Table 1 Experimental studies made with the *Philodryas olfersii* venom – Timeline

Year	Authors	Experimental design	Biological properties			Absent properties		
1992	Assakura et al.[16]	*In vivo* (mice) *In vitro*	Hemorrhagic	Edematogenic	Fibrinolytic (it degrades fibrinogen *in vitro* rendering it incoagulable to thrombin)	It has not a thrombin-like activity which converts fibrinogen to fibrin	It has not procoagulant enzymes (it does not clot plasma) which produce thrombin, Nor platelet aggregant enzymes	Phospholipase A_2
1994	Assakura et al.[19]	*In vivo* (mice) *In vitro*	Proteolytic activity which affects blood coagulation and causes hemorrhage, caused by metalloproteinase PofibH.	Fibrinogenolytic: 5 enzymes: 4 of them are metalloproteinases (PofibC$_1$, C$_2$, C$_3$, and H) and 1 serine proteinase (PofibS). The five proteinases degraded fibrin and fibrinogen		It has not a fibrinogenase activity which converts fibrinogen into fibrin.		
1996	Prado-Franceschi et al.[20]	Duvernoy's gland secretion was studied *in vivo* in mice and chicks, and *ex vivo* using preparations (on striated muscle and the neuromuscular junction)	Neurotoxicity: It causes neuromuscular blockade and contracture in chick biventer cervicis preparations and also causes blockade of contracture responses to exogenous Ach and KCl addition. These effects were attributed to Peak I	Myotoxicity under histological analyses: The whole secretion produced various degrees of muscle cell lysis and extensive widening of the intercellular spaces. These effects are	Myotoxicity under Creatine Kinase (CK) parameter: the whole secretion increased the creatine kinase (CK) levels in mice.	Neither the whole secretion nor Peak I had any significant effect on the twitches. Similarly, the whole secretion did not affect the resting potential (RP) of the mouse nerve-muscle preparation.		The whole secretion had no effect on creatine kinase (CK) on the mouse phrenic nerve-diaphragm preparation.

				caused by at least one other component of the Duvernoy's secretion.			
1998	Prado-Franceschi et al.[21]	Myotoxin isolated from Duvernoy's gland secretion	*Ex vivo* chick biventer cervicis preparation; partially blocks potassium-evoked contractures	Myotoxin increases the serum creatine kinase (CK) levels of mice and stimulates the release of CK from the biventer cervicis preparation in a dose- and time-dependent manner. Histologically, myotoxin causes similar damage by DG, but the partial or total loss of transverse muscle striations is restricted to the muscle periphery, in case of myotoxin.		Myotoxin does not affect either the twitch-tension resulting from indirect stimulation or the contractures evoked by acetylcholine.	
2003	Acosta de Pérez et al.[22]	*In vivo* (mice)	The edematogenic activity was evaluated on paw edema	The myotoxic activity was evaluated by serum CPK activity: maximum level after 12 h	Myotoxic activity by histological analysis on gastrocnemius muscle: maximum level after 12 h.	Unreported.	
2006	Rocha et al.[17]	*In vivo* (mice and rabbits), to investigate their immunological cross-reactivities by using both specific antisera and anti-*Bothrops* sp serum, in neutralizing the lethal and hemorrhagic effects of these venoms.	Proteolytic and haemorrhagic activities (associated with metalloproteinases)	Lethality is associated with metal-dependent proteinases	The venom is immunogenic and the antisera produced was able to recognize several bands in *P. olfersii* venom in *Bothrops jararaca* venom	Devoid of phospholipase A2 activity	
2006	Rodríguez-Acosta et al.[23]	*In vivo* (chicken and mice)	Chicken embryos were used to measure	The haemorrhage is	Neurotoxicity: *P. olfersii* venom	Unreported.	

			haemorrhagic activity and antivenin efficiency in Viperidae and Elapidae venom. peaks 1, 2, and 3 with high proteolytic activity. Using mice, the peritoneum and skin haemorrhagic activity produced by *Philodryas olfersii* venom were also clearly shown.	seen in the vitelline vein of chicken embryos also indicated the strong proteolytic activity on the vasculature.	produced several neurotoxic symptoms in the inoculated mice. The most notable and initial activities were the equilibrium disorders, posterior limbs paralysis and flaccid paralysis, which occurred between two to six minutes after venom injection. Death, probably caused by respiratory paralysis, took place 15 min after venom injection.	
2006	Ching et al.[24]	A transcriptomic analysis of its Duvernoy's (venom) gland. Analysis of the venom by two dimensional (2D) electrophoresis and mass spectrometry, aiming to understand the evolutionary relationships of Colubridae toxins with those of the Viperidae and Elapidae families.	Transcriptomic data of the venom gland complemented by proteomic analysis of the gland secretion revealed the presence of major toxin classes from the Viperidae family, including serine proteases, metalloproteases, C-type lectins, Crisps, and a C-type natriuretic peptide (CNP)	The phylogenetic analysis of the CNP precursor showed it as a linker between two related precursors found in Viperidae and Elapidae snakes.	these precursors constitute a monophyletic group derived from the vertebrate CNPs.	Unreported.
2008	Sales and Santoro[25]	*In vitro* with analyses of	Venom showed low levels of	High alkaline phosphatase activity comparable to venoms of Viperidae snakes		The venom was devoid of most nucleotidase and DNase activities.

		nucleotidase assay by zymography; Liberation of orthophosphate and pyrophosphate from nucleotides; Assay of phosphodiesterase and alkaline phosphatase activities; and DNase activity	phosphodiesterase activity.	found in Brazil		
2011	Peichoto et al.,[26]	*In vitro*: to the identification of a protein with inhibitory activity against the parasite *Leishmania major*	It was isolated a fraction of *Philodryas olfersii olfersii* (PooV)			PooV had no significant effect on L. major growth.
2012	Collaço et al.[7]	Ex vivo on mouse nerve phrenic-diaphragm preparation (PND) and chick biventer cervicis preparation	The partial neuromuscular blockade on PND; And complete blockade on BC.	Venom (50 mg/ml) caused fibre damage in PND and BC.	Venom enhanced expression of TNFa and IFNg	Unreported.
2012	Peichoto et al.[27]	*In vitro* study to e compare the protein composition and enzymatic properties of the venoms	PooV exhibited the highest level of catalytic activity towards synthetic substrates for serine proteinases	The PooV hydrolyzed acetylthiocholine at low levels		No phospholipase action.
2017	Oliveira et al.[5]	*In vivo* (mouse)	Local pain, The venom caused thrombocytopenia (at all three doses), leukopenia and lymphopenia (both	Inflammatory cell infiltration (an increase of IGF-1)	Myonecrosis	Venom does not cause hematological changes (such as red cell count, hemoglobin, hematocrit, mean corpuscular volume, mean corpuscular hemoglobin and mean corpuscular hemoglobin concentration.).

			at the two highest doses), as well as neutrophilia (30 mg), monocytosis (30 mg) and basophilia (10 mg).			
2020	Schezaro-Ramos et al.[18]	*Ex vivo* (mice phrenic nerve-diaphragm preparation); *In vivo* (rat dorsal skin)	*P. olfersii* venom (50 µg/mL) induces partial blockade in comparison to total blockade of *Bothrops jararacussu* venom (100 µg/mL).	*P. olfersii* venom-induced myonecrosis *in vitro*, characterized by The myonecrosis is characterized by oedematous, hyper contracted and ghost fibres.	Oedema-forming activity; Haemorrhagic activity assessed in rat dorsal skin	Unreported.