**Manuscript: The use of artificial substrate units to improve inventories of cryptic crustacean species on Caribbean coral reefs**

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**Supplementary table 1**

Number of individuals by species, families and orders of Crustacea retrieved from artificial substrate units (ASUs) and from coral rubble collected *in situ* in the Bonanza reef unit of the Puerto Morelos Reef National Park in 2013-2014.

| **Order** | **Family** | **Species** | **ASUs** | | | |  | **Coral Rubble** | | | |
| --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- |
|  |  |  | A | B | C | D |  | A | B | C | D |
| **Amphipoda** | Ampeliscidae | *Ampelisca abdita* | 1 |  |  |  |  |  |  |  |  |
|  |  | *Ampelisca bicarinata* |  |  |  |  |  |  |  |  | 2 |
|  |  | *Ampelisca* sp |  |  |  |  |  |  |  | 5 | 2 |
|  | Amphilochidae | *Hourstonius tortugae* |  |  |  | 2 |  |  |  |  |  |
|  | Ampithoidae | *Ampithoe ramondi* |  | 1 |  |  |  |  |  |  |  |
|  |  | *Ampithoe* sp |  |  |  |  |  | 1 |  |  | 4 |
|  |  | *Pseudoampithoides incurvaria* | 4 |  | 1 | 4 |  | 2 |  |  | 1 |
|  | Anamixidae | *Anamixis cavatura* |  | 1 | 1 | 1 |  |  |  |  |  |
|  | Aoridae | *Bemlo*s sp |  |  |  |  |  |  |  | 1 |  |
|  |  | *Globosolembos smithi* | 1 |  |  | 1 |  |  |  |  | 3 |
|  |  | *Lembos unifasciatus* | 1 |  |  |  |  |  |  |  |  |
|  | Bateidae | *Batea cuspidata* | 1 |  | 1 |  |  |  |  |  |  |
|  | Caprellidae | *Hemiproto wigleyi* |  |  |  | 1 |  |  | 2 | 1 |  |
|  | Chevaliidae | *Chevalia aviculae* | 3 | 6 |  | 3 |  | 29 | 27 | 2 | 2 |
|  | Colomastigidae | *Colomastix janiceae* |  |  |  |  |  |  | 4 |  |  |
|  | Leucothoidae | *Leucothoe laurensi* |  |  |  |  |  |  |  | 3 |  |
|  |  | *Leucothoe spinicarpa* | 1 |  |  | 1 |  |  | 1 |  |  |
|  | Liljeborgiidae | *Idunella* sp |  |  |  |  |  |  | 1 |  |  |
|  |  | *Liljeborgia* sp |  | 1 |  |  |  |  | 4 | 5 |  |
|  | Lysianopsiidae | *Lysianopsis alba* | 4 |  | 1 | 4 |  |  |  |  | 1 |
|  |  | *Concarnes concavus* |  |  |  |  |  |  |  | 1 |  |
|  |  | *Hippomedon* sp |  |  |  |  |  | 1 |  |  |  |
|  | Maeridae | *Ceradocus sheardi* | 3 | 12 |  | 3 |  |  |  |  | 1 |
|  |  | *Dumosus* sp | 5 | 1 |  |  |  | 5 |  | 1 |  |
|  |  | *Elasmopus levis* |  |  |  | 17 |  |  |  |  | 2 |
|  |  | *Elasmopus rapax* | 36 | 6 |  | 6 |  | 13 | 6 | 4 |  |
|  |  | *Maerella* sp |  |  |  |  |  | 6 |  |  | 2 |
|  |  | *Quadrimaera quadrimana* | 1 |  |  |  |  |  |  |  |  |
|  | Megaluropidae | *Gibberosus myersi* |  |  |  |  |  |  |  |  | 3 |
|  | Melitidae | *Melita* sp |  |  |  |  |  | 1 |  |  |  |
|  |  | *Netamelita barnardi* | 1 |  |  |  |  | 1 | 1 | 2 |  |
|  |  | *Nuuanu muelleri* | 1 |  |  |  |  |  |  |  |  |
|  | Oedicerotidae | *Perioculodes cerasinus* | 1 |  |  |  |  | 1 |  |  |  |
|  | Photidae | *Pariphinotus seclusus* | 1 |  |  | 1 |  |  |  |  |  |
|  |  | *Gammaropsis atlantica* | 1 | 3 |  | 12 |  |  | 8 | 18 |  |
|  | Phoxocephalidae | *Eobrolgus* sp |  |  |  |  |  | 5 | 2 | 2 | 2 |
|  |  | *Metarphinia floridana* | 1 |  |  |  |  |  |  |  | 2 |
|  | Synopiidae | *Synopia* sp |  | 1 |  |  |  |  |  |  |  |
|  |  | *Synopia ultramarina* |  |  |  |  |  | 1 |  |  | 1 |
| **Cumacea** | Bodotriidae | Bodotriidae A |  |  |  |  |  |  |  | 1 |  |
|  |  | Mancomunatinae |  |  |  | 1 |  |  |  |  |  |
|  |  | *Vaunthompsonia floridana* |  |  |  |  |  | 1 |  |  | 1 |
|  |  | *Vaunthompsonia minor* |  |  |  |  |  |  |  | 1 | 1 |
|  | Leuconidae | *Leucon* sp |  |  |  | 1 |  |  | 1 |  |  |
|  | Nannastacidae | *Campylaspis heardi* |  |  |  |  |  |  | 1 |  |  |
|  |  | *Cubanocuma gutzi* |  |  |  |  |  |  |  |  | 1 |
|  |  | *Cumella clavicauda* |  |  |  |  |  |  | 1 | 1 |  |
|  |  | *Cumella garrityi* |  |  |  |  |  |  |  | 1 | 1 |
|  |  | *Cumella goesi* |  |  |  |  |  | 1 |  |  |  |
|  |  | *Cumella gomoiui* |  |  |  |  |  |  |  |  | 1 |
|  |  | *Cumella muriarui* |  |  |  |  |  | 1 |  |  |  |
|  |  | *Cumella ruetzleri* |  |  |  |  |  |  |  | 1 |  |
|  |  | *Cumella* sp G | 1 |  | 1 |  |  |  | 1 |  |  |
|  |  | *Cumella vicina* |  |  |  |  |  | 3 | 1 |  |  |
|  |  | *Schizotrema agglutinanta* |  |  | 2 | 5 |  |  |  |  |  |
| **Decapoda** | Alpheidae | *Alpheus amblyonyx* | 2 |  | 2 | 1 |  | 2 | 1 |  | 1 |
|  |  | *Alpheus armatus* |  |  |  | 2 |  |  |  |  | 1 |
|  |  | *Alpheus barbadensis* | 1 | 1 |  |  |  |  |  |  | 1 |
|  |  | *Alpheus bouvieri* |  |  |  |  |  | 1 |  |  |  |
|  |  | *Alpheus cylindricus* | 2 |  |  |  |  | 1 | 1 |  | 2 |
|  |  | *Alpheus floridanus* |  |  |  | 1 |  |  |  |  | 1 |
|  |  | *Alpheus formosus* | 1 |  | 1 |  |  | 1 |  | 1 |  |
|  |  | *Alpheus malleator* |  |  |  |  |  | 2 |  |  | 1 |
|  |  | *Alpheus normanni* | 1 |  |  |  |  | 1 |  |  |  |
|  |  | *Alpheus paracrinitus* |  |  |  |  |  |  |  |  | 1 |
|  |  | *Alpheus* sp | 11 |  | 1 | 6 |  |  | 1 | 1 | 2 |
|  |  | *Automate dolichognatha* | 1 |  |  |  |  |  | 1 |  |  |
|  |  | *Metalpheus rostratipes* | 1 |  |  |  |  |  | 2 |  |  |
|  |  | *Rostronia* sp |  |  |  |  |  | 1 |  |  |  |
|  |  | *Salmoneus* sp | 1 |  |  |  |  |  |  |  |  |
|  |  | *Synalpheus anasimus* |  |  |  |  |  | 2 |  |  |  |
|  | Axiidae | Axiidae |  |  |  |  |  | 1 |  |  |  |
|  | Diogenidae | *Calcinus tibicen* |  |  |  | 1 |  |  |  |  |  |
|  |  | *Clibabarius tricolor* |  |  |  | 1 |  |  |  |  |  |
|  |  | Diogenidae | 1 |  |  | 1 |  |  |  |  |  |
|  |  | ***Paguristes hernancortezi*** |  | 1 |  |  |  |  |  |  | 1 |
|  |  | *Paguristes* sp | 2 |  | 1 |  |  |  |  | 1 |  |
|  |  | *Petrochirus diogenes* |  | 1 |  |  |  |  |  |  |  |
|  | Hippolytidae | *Hippolyte curacaoensis* | 1 |  |  |  |  |  |  |  |  |
|  |  | *Lysmata intermedia* |  |  | 2 |  |  |  |  |  |  |
|  |  | *Lysmata* sp | 1 |  |  |  |  |  |  |  |  |
|  | Mithracidae | *Hemus cristulipes* | 1 |  |  |  |  | 3 |  |  |  |
|  |  | *Hemus* sp |  |  | 1 |  |  |  |  |  |  |
|  |  | *Mithraculus coryphe* | 6 | 6 | 3 | 5 |  |  | 1 | 5 | 8 |
|  |  | *Mithraculus forceps* | 7 | 3 |  |  |  |  | 5 |  |  |
|  |  | *Mithraculus sculptus* | 17 | 23 |  |  |  |  |  |  |  |
|  |  | *Mithrax* sp | 11 | 2 | 3 | 3 |  |  | 2 | 1 |  |
|  |  | *Omalacantha antillensis* |  | 3 | 2 | 1 |  |  |  |  | 1 |
|  |  | *Pitho aculeatha* | 1 |  |  | 2 |  |  |  |  |  |
|  |  | *Pitho lherminieri* |  |  |  |  |  | 2 | 1 |  | 2 |
|  |  | *Pitho mirabilis* |  | 5 |  |  |  |  |  |  |  |
|  |  | *Pitho* sp | 1 |  |  | 4 |  |  |  |  |  |
|  | Paguridae | Paguridae A |  |  |  | 1 |  |  |  |  |  |
|  |  | *Pagurus annulipes* | 1 |  |  |  |  |  |  |  |  |
|  | Palaemonidae | *Cuapetes americanus* | 2 |  | 1 |  |  |  |  |  | 1 |
|  |  | Palaemonidae |  |  |  | 1 |  |  |  | 1 | 1 |
|  |  | *Periclimenaeus ascidarum* |  |  |  | 1 |  |  | 3 |  |  |
|  |  | *Periclimenes* sp | 1 |  |  |  |  |  |  |  | 2 |
|  | Penaeidae | *Metapenaeopsis martinella* |  |  |  |  |  |  |  |  | 2 |
|  |  | Penaeidae |  |  |  |  |  |  |  |  | 1 |
|  | Pilumnidae | *Pilumnus longleyi* |  | 2 |  |  |  |  |  |  |  |
|  | Porcellanidae | *Petrolisthes galathinus* | 1 | 2 | 2 | 1 |  |  |  |  |  |
|  | Processidae | *Ambidexter symmetricus* |  |  | 1 |  |  |  |  |  |  |
|  |  | ***Processa profunda*** | 1 |  |  |  |  | 1 |  |  |  |
|  |  | ***Processa riveroi*** | 1 |  |  |  |  |  |  |  | 1 |
|  |  | *Processa* sp | 1 |  |  |  |  |  |  |  |  |
|  | Spongicolidae | *Microprosthema semilaeve* |  |  |  | 1 |  |  |  |  |  |
|  | Thoridae | *Thor floridanus* | 1 |  |  |  |  |  |  |  |  |
|  |  | *Thor* sp | 3 |  |  |  |  |  |  |  |  |
|  | Upogebiidae | Upogebiidae sp |  |  | 1 |  |  | 1 |  |  |  |
|  | Xanthidae | *Williamstimpsonia denticulatus* |  |  |  |  |  |  |  |  | 1 |
|  |  | Xanthidae |  | 1 |  | 1 |  |  |  |  |  |
| **Isopoda** | Anthuridea | *Amakusanthura magnifica* | 5 |  |  |  |  | 6 | 1 | 3 |  |
|  |  | *Amakusanthura signata* |  | 2 |  | 2 |  |  |  | 2 | 1 |
|  |  | *Apanthura cracenta* | 3 | 1 | 1 |  |  | 7 | 5 |  | 2 |
|  |  | *Cortezura confixa* |  |  |  |  |  |  |  | 1 |  |
|  |  | *Mesanthura bivittata* | 1 | 1 |  | 1 |  |  |  |  |  |
|  |  | *Mesanthura fasciata* |  | 3 |  |  |  |  |  |  |  |
|  |  | *Mesanthura hopkinsi* |  |  |  |  |  |  |  | 2 |  |
|  |  | *Mesanthura paucidens* |  |  |  |  |  | 1 |  |  |  |
|  |  | *Mesanthura pulchra* |  |  | 1 |  |  |  |  | 1 |  |
|  |  | *Mesanthura* sp |  |  |  |  |  | 1 |  |  |  |
|  |  | *Pendanthura hendleri* |  |  |  | 1 |  | 18 |  | 25 | 1 |
|  |  | *Pendanthura* sp |  |  |  |  |  | 1 |  | 24 |  |
|  |  | Anthuridea |  |  |  |  |  | 1 |  |  |  |
|  | Cirolanidae | *Calyptolana hancocki* | 1 |  |  |  |  |  |  |  |  |
|  |  | *Cirolana parva* | 7 | 39 | 1 | 43 |  | 19 | 4 |  | 46 |
|  |  | *Eurydice convexa* |  |  |  |  |  |  | 1 |  | 1 |
|  |  | *Metacirolana agaricicola* |  |  |  |  |  |  |  | 1 |  |
|  |  | *Metacirolana halia* | 3 | 6 |  | 2 |  | 19 | 2 |  | 1 |
|  |  | *Neocirolana obtruncata* |  |  |  |  |  |  | 3 |  |  |
|  | Corallanidae | *Excorallana antillensis* |  |  |  |  |  | 2 |  |  | 3 |
|  | Gnathiidae | *Gnathia beethoveni* |  | 1 |  |  |  |  |  |  |  |
|  |  | *Gnathia magdalensis* | 12 | 6 |  | 3 |  | 1 |  | 3 |  |
|  |  | *Gnathia puertoricensis* | 4 | 3 | 1 | 4 |  | 10 | 3 | 13 |  |
|  |  | *Gnathia* sp | 19 | 5 |  | 10 |  | 38 | 13 | 34 | 27 |
|  |  | *Gnathia vellosa* |  |  |  | 3 |  | 3 |  | 5 | 1 |
|  |  | *Gnathia virginalis* |  | 4 |  |  |  | 23 | 1 | 8 |  |
|  |  | *Gnathostenetroides pugio* |  |  |  |  |  | 7 |  | 1 |  |
|  | Janiridae | *Carpias algicola* |  | 1 |  | 1 |  |  | 1 | 2 | 2 |
|  | *Carpias triton* |  |  |  |  |  | 1 |  |  |  |
|  | Joeropsididae | *Joeropsis bifasciatum* | 1 |  | 1 | 1 |  | 2 | 1 |  |  |
|  |  | *Joeropsis personatus* |  |  |  |  |  |  |  | 1 |  |
|  | Leptanthuridae | *Accalathura crenulata* | 2 |  |  |  |  | 2 |  |  |  |
|  | Limnoriidae | *Limnoria platycauda* |  |  |  |  |  |  |  |  | 1 |
|  | Munnidae | *Uromunna reynoldsi* |  |  |  | 1 |  |  |  |  |  |
|  | Paranthuridae | *Colanthura* sp |  |  |  |  |  |  |  | 1 |  |
|  |  | *Paranthura floridensis* |  | 2 | 1 |  |  |  |  |  |  |
|  | Sphaeromatidae | *Cymodoce ruetzleri* | 1 | 13 |  |  |  | 4 |  |  | 1 |
|  |  | *Cymodoce* sp | 2 |  |  |  |  |  |  |  |  |
|  |  | *Dicerceis kensleyi* |  |  |  |  |  | 1 |  |  |  |
|  |  | Dynameninae A |  |  |  |  |  | 3 |  |  |  |
|  |  | *Geocerceis barbarae* |  | 11 |  | 1 |  | 1 |  |  |  |
|  |  | *Paracerceis caudata* | 2 | 13 |  |  |  | 2 |  | 2 |  |
|  | Stenetriidae | *Hansenium stebbingi* | 5 |  |  | 3 |  | 6 |  |  |  |
|  |  | *Lyocoryphe minocule* |  |  |  | 1 |  |  | 2 | 2 |  |
|  |  | *Machatrium spathulicarpus* |  |  |  |  |  |  |  | 1 |  |
|  |  | *Stenetrium bowmani* |  |  |  | 4 |  |  |  |  |  |
|  |  | *Stenetrium serratum* |  |  |  |  |  |  | 2 | 1 |  |
|  |  | *Stenobermuda* sp | 1 |  |  |  |  |  |  |  |  |
| **Tanaidacea** | Apseudidae | *Apseudes orghidani* |  |  |  |  |  | 4 |  |  |  |
|  |  | *Apseudes* sp A | 15 | 2 | 2 | 22 |  | 193 | 22 | 70 | 3 |
|  |  | *Paradoxapseudes bermudeus* |  |  |  | 1 |  | 1 | 1 | 8 | 1 |
|  | Kalliapseudidae | *Mesokalliapseudes bahamensis* |  |  |  |  |  |  |  | 1 |  |
|  |  | *Psammokalliapseudes granulosus* | |  |  |  |  | 1 |  |  | 1 |
|  | Leptocheliidae | *Alloleptochelia longimana* |  |  |  |  |  |  |  | 3 |  |
|  |  | *Chondrochelia dubia* | 24 | 21 | 9 | 93 |  | 58 | 15 | 63 | 26 |
|  |  | *Hargeria rapax* |  |  |  |  |  | 5 |  | 3 |  |
|  |  | *Pseudoleptochelia* sp A | 14 | 4 |  | 5 |  | 63 | 58 | 76 | 3 |
|  | Metapseudidae | *Apseudomorpha* sp A |  |  |  | 1 |  | 26 |  | 11 |  |
|  |  | *Pseudoapseudomorpha* sp A |  |  |  |  |  |  | 2 | 1 |  |
|  | Nototanaidae | *Nototanais* sp |  |  | 2 |  |  | 36 |  |  | 1 |
|  | Pagurapseudidae | *Pagurotanais bouryi* |  |  |  |  |  |  | 1 |  |  |
|  | Parapseudidae | *Dyscapseudes* sp |  |  |  | 2 |  |  |  |  |  |
|  |  | *Parapseudes* sp A | 2 |  |  | 1 |  | 6 | 5 |  | 1 |
|  | Paratanaidae | *Paratanais* sp A | 4 |  |  | 2 |  | 205 | 2 | 65 |  |
|  | Tanaididae | *Sinelobus stanfordi* | 8 |  |  | 7 |  | 35 | 13 | 11 | 1 |
|  |  | *Zeuxo kurilensis* | 1 | 2 |  |  |  | 4 |  | 35 |  |