Analysis performed: 190807_150525

• Analyzed sequences (hits resulting from 676 blast searches, 52 animal groups x 13 query sequences):2620 (out of which unique: 1409, programmatically recognized as VEGF/PDGF family members: 100.0%).
• Red dotted lines in the tree indicate paraphyletic relationships.

• The tree background color indicates the presence of the proteins with the corresponding color according to our hypotheses.

The red-to-white background of the table indicates a heuristic reliability of the results, where a brighter color indicates a higher reliability. This is calculated using the number of fully sequenced genomes, the number of species in the phylum and the number of protein sequences available for that phylum.
 The numbers in the table denote the number of: orthologs found (black), P = paralogs found, whose relationship could not be programmatically determined, Σ = total homologs found.

		# animal # se- # compl. # unique blasthi	ts	DDCE-A	• The numbers in t PDGF-B					Whose relationship could in VEGF-A165	ot be programmatically d VEGF-A206	etermined, Σ = total homol		VECE-C	VECE-D	VEGF-F
-0		species quences genomes (excl. false pos.) 55 6 3 0	ctenophora (comb jellies)	PDGF-A	PDGF-B	PDGF-C	PDGF-D	PIGF-1	VEGF-A121	VEGF-A103	VEGF-A200	VEGF-B167	VEGF-B186	VEGF-C	VEGF-D	VEGF-F
		1373 34k 2 0	porifera (sponges)											1 P0, ?7, Σ8	0 P1, ?1, Σ2	0 P0, ?3, Σ3
		3 36k 2 0	placozoa													
)	3673 115k 18 <mark>2 (2)</mark>	acnidaria (medusae/polyps)	0 P6, ?4, Σ10	1 P3, ?1, Σ5	0 P1, ?0, Σ1		0 P2, ?1, Σ3	0 P6, ?7, Σ13	1 P7, ?13, Σ21	0 P6, ?9, Σ15	0 P18, ?61, Σ79	0 P6, ?0, Σ6	11 P1, ?43, Σ55	0 P7, ?19, Σ26	0 P3, ?2, Σ5
		151 925 0 <mark>0</mark>	xenacoelomorpha												0 P0, ?1, Σ1	
		1794 136k 11 <mark>0</mark>	** echinodermata	0 P5, ?1, Σ6	0 P5, ?0, Σ5	0 P11, ?1, Σ12	0 P12, ?1, Σ13	0 P9, ?3, Σ12	3 P2, ?7, Σ12	3 P3, ?11, ∑17	3 P2, ?7, Σ12	0 P10, ?9, Σ19	0 P10, ?8, Σ18	2 P8, ?12, ∑22	1 P9, ?7, Σ17	0 P7, ?3, Σ10
		39 23k 2 <mark>2 (2)</mark>	hemichordata (acorn wormws)	0 P2, ?0, Σ2	0 P2, ?0, Σ2	0 P2, ?1, Σ3	0 P2, ?0, Σ2	0 P1, ?0, Σ1	0 P1, ?2, Σ3	0 P1, ?1, Σ2	0 P1, ?1, Σ2	0 P2, ?1, Σ3	0 P2, ?2, Σ4	2 P1, ?1, Σ4	0 P3, ?1, Σ4	0 P2, ?0, Σ2
		11 95k 4 6 (6)	cephalochordata (lancelets)	0 P6, ?1, Σ7	0 P6, ?1, Σ7	0 P5, ?1, Σ6	0 P5, ?1, Σ6	0 P5, ?0, Σ5	1 P5, ?1, Σ7	1 P5, ?1, Σ7	1 P5, ?1, Σ7	0 P6, ?2, Σ8	0 P6, ?1, Σ7	6 P1, ?6, Σ13	0 P6, ?1, Σ7	0 P6, ?1, Σ7
		362 64k 6 1 (1)	tunicata	0 P1, ?0, Σ1	0 P1, ?0, Σ1			0 P1, ?1, Σ2	1 P0, ?0, Σ1	1 P0, ?0, Σ1	1 P0, ?0, Σ1	0 P1, ?0, Σ1	0 P1, ?0, Σ1	0 P1, ?0, Σ1	0 P1, ?0, Σ1	0 P1, ?0, Σ1
		77 8k 3 0	cyclostomata (hagfish/lamprey)					- , , –	_ , , _	_ , , _	_ , , _		- , , -			
		833 115k 6 31 (31)	chondrichthyes (cartilaginous fishes)	6 P21, ?0, Σ27	2 P25, ?0, Σ27	2 P18, ?0, Σ20	2 P11, ?0, Σ13	0 P25, ?0, Σ25	11 P14, ?0, Σ25	11 P14, ?0, Σ25	11 P13, ?0, Σ24	0 P29, ?0, Σ29	0 P29, ?1, Σ30	6 P23, ?0, Σ29	2 P26, ?0, Σ28	0 P25, ?0, Σ25
		19097 2M 186 252 (n.a.)	actinopterygii (ray-finned fishes)	217 P665, ?170, Σ1052	27 P863, ?170, Σ1060	117 P282, ?15, Σ414						59 P1041, ?154, Σ1254				30 P1054, ?169, Σ1253
		2 35k 1 17 (17)	coelacanthimorpha (lobe-finned fishes)	1 P15, ?0, Σ16	2 P12, ?0, Σ14	1 P12, ?0, Σ13	2 P4, ?0, Σ6	2 P12, ?0, Σ14	3 P12, ?0, Σ15	3 P11, ?0, Σ14	3 P11, ?0, Σ14	3 P14, ?0, Σ17	3 P14, ?1, Σ18	2 P15, ?0, Σ17	1 P16, ?0, Σ17	0 P14, ?0, Σ14
		6 1k 0 4 (4)	dipnoi (lungfishes)	1 P3, ?0, Σ4	1 P3, ?0, Σ4	0 P4, ?0, Σ4	0 P4, 70, Σ4	0 P4, ?0, Σ4	2 P2, ?0, Σ4	2 P2, ?0, Σ4	3	0 P4, ?0, Σ4	0 P4, ?0, Σ4	0 P4, ?0, Σ4	0 P4, ?0, Σ4	0 P4, ?2, Σ6
		5698 478k 6 41 (41)	amphibia	16 P59, ?1, Σ76	12 P62, ?1, Σ75	6 P54, ?0, Σ60	5 P17, ?0, Σ22	0 P66, ?1, Σ67	27 P38, ?1, Σ66	27 P30, ?1, Σ58	27 P33, ?1, Σ61	3 P69, ?1, Σ73	3 P73, ?1, Σ77	5 P71, ?1, Σ77	6 P72, ?1, Σ79	0 P68, ?1, Σ69
		→ 9458 3M 132 318 (n.a.)	aves (birds)	10 133, 11, 270 127 P340, ?5, Σ472	12 102, :1, 273 118 P461, ?5, Σ584	98 P452, ?2, Σ552	154 P316, ?0, Σ470		140 P390, ?9, Σ539	141 P329, ?5, Σ475	141 P329, ?5, Σ475	0 P672, ?8, Σ680	0 P764, ?8, Σ772	130 P704, ?4, ∑838	96 P707, ?4, Σ807	1 P729, ?8, Σ738
			crocodylia (crocodiles)	5 P26, ?0, Σ31	1 P14, ?0, Σ15	4 P35, ?0, Σ39	6 P21, ?0, Σ27	7 P46, ?0, Σ53	140 P390, 19, 2339 17 P40, ?0, Σ57	141 P329, ?3, 2473 17 P35, ?0, Σ52	141 P329, ?3, 2473 17 P29, ?0, Σ46	0 P57, ?0, Σ57	0 P63, ?0, Σ63	9 P54, ?0, Σ63	8 P55, ?0, Σ63	0 P53, ?0, Σ53
		3246 96k 6 62 (62)			6 P45, ?0, Σ51		5 P18, ?0, Σ23	6 P46, ?1, Σ53	26 P31, ?1, Σ58	26 P26, ?1, Σ53	26 P22, ?1, Σ49	2 P54, ?0, Σ56	2 P59, ?0, Σ61	7 P56, ?1, Σ64	5 P57, ?0, Σ62	4 P48, ?0, Σ52
		3246 96K 6 62 (62) 3789 467k 15 50 (50)	lepidosauria excl. toxicofera (non-poisonous lizard	12 P122, ?0, Σ134	9 P113, ?0, Σ122	9 P89, ?0, Σ98	11 P26, ?0, Σ37	14 P91, ?28, Σ133	53 P63, ?29, Σ145	53 P43, ?29, Σ125	53 P45, ?28, Σ126	7 P109, ?26, Σ142	7 P120, ?26, Σ153			4 P48, ?0, 252 24 P107, ?5, Σ136
		3789 467k 15 50 (50) 358 184k 10 59 (59)	toxicofera (poisonous reptiles)	9 P65, ?1, Σ75	9 P113, ?0, 2122 8 P66, ?1, Σ75	9 P89, ?0, Σ98 7 P60, ?7, Σ74	11 P26, ?0, Σ37 17 P20, ?0, Σ37	14 P91, ?28, Σ133 10 P61, ?1, Σ72	30 P48, ?1, Σ79	30 P52, ?4, Σ86	30 P36, ?1, Σ67	7 P109, ?26, Σ1428 P65, ?1, Σ74	7 P120, ?26, Σ153 8 P88, ?2, Σ98	11 P108, ?26, Σ145 6 P91, ?2, Σ99	2 P119, ?23, Σ144 5 P92, ?1, Σ98	0 P70, ?1, Σ71
			testudines (turtles)													
		5 26k 1 25 (25)	monotremata (egg-laying mammals)	1 P6, ?0, Σ7	1 P5, ?0, Σ6	3 P10, ?0, Σ13	3 P10, ?0, Σ13	1 P5, ?0, Σ6	1 P6, ?0, Σ7	1 P6, ?0, Σ7	1 P6, ?0, Σ7	0 P8, ?0, Σ8	0 P8, ?0, Σ8	2 P6, ?0, Σ8	1 P7, ?0, Σ8	0 P6, ?0, Σ6
			metatheria (marsupials)	7 P36, ?0, Σ43	5 P36, ?0, Σ41	4 P33, ?0, Σ37	10 P16, ?0, Σ26	4 P25, ?0, Σ29	4 P28, ?0, Σ32	4 P22, ?0, Σ26	4 P22, ?0, Σ26	4 P32, ?0, Σ36	4 P36, ?0, Σ40	4 P35, ?0, Σ39	5 P34, ?0, Σ39	0 P39, ?0, Σ39
		4775 8M 181 336 (n.a.)	eutheria (placentals)	247 P762, ?6, Σ1015	223 P892, ?13, ∑1128	218 P659, ?1, Σ878	235 P417, ?0, Σ652	· · ·	434 P900, ?6, Σ1340	440 P862, ?6, Σ1308	440 P857, ?6, Σ1303	249 P1420, ?11, Σ1680	249 P1504, ?10, Σ1763	171 P1406, ?9, Σ1586	164 P1601, ?9, Σ1774	0 P1596, ?10, Σ1606
		199 46k 2 1 (1)	tardigrada (water bears)	0 P1, ?3, Σ4	0 P3, ?1, Σ4	0 P2, ?0, Σ2	0 P1, ?0, Σ1	0 P2, ?0, Σ2	0 P0, ?4, Σ4	0 P0, ?6, Σ6	0 P0, ?3, Σ3	0 P4, ?0, Σ4	0 P3, ?1, Σ4	0 P2, ?2, Σ4	0 P4, ?0, Σ4	0 P2, ?1, Σ3
		94 2k 1 0	onychophora (velvet worms)													
		195 2k 0 0	pycnogonida (sea spiders)													
		10242 646k 27 4 (4)	arachnida (spiders)	2 P20, ?3, Σ25	0 P20, ?3, Σ23	0 P21, ?5, ∑26	0 P9, ?2, ∑11	2 P24, ?39, Σ65	14 P5, ?22, ∑41	14 P5, ?20, Σ39	13 P5, ?16, ∑34		0 P24, ?11, Σ35	1 P16, ?16, ∑33	1 P14, ?2, ∑17	1 P26, ?30, Σ57
		5 39k 1 2 (2)	xiphosura (horseshoe crabs)	0 P6, ?3, Σ9	0 P6, ?1, Σ7	0 P7, ?3, ∑10	0 P3, ?2, ∑5	0 P7, ?20, Σ27	7 P0, ?11, ∑18	7 P0, ?11, ∑18	7 P0, ?11, ∑18	0 P7, ?11, Σ18	0 P7, ?11, ∑18	0 P7, ?4, Σ11	0 P2, ?0, Σ2	0 P7, ?11, Σ18
		978 7k 1 0	myriapoda (millipeds)										0			
		10990 947k 25 <mark>2 (2)</mark>	crustacea crustacea	0 P10, ?8, Σ18	0 P11, ?4, Σ15	1 P4, ?3, ∑8	0 P1, ?8, Σ9	0 P5, ?7, ∑12	5 P4, ?11, Σ20			1 P9, ?19, Σ29	1 P6, ?19, Σ26	1 P8, ?13, ∑22	1 P6, ?8, ∑15	1 P7, ?9, Σ17
		114524 7M 339 0	hexapoda (insects)	20 P77, ?117, Σ214	3 P89, ?113, ∑205	1 P42, ?34, Σ77	2 P23, ?16, Σ41	3 P52, ?141, Σ196	49 P53, ?154, ∑256	59 P61, ?198, ∑318	39 P45, ?129, ∑213	5 P110, ?177, Σ292	5 P94, ?156, Σ255	16 P18, ?98, ∑132	2 P36, ?55, Σ93	3 P95, ?236, Σ334
		30 368 0 0	nematomorpha (horsehair worms)													
		3519 2M 100 0	nematoda (roundworms)		0 P0, ?11, Σ11							0 P1, ?22, ∑23	0 P0, ?21, Σ21	0 P0, ?4, Σ4	0 P0, ?2, Σ2	0 P0, ?24, Σ24
		7 21k 1 1 (1)	priapulida (penis worms)	1 P0, ?0, Σ1	0 P1, ?7, Σ8					0 P1, ?0, Σ1		0 P1, ?0, Σ1	0 P1, ?0, Σ1	0 P1, ?0, Σ1		0 P1, ?0, Σ1
		1 1 0 0	loricifera													
		62 436 0 0	kinorhyncha (mud dragons)													
		56 2k 0 0	chaetognatha (arrow worms)													
		327 3k 0 0	bryozoa (moss animals)										0			
		26 155 0 0	entoprocta										0 P0, ?1, Σ1		0 P0, 71, Σ1	
		2 278 0 0	cycliophora (symbion)													
		3333 129k 5 0	annelida (segmented worms)	0 P0, ?3, Σ3	0 P2, ?2, Σ4		0 P1, ?1, Σ2			0 P0, ?3, Σ3	0 P0, ?3, Σ3	0 P1, ?2, Σ3	0 P1, ?1, Σ2	0 P0, ?3, Σ3		0 P1, ?2, Σ3
		14207 742k 26 1 (1)	mollusca	0 P4, ?6, Σ10	0 P8, ?0, Σ8	0 P4, ?4, Σ8	0 P1, ?4, Σ5	0 P2, ?1, Σ3	2 P2, ?9, Σ13	2 P2, ?9, Σ13	2 P2, ?5, Σ9	0 P9, ?6, Σ15	0 P4, ?6, Σ10	0 P1, ?15, Σ16	0 P7, ?4, Σ11	0 P8, ?4, Σ12
		262 5k 1 0	nemertea (ribbon worms)													
		100 42k 1 1 (1)	hrachiopoda (lamp shells)	0 P1, ?0, Σ1	0 P1, ?0, Σ1	0 P0, ?1, Σ1	0 P1, ?0, Σ1		0 P1, ?0, Σ1	0 P1, ?0, Σ1	0 P1, ?0, Σ1	0 P1, ?1, Σ2	0 P1, ?0, Σ1	0 P1, ?2, Σ3	1 P0, ?0, Σ1	0 P1, ?0, Σ1
		14 165 1 0	phoroniformea (horseshoe worms)													
		130 389 0 0	gastrotricha (hairybacks)													
		4470 561k 26 0	platyhelminthes (flatworms)										0 P0, ?1, Σ1			
		21	gnathostomulida (jaw worms)													
		1 2 0 0	micrognathozoa													
		237 64k 6 1 (1)	rotifera (wheel animals)	1 PO, ?0, Σ1	0 P1, ?0, Σ1	0 P1, ?1, Σ2		0 P1, ?0, Σ1		0 P1, ?0, Σ1		0 P1, ?0, Σ1	0 P1, ?1, Σ2	0 P1, ?0, Σ1	0 P1, ?0, Σ1	0 P1, ?2, Σ3
		9k 1 0	orthonectida											0 P0, ?1, Σ1		
		24 150 0 0	dicyemida													