Figure S4: *Ophiopsila aranea* neuropeptide precursor repertoire

**AN peptide**

NESRIFLICAVFVILLAHISQOPVEDQTEDDEEMCQRFNRSGYRKKRGRNPQD72DEQQLEDEEEEHRNYLQSTGNGRTRQALAAKDEDDESDFDLOLDEKKGRNYLQYGRQKQSDAQDEGFEMELINEQCRNLRYLQNGGRGRRPXACDGDDEALADSFDEEDKSNRYLQNGMAGGRGRRKMDGDELLEELLEEDKSNRFILASGRKRNKGRKGGRRG

Calcitonin (short transcript variant)

MTSVAITAVCSLLYYATLVLQCPGAEHQQMNLMLNYVNLVRNKLVRKGRAVNLGVRVAGLRIESEFGGLQGGRGSGKRGNRFYSGGLRGGAGRSRKG

Calcitonin (long transcript variant)

MTSVAITAVCSLLYYATLVLQCPGAEHQQMNLMLNYVNLVRNKLVRKGRAVNLGVRVAGLRIESEFGGLQGGRGSGKRGNRFYSGGLRGGAGRSRKG

CCHamide-like 1 (Arnp25-like)

DTMPITTRRIGLVRLLLLIVLLTALVYPAYSQAFCANNIPKFHFIHPGKRNSKALKATDTDRMEDGRDQGSMQLSNSD

CCHamide-like 2

MTTRGLSITLLLLVLVATLLPSAYTADPDRTCAAPRFGAFGKRQGEIQIPQSFDDIQIPLQSNRDFAFKSGSDKADNVSFLQSLPKQRRKRSGRKLSTDEA

Cholecystokinin 1 (partial)

FGNEYCGQGLPCEDEEQVVDYDDFVA

Cholecystokinin 2 (partial)

MDKSIYCLALLPEFMAGPAYLQAFENNNDTEDLEAFDEDDTLRDKCTITEFPATRVMSPKPSQVSGLQAGRGLKGAQAKTPMC

Corazonin

MRNCSVATVLLVAVGILCDAHNTFSFKGNNRWNAMKQSDQMTNLDTQRTNSVPKDSAPTTLRQLLLVDRLYCDLSLVRNLDSELTERK

Corticotropin-releasing hormone 2

MDKASVILVLSGLVMILALVGAQMPQLLDQQHADDDIALNDEVAFMNAKSLDYFGMGFGQSSPLHRNTAWRDARHRLMELTAN

Eclosion hormone 1.1 (Spnp11-like)

MVTMVSCIVLLIGCSEFCALLADDDTOAFALFSSDGAIELMERQREESLIVEVTSRYTLPTTDYCEKNGSASSKLAMNTWSAKGMGCV

Eclosion hormone 1.2 (Spnp11-like)

MKSIYLLCALALPERFAMAPAGAYLQAFENNNDTEDLEAFDEDDTLRDKCTITEPAATRVMSPKPSQVSGLQAGRGLKGAQAKTPMC

Eclosion hormone 2.1 (Spnp15-like)

MKTVMVSCLVLLIGCSEFCALLADDVDTAFAALFSSDGAIELMERQPESLIVEVTRMMSPKPSQVSGLQAGRGLKGAQAKTPMC

Eclosion hormone 2.2 (Spnp15-like)

VMTNLVGYATPLTFENNADGDTHAFDERPNLFSLAERKDEPLPGREDFERQQAQRQOLKI_TLRRKEMISGYQFRELYRFTMCTLMQ

Glycoprotein hormone alpha-2.1 (partial)

PSUALQAFERPG-HLVGYKEVRVPG-HMEEVFMAKGRGVSYSYSPSTVARVIETAGAQLTTSVG

Glycoprotein hormone alpha-2.2 (partial)

FPSKOTLERSRGYKLVTSHGSQTIASHDTHVHTLQEDNHQYRDTFSAEECRAIQDQSD
Kisspeptin (partial)
SAVRGRKCRGRFRRGSGSSHGYQPQNNKLPFCRRL

Luqin
YTKVTACICLMVLLIVLVIQVTTAQGFNREGAPKPMWRKGDALDSSFQSGLDLIPGDSRVICKNTGESGLYRCVAQ

Melanin-concentrating hormone
MVHVLVIWATVLMSCYTSGATNYLYDTEDDLRSLEALGILQEPADEMLLYAEDEYSRRSPGDSRFSVYDPFKWRRQRQCMASKTRSVKQ

Neuropeptide-F/Y 1
MKQRIMDTKILLIVAAVNCCLLSNAAHTNVFAKRTTGDKAITALSGQQRHRYCIFSTSSLKNNSSPDMDAFTALWNEAAANPALKQRLSQYVQQMLQEGRSDVQ

NG peptide / Neuropeptide-S
MAVGIRYAILNLIVLFAARTIFSQNNTHDSTHKVQRNTAGSSGSIQWKDNIDKFRKEIFASLPAELPLAIIKSHENGKTNQACDLSEQPENVQGDLDIFGDLSRVLREDLDGKVREDFMAADQAPQEMKGFLGTYNFKKAIKMNTGF

Nucleobindin / Nesfatin (partial)
MAKWQYLLGIISSLVDCICLVPGKLFROEPEEEEEGLDEEDTGLYDRLQYVQIKLEKPEMRKMEELSLDILEGVFRELENFNSTISRISKIDRLQEVQRLTAARQMEAAAGKCGGMDPALEMGVHVDPASMDRFTDADFFELIKKAAADDLEAEKKEFKKEMEKQKMQKSKMDDNVRVKEKEFKERKERRNRHKPKHPGSKAKMQZQVEWETDLDDPFDNPKTFEFALHTDNGRKLDMFELEALFIKEVEKIYKSDADPREKEEMSMREHVLREIDLDGKMVMRDEFMKAADQAQFEKEDDDWKGKRAKRRKRRKTERGSFEGKY

Orexin 1
MKLLTCLVASIALVVAVIALPTTKNRCAGQRTQG-MLRARLD-RDPSLGNMRAQTQETIDAVLNRNDEEADAAEAKRRRFLARRSFEGKYL

Orexin 2
MPFRPGQFITLLLIGMIVLTGVLQRVQCRVKG-NIPPPDE-LPPLKEK-DVSKGILSMQHTRYEENVQLEQRDRRHQRLEKNNKIDTILQLHTDEQEDDQVVWNSLQRNLKTAENYLDYEQKFNFTD

Pedal Peptide 1 (partial)
GKRGFSNMDPLASGFPRKVAKMFNMMMDFSPLGAFPRFGETGKLNYIDSITDDKNEGDSVDVTRQRMNLMWPGFDNRDHGGEVEEIKHWNARKLPGFASRDIEEADNSRWWHEATWPFSEKDFVEEELDTAEEKVE

Pedal Peptide 1 (partial)
RERKGFTETAPKLACGVTSHQFLAGNKRVTMKKFWSVIALAVMCFATAVAYTDGDAELVQADEADANTLMDETDARKGFNSFMDPLASGFAHKPFNTMDPLGAGFRPQKRFSFNDMPLDGFSYRPMKRFSHFMDPLQSGFHVRED

Pedal Peptide 2 (partial)
VGRHRYRRSSRCCCLLODQKVLIHEHTQDAAVCFIAGDQMIERMKMAFMGHRAGFALLVMVFYLGSCLYSEDELVFFPAAYPYQQQFVQMKETGGLHDTQDQDEVKRTHYJRPMNVFAKFKGFTNMMDP

Pedal Peptide 2 (partial)
MILLRCGIFGRFSTILLFALSFLPTCPEKSVAFDKEESSQDEDGSSITEDFLNAEMHIVELLSVEHLLTRELRLNQKITTNAKADYRTVWNSTSLQNLQDOSNQSEDDEELDSLPSFKDNKKGKPRFMDPLSISYRPENGDAVDDLNGYIKFSAEADPHKGNVFHPMDALSSGKRDENVDDLANNDEKGRVNFHPMDALSSGVRDNGEDEGENLKEKHGVNHFGPMDAL

Pedal Peptide 3 (partial)
SGKRGHYNVFHPMDALSSGKRGHYNVFHPMDALNGWDAKGLVNFNSPMTELBSGWNKRDENSKEENVVITEDETEKLSHER

Pedal Peptide 3 (partial)
Pigment-dispersing factor

Relaxin-like peptide (partial)

SALMFamide (L-type) (partial)

SALMFamide (F-type) (partial)

Somatostatin 2 (Spnp16-like)

Tachykinin

Thyrotropin-releasing hormone 1

Vasopressin/Oxytocin (partial)

Oanp18

Oanp26

Oanp27