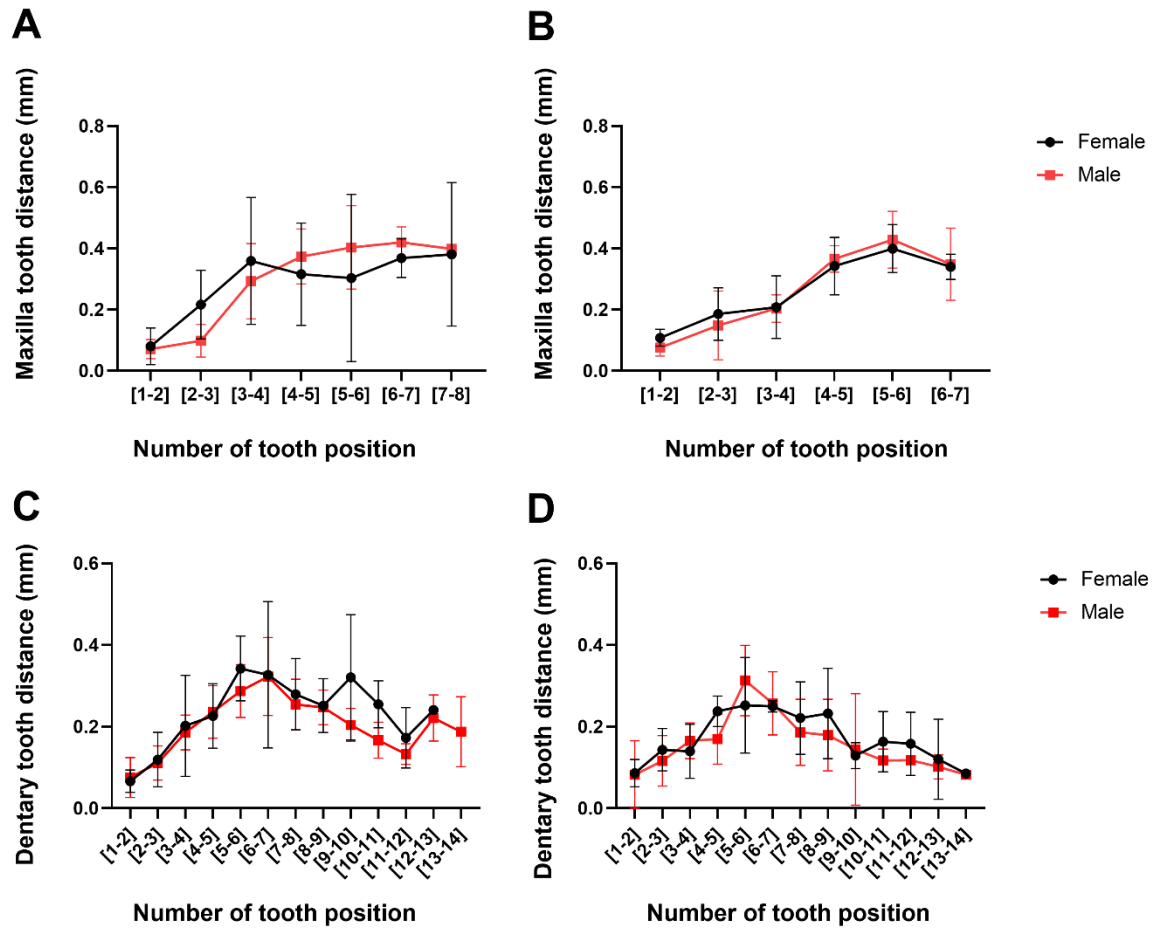
# **Shedding lights on the dentition and venom-delivery system of the rear-fanged snake, *Galvarinus chilensis chilensis* (Serpentes: Dipsadidae: Tachymenini) from Chile**

Yarela Herrera, Sebastián Fuentes-Retamal, Ulrike Kemmerling, María Elisa Peichoto, Juan Carlos Ortiz & Félix A. Urra

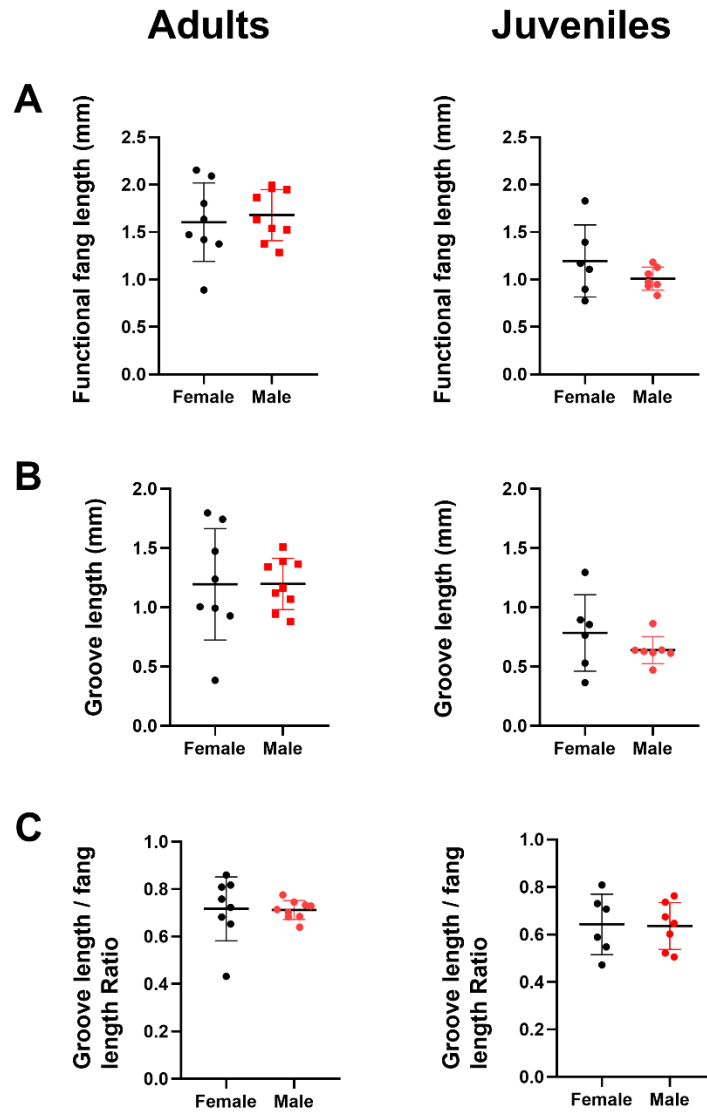
**Supplementary information**



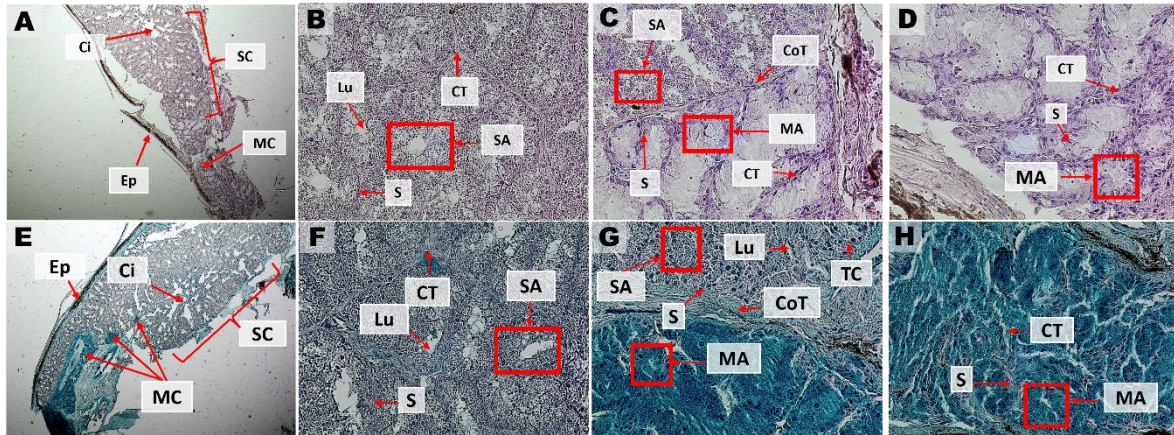
**Supplementary Figure S1.** View of left and right fangs of adult specimens of *G. ch. chilensis* using computerized microtomography. The right fang of MZUC 45730 specimen is shown in Figure 5.



**Supplementary Figure S2.** Variation of the distance between teeth of (A-B) maxilla and (C-D) dentary bones in females and males of *Galvarinus ch. chilensis* in (A, C) adults and (B, D) juvenile specimens. Data shown are mean  $\pm$  SD from adults (males: N=5, females: N=4) and juveniles (males: N=4, females: N=4).



**Supplementary Figure S3.** Changes in the (A) Functional fang, (B) Groove length, and (C) Groove length / functional fang length ratio between females and males. Data shown are mean  $\pm$  SD from all functional fangs (left and right) of adults (males: N=5, females: N=5) and juveniles (males: N=4, females: N=4).



**Supplementary Figure S4.** Histology and histochemistry of a transverse cross-section from *G. ch. chilensis* venom gland. (A - D) Hematoxylin/Eosin and (E - H) Alcian Blue 3%, (I- L). Magnification 4X for A, E and 40X for the rest of the images, Abbreviations: Ci= Cistern; CoT= connective tissue; CT= collector tube; Ep = Epithelium; Lu= Lumen; MA= Mucous acinus; MC= Mucous cells; S= Septum; SA= Serous acinus; SC= Serous cells. All images are from an adult specimen (male, HCMPB05).

**Supplementary Table S1.** Specimens used in scanning electron microscopy. Abbreviations: MZUC= Museo de Zoología, Universidad de Concepción; O. C= Ontogenetic categories; Fig. 5 letters= Letters in boxes (A-V) of Figure 5 indicate the MZUC specimens used, detailed information and voucher numbers are shown in this table.

Specie	Collection	Number	O. C	Sex	Fig, 5 letters	Location
<i>G. chilensis</i>	MZUC	11595	Adult	Female	A	Chile - Biobío's Region - Provincia de Arauco - Laraquete - Las Cruces
<i>G. chilensis</i>	MZUC	45037	Adult	Female	B	Chile - Biobío's Region - Provincia de Arauco – Ramadilla
<i>G. chilensis</i>	MZUC	45045	Adult	Female	C	Chile - Biobío's Region - Provincia de Arauco - Ramadilla
<i>G. chilensis</i>	MZUC	45048	Adult	Female	-	Chile - Biobío's Region - Provincia de Arauco - Ramadilla
<i>G. chilensis</i>	MZUC	45318	Adult	Female	D	Chile - Biobío's Region - Los Ángeles
<i>G. chilensis</i>	MZUC	4567	Adult	Male	E	Chile - Biobío's Region - Provincia de Arauco - Ramadilla
<i>G. chilensis</i>	MZUC	11658	Adult	Male	F	Chile - Biobío's Region - Provincia de Arauco - Ramadilla
<i>G. chilensis</i>	MZUC	11682	Adult	Male	G	Chile - Biobío's Region - Provincia de Arauco - Ramadilla
<i>G. chilensis</i>	MZUC	45309	Adult	Male	H	Chile - Biobío's Region – Provincia de Concepción - Surroundings
<i>G. chilensis</i>	MZUC	45310	Adult	Male	I	Chile - Biobío's Region - Provincia de Concepción - Surroundings
<i>G. chilensis</i>	MZUC	11695	Juvenil	Female	J	Chile - Biobío's Region - Provincia de Concepción- Concepción
<i>G. chilensis</i>	MZUC	31148	Juvenil	Female	K	Chile - Biobío's Region – Parque Nacional Nahuelbuta
<i>G. chilensis</i>	MZUC	45002	Juvenil	Female	L	Chile - Biobío's Region – Provincia de Malleco - Antuco Volcano - Los Barros
<i>G. chilensis</i>	MZUC	45007	Juvenil	Female	M	Chile - Biobío's Region - Provincia de Malleco – Antuco Volcano - Los Barros
<i>G. chilensis</i>	MZUC	23185	Juvenil	Male	N	Chile - Biobío's Region - Dichato
<i>G. chilensis</i>	MZUC	44998	Juvenil	Male	O	Chile - Biobío's Region - Provincia de Malleco - Antuco Volcano - Los Barros
<i>G. chilensis</i>	MZUC	45000	Juvenil	Male	P	Chile - Biobío's Region - Provincia de Malleco - Antuco Volcano - Los Barros
<i>G. chilensis</i>	MZUC	45329	Juvenil	Male	Q	Chile - Biobío's Region - San Fabian de Alico – Río Ñuble
<i>G. chilensis</i>	MZUC	45334	Juvenil	Unidentified	R	Chile - Biobío's Region - Provincia de Arauco – Planta Horcones
<i>G. chilensis</i>	MZUC	45031	Neonate	Unidentified	S	Chile - Biobío's Region - Provincia de Arauco - Laraquete - Las Cruces
<i>G. chilensis</i>	MZUC	45032	Neonate	Unidentified	T	Chile - Biobío's Region – Provincia de Arauco - Laraquete - Las Cruces

<i>G. chilensis</i>	MZUC	45033	Neonate	Unidentified	U	Chile - Biobío's Region - Arauco Province - Laraquete - Las Cruces
<i>G. chilensis</i>	MZUC	45036	Neonate	Unidentified	V	Chile - Biobío's Region - Provincia Arauco - Laraquete - Las Cruces

**Supplementary Table S2.** Specimens used in microtomography computerized.

Abbreviations: HCMPB= Herpetological collection – MPB Lab (U. Chile); MZUC= Museo de Zoología, Universidad de Concepción; O. C= Ontogenetic categories

Specie	Collection	Number	O. C	Sex	Location
<i>G. chilensis</i>	HCMPB	3	Adult	Unidentified	Chile – Ñuble's Region – Comuna de Pinto – Shangri-la
<i>G. chilensis</i>	HCMPB	4	Juvenile	Unidentified	Chile – Ñuble's Region – Comuna de Pinto – Shangri-la
<i>G. chilensis</i>	HCMPB	9	Adult	Female	Chile - Ñuble's Region - Comuna de Pinto
<i>G. chilensis</i>	HCMPB	10	Adult	Male	Chile - Ñuble's Region - Comuna de Pinto
<i>G. chilensis</i>	MZUC	45730	Adult	Male	Chile - Los Lagos's Region – Provincia de Chiloé

**Supplementary Table S3.** Specimens used for histochemistry. Abbreviation: HCMPB= Herpetological collection – MPB Lab (U. Chile); O. C= Ontogenetic categories

Specie	Collection	Number	O. C	Sex	Location
<i>G. chilensis</i>	HCMPB	5	Adult	Male	Chile - Región del Ñuble - Comuna de Pinto
<i>G. chilensis</i>	HCMPB	7	Adult	Female	Chile - Región del Ñuble - Comuna de Pinto