

Supplementary Materials: Antimicrobial Peptide Arsenal Predicted from the Venom Gland Transcriptome of the Tropical Trap-Jaw Ant *Odontomachus chelifer*

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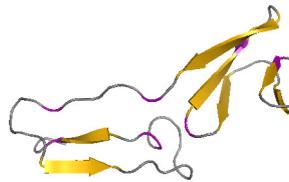


Figure S1. Tridimensional structure prediction with marked cysteine residues of the putative poneratoxin ICK-like toxin homolog of *O. chelifer* (TRINITY_DN24839_c0_g1_i1.p1). Yellow: strand. Gray: turns. Purple: cysteine residues.

	1	10	20	30
1 <i>Omo_Abaecin_A0A348G6C5</i>	FRV P P P R S E P GGWKGPNFPGQGPFN P K.....FG K			
2 TRINITY_DN21408_c0_g1_i1.p1	IPT P A P V A . P GAITAYPIQRPAY A PNPWVYPKPTTVQ P I G R .			
3 TRINITY_DN16370_c0_g1_i1.p1	ISQ P L P P T . P ...SGHVINKRV A P I P R ...PVPTVIGLL M K Q			

Figure S2. Primary sequence alignment between two predicted AMP sequences from *O. chelifer* and the A0A348G6C5 abaecin from *O. monticola*. Similar residues are boxed. Identical residues are bolded. The red line indicates the PXP/PXXP motifs.

	1	10	20	30	40	50
<i>Lni_Crustin4_A0A0J7L9H5</i>	MRGNSLYL LL LVILTRKAYVKSKYWKMGHHRYYCCP.NG..KNDSSSEHSWHSF L FPW					
TRINITY_DN17655_c0_g1_i1.p1	MRRFR A IN L I A FCALVLLADDSSA...TVFYNLKNYLP..GFLRS F KQLKTLRYGI V PGT					
TRINITY_DN12961_c0_g1_i1.p1	..MAR L IN V Y M I I CGMVLVSVFAAE...ELYSDRYDDIDVM G IL T NDRLRDLQY F K C F M D ..					
	60	70	80	90	100	
<i>Lni_Crustin4_A0A0J7L9H5</i>	FWE C IVGSHAEHP W H E V...EK M K K PKKQCPPL R P C PR M.....YEW Y K P P K YCDSD					
TRINITY_DN17655_c0_g1_i1.p1	LWG C PGNIASN..YS E L...GVN W KLD T CC.RA H D S CND L IRPRNSKYGL Y NS S K L CS S ..					
TRINITY_DN12961_c0_g1_i1.p1	..T G PCTTADM K F Y K D I I EGEV V T K CKK C TE K Q K EN L DL L.....TD W Y T KN R LLDD W N					
	110	120	130			
<i>Lni_Crustin4_A0A0J7L9H5</i>	HECEEGEKCCYDVCLEHKTCKTAE					
TRINITY_DN17655_c0_g1_i1.p1	.....LLCQCDLQFY.....				
TRINITY_DN12961_c0_g1_i1.p1	TFVKK.LME D F K K.....					

Whole Body
Body and Venom Gland

Figure S3. Global alignment between the reference crustin and the grouped candidate AMP sequences. The color specifies the source tissue. The gray line indicates the signal peptide of the reference AMP.

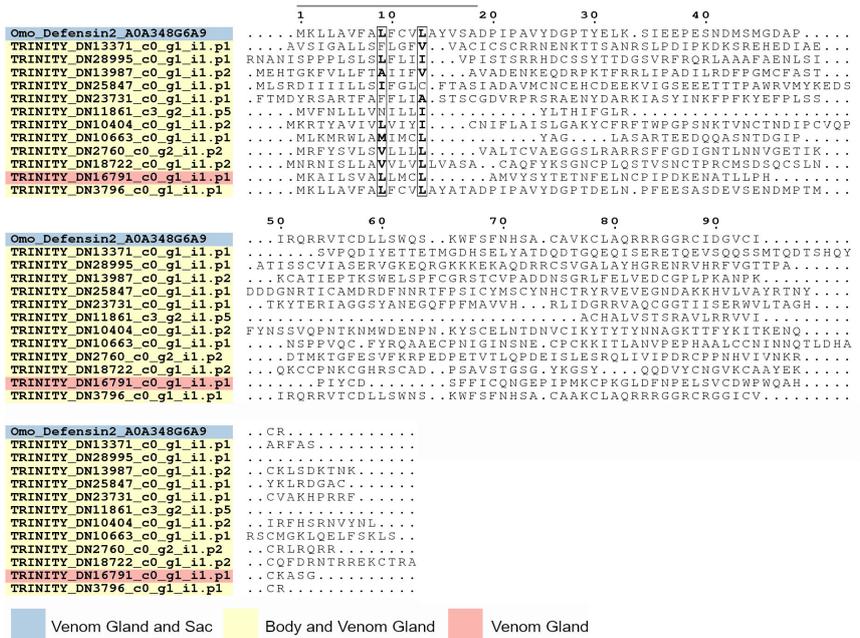


Figure S4. Global alignment between the reference defensin and the grouped candidate AMP sequences. The color specifies the source tissue. The gray line indicates the signal peptide of the reference AMP.

	1	10	20	30	40
Omo Hymenoptaein A0A348G6C2	.....MKLLVSL	ALSCAIVYASADLT	GDQVLPQSPG	VPVLPHTSRFP	READP
TRINITY_DN10137_c1_g1_i1.p5	.....FFFFF	FFFFFLCDSP	.....	VPNLNCRW	.....
TRINITY_DN1540_c0_g2_i1.p1	.....AAVFA	LLCVLTDVTAI	.....	RSGDGCGN	.....
TRINITY_DN1886_c2_g8_i1.p8	.....ERERERE	GENVCMCV	CVCVCVCARA	.....	CVCTRV
TRINITY_DN4362_c0_g1_i1.p2	.....MKLIT	LVLMIAVVLST	.....	TVTGTQD	.....
TRINITY_DN9325_c1_g1_i1.p2	.....NRLTN	VVFFLV	LGTELMKMTV	.....	CPYKCKRCSL
TRINITY_DN11193_c0_g4_i1.p2	.....RYFHC	SLRFPFL	CLASDFIVCFDL	.....	SRPKKEKKLVIS
TRINITY_DN28762_c0_g1_i1.p2	.....MKAIV	VVLLAI	CFAAALGEFT	DEEKEK	LKTYKESCISE
TRINITY_DN6307_c0_g1_i1.p1	.....ARQTA	LVL	FGDFIVARAR	.....	DKTSDLLRTA
TRINITY_DN12005_c4_g1_i1.p15	.....MLCVC	MCVCAIQVDER	.....	.....	EK
TRINITY_DN11280_c0_g1_i11.p7	.....MLCDM	FQIDAVAFV	ALINQYSSCRPI	.....	SHLHHRICAL
TRINITY_DN26077_c0_g1_i1.p1	.....IHPTV	SVL	FWLGYCNSAIN	.....	PCYIALF
TRINITY_DN168_c0_g1_i1.p2	.....NSTFL	YDR	ITGMIVALFI	.....	VIATVTS
TRINITY_DN22786_c0_g1_i1.p1	.....LFLSL	SL	FFSICLSS	TLLFRSARTQ	SAENNKD
TRINITY_DN23188_c0_g1_i1.p1	.....FARIF	V	FFSLLTSLVK	.....	MATASTGIGV
TRINITY_DN1980_c0_g1_i1.p1	.....IVLV	L	LECVVIGLAC	.....	GFRDAEKG
TRINITY_DN8792_c0_g1_i1.p3	.....DIRWR	LAI	LIFLSTREFT	.....	.....
TRINITY_DN5860_c0_g1_i1.p2	.....PPIDDE	YMGGICAA	FLQLSFATIST	.....	IVSGAMA
TRINITY_DN26054_c0_g1_i1.p1	.....HVS	TGVVLL	FYKCVLPSLT	.....	LVSFSGSTL
TRINITY_DN4617_c0_g1_i1.p1	.....SPSAS	ASTMHR	RGQSFL	.....	CLFPYTSCEF
TRINITY_DN15646_c0_g1_i1.p3	.....MRCV	RWLV	IKVCVACLTR	.....	.....
TRINITY_DN1241_c0_g1_i1.p2	.....MTAFL	HGLFMIV	LIINAFTLGIS	.....	ESFERSPTF
TRINITY_DN26693_c0_g1_i1.p3	.....MEENE	VRGILV	VLAACIGPAL	.....	.....
TRINITY_DN23671_c0_g1_i1.p2	.....GTRAL	ALAL	ALSICIOGCI	.....	.....
TRINITY_DN1222_c0_g1_i1.p3	.....PLNAR	NVAS	FLSLLLEALR	.....	.....
TRINITY_DN13204_c0_g1_i1.p1	.....CVLV	LVVIV	VVVVIVKVT	.....	.....
TRINITY_DN10866_c0_g4_i1.p9	.....TNSSV	VPVNL	IVSVLCYFAAPF	.....	.....
TRINITY_DN12005_c2_g1_i1.p4	.....SLSL	SLSLSL	SLFLFTSSLFF	.....	SDPRVQIVRAI
TRINITY_DN13289_c0_g1_i1.p2	.....MRAT	WLV	LIAELIPLSL	.....	.....
TRINITY_DN1481_c0_g1_i1.p6	.....MYLML	GMALI	AMCFNLMOEEVI	.....	.....
TRINITY_DN18603_c0_g1_i1.p1	.....MLAAS	PLLV	LYLSPRSAGFF	.....	REGSLF
TRINITY_DN24006_c0_g1_i1.p1	.....MKLL	V	CLVFAAISV	.....	ATGNRYFAK
TRINITY_DN1844_c0_g3_i3.p1	.....MKFY	V	CLLVMILSLV	.....	.....
TRINITY_DN11674_c8_g1_i1.p17	.....MWCRL	TL	LLVCCCHLAA	.....	ASKRIRVDGK
TRINITY_DN27940_c0_g1_i1.p1	.....MAPAR	LL	LVLSLVVFAN	.....	.....

	50	60	70	80	90	100
Omo Hymenoptaein A0A348G6C2	QNSISFQ	....GSQPLSGPN	RQPTWDLN	VNVRNIANN	DRSRTDIF	GGIGKAPGQSAQPHIG
TRINITY_DN10137_c1_g1_i1.p5	KERRRKE	....QSAASSRL	.....	ACFVSTV	VLVLCVVP	ETEKYR...
TRINITY_DN1540_c0_g2_i1.p1	GMFROND	....GKCIQSILV	CDYRGDCDDN	.....	SDEMOSQ	PCDDCFGFOITC...
TRINITY_DN1886_c2_g8_i1.p8	RTTCVWT	.....	.....	HVRSICV	CVLACVNV	.....
TRINITY_DN4362_c0_g1_i1.p2	DEYIHLP	....GKSCSDAPP	CPDGRPCVM	.....	APPRCNV	GTGCKDLVPTCGRRK...
TRINITY_DN9325_c1_g1_i1.p2	DEFPHEQL	....LQQRHLY	HHGARERARS	NARWVETIL	SFPYTC	PCPCDVTYTKPGNLK
TRINITY_DN11193_c0_g4_i1.p2	HEKKVNR	....VNSSQET	TRGKISVY	ILLHLSL	LAADGKK	KNCVSHQTLGKARNRNRD
TRINITY_DN28762_c0_g1_i1.p2	KEGMIDE	....SDEKLAC	FTCLFKK	FVGMKENG	IDTDTAR	SKISSNVQPEADRIN
TRINITY_DN6307_c0_g1_i1.p1	DFLRLVE	.....	.....	RRPKID	TPLRKLAKLAR	PCAPRW
TRINITY_DN12005_c4_g1_i1.p15	EGGKGR	.....	.....	DKDKK	ILKIKTK	QLLILAKKRHSA
TRINITY_DN11280_c0_g1_i11.p7	NCTQSTY	....LARKP	SSNF	KQKRNF	.....	QAKLMDAFATTCVARDACQPRYL
TRINITY_DN26077_c0_g1_i1.p1	SKDFRFA	....FKRI	ECKCF	CKR	.....	RANTLRGSDGGLAMRNSP
TRINITY_DN168_c0_g1_i1.p2	DYFRARA	....VDKLC	KRTSAAT	MTG	.....	NRGTVIATPFRSLTREKQRA
TRINITY_DN22786_c0_g1_i1.p1	RSSRKNS	....LSSAS	KETSASYD	ILDLR	LSRSSR	KRSRRPKVAGGTRFPAPKESRIE
TRINITY_DN23188_c0_g1_i1.p1	SFYARAA	....LHAAT	WCYTVI	H	.....	RARYIEVSTFEVDIFASCTKRKN
TRINITY_DN1980_c0_g1_i1.p1	QDFLKST	....IKYYA	TAD	.....	KAETV	VAVNDGIMSQPHCCGVES
TRINITY_DN8792_c0_g1_i1.p3	KLQKRIA	....	.....	ASVMRC	GKHKMS	MVRSK.....
TRINITY_DN5860_c0_g1_i1.p2	KAYCIFP	....FLNTI	VYCLPAGV	VWGDHGF	.....	LNRMGVVDIAGSGPVLHV...
TRINITY_DN26054_c0_g1_i1.p1	RTDLALS	SRASQFS	RKISRRAN	CCGKDRNVPR	.....	HFFTMRCEFLAIFARIIHDLHSLF
TRINITY_DN4617_c0_g1_i1.p1	LRPAAVI	TGGAET	GVILAP	TLRATNS	LIGNNG	DDTARKRRGEPVNLIRSVAKVLSLAK
TRINITY_DN15646_c0_g1_i1.p3	FVYRLQN	....DEDS	QDSSASE	ALDH	.....	RAQIYRGTSRPTITRSLALRPTW
TRINITY_DN1241_c0_g1_i1.p2	TANHPIF	....PRHY	PTTSKI	ASTPLI	YTPRI	IDTFAKSEVKCPTGQKDSQGICRER
TRINITY_DN26693_c0_g1_i1.p3	NVVCISR	....ITMRA	PRDPR	VDFHGA	.....	ISMQIVLSPFADDTTPRCDLR
TRINITY_DN23671_c0_g1_i1.p2	HSVCGVT	....TRDT	SRVLKAC	QOL	.....	EVHPELVHTSAFDGFFERPAVK
TRINITY_DN1222_c0_g1_i1.p3	QTSRPGA	....	.....	AVVT	KRRNT	LGGSGKKIK.....
TRINITY_DN13204_c0_g1_i1.p1	KKRLTR	TNSPP	GINGPKR	PLIRTI	KQADR	KFLRPDNRAAAKRLHASTVFPQERSNGPAT
TRINITY_DN10866_c0_g4_i1.p9	EIQVTR	....	.....	KKKSA	IC	.....
TRINITY_DN12005_c2_g1_i1.p4	RAFPSSH	....VPRE	LLYPNG	PCARASV	.....	FGKGLVRGBESMIYTSRRDR
TRINITY_DN13289_c0_g1_i1.p2	DTDLSAG	....TNTQ	RSGET	SS	.....	RRRRELAFFPKGSFAV.....
TRINITY_DN1481_c0_g1_i1.p6	STTRSP	....VPD	LLRCP	SVAAPPEL	GDPR	PS.....
TRINITY_DN18603_c0_g1_i1.p1	QGSCEPA	....LPV	QFCG	SCFV	DSHC	AGIGKCCPTQCGGSI
TRINITY_DN24006_c0_g1_i1.p1	EDGRSR	....LGE	LRNYP	IVVM	.....	LSKARPVCEGQRLAMEKCRPGR
TRINITY_DN1844_c0_g3_i3.p1	SYTVSAY	....QED	CRKYM	CSEGR	CKLET	CEPTYFFDPITSTCTHRRAGSSNCDPKLS
TRINITY_DN11674_c8_g1_i1.p17	EGMPLS	....FPK	.....	.....	.....	RTRPQSKPCPPGYRHTRTGCREIL

	110	120	130	140	150
Omo Hymenoptaein A0A348G6C2	IQHERNL	GRNGFIR	GSQLOPGY	GGRGLTP	SPFGVTGGLRFR
TRINITY_DN10137_c1_g1_i1.p5	.....	.....	.....	.....	REAEADAKEDDDTE
TRINITY_DN1540_c0_g2_i1.p1	.....	.....	.....	.....	ELIEE
TRINITY_DN1886_c2_g8_i1.p8	.....	.....	.....	.....	.....
TRINITY_DN4362_c0_g1_i1.p2	.....	.....	.....	.....	.....
TRINITY_DN9325_c1_g1_i1.p2	.....	.....	.....	.....	.....
TRINITY_DN11193_c0_g4_i1.p2	.....	.....	.....	.....	.....
TRINITY_DN28762_c0_g1_i1.p2
TRINITY_DN6307_c0_g1_i1.p1
TRINITY_DN12005_c4_g1_i1.p15
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TRINITY_DN1980_c0_g1_i1.p1
TRINITY_DN8792_c0_g1_i1.p3
TRINITY_DN5860_c0_g1_i1.p2
TRINITY_DN26054_c0_g1_i1.p1
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TRINITY_DN15646_c0_g1_i1.p3
TRINITY_DN1241_c0_g1_i1.p2
TRINITY_DN26693_c0_g1_i1.p3
TRINITY_DN23671_c0_g1_i1.p2	.....	.....	.....	.....	.....
TRINITY_DN1222_c0_g1_i1.p3	.....	.....	.....	.....	.....
TRINITY_DN13204_c0_g1_i1.p1	.....	.....	.....	.....	.....
TRINITY_DN10866_c0_g4_i1.p9	.....	.....	.....	.....	.....
TRINITY_DN12005_c2_g1_i1.p4	.....	.....	.....	.....	.....
TRINITY_DN13289_c0_g1_i1.p2	.....	.....	.....	.....	.....
TRINITY_DN1481_c0_g1_i1.p6	.....	.....	.....	.....	.....
TRINITY_DN18603_c0_g1_i1.p1	.....	.....	.....	.....	.....
TRINITY_DN24006_c0_g1_i1.p1	.....	.....	.....	.....	.....
TRINITY_DN1844_c0_g3_i3.p1	.....	.....	.....	.....	.....
TRINITY_DN11674_c8_g1_i1.p17	.....	.....	.....	.....	.....
TRINITY_DN27940_c0_g1_i1.p1	.....	.....	.....	.....	.....

Venom Gland and Sac
Body and Venom Gland
Venom Gland

