SMT1

Sequence-based identification results using GenBank BLASTn and BOLD ID Engine, as re-interpreted from Appendix 2 of Chacón-Monge et al. (2024)

|  |  |  |  |  |  |  |  |  |  |  |  |  |  |
| --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- |
| **Process ID** | **Morphology-based ID** | **GenBank BLASTn best match** | **Ident. %** | **Sp. ID** | **Gen. ID** | **Result** | **BOLD ID Engine best match** | **Ident. %** | **Sp. ID** | **Gen. ID** | **Result** | **Exclude** | **Notes** |
| BMAR881-20 | Amphiuridae | *Amphipholis januarii* | 82.65 | NA | NA | gap | No Match | NA | NA | NA | gap |  |  |
| BMAR602-20 | Amphiuridae | *Amphipholis squamata* | 96.2 | NA | NA | gap | *Amphipholis* cf. *squamata* | 97.39 | NA | NA | improved |  |  |
| BMAR356-19 | *Arbacia stellata* | *Arbacia stellata* | 99.83 | 1 | 1 | match | No Match | NA | 0 | 0 | gap |  |  |
| BMAR855-20 | *Arbacia stellata* | *Arbacia stellata* | 99.7 | 1 | 1 | match | No Match | NA | 0 | 0 | gap |  |  |
| BMAR856-20 | *Arbacia stellata* | *Arbacia stellata* | 99.7 | 1 | 1 | match | No Match | NA | 0 | 0 | gap |  |  |
| BMAR905-20 | *Arbacia stellata* | *Arbacia stellata* | 99.54 | 1 | 1 | match | No Match | NA | 0 | 0 | gap |  |  |
| BMAR1151-20 | *Arbacia stellata* | *Arbacia stellata* | 99.7 | 1 | 1 | match | No Match | NA | 0 | 0 | gap |  |  |
| BMAR1193-20 | *Arbacia stellata* | *Arbacia stellata* | 99.7 | 1 | 1 | match | No Match | NA | 0 | 0 | gap |  |  |
| BMAR592-20 | *Arbacia stellata* | *Holothuria arenicola* | 87.4 | 0 | 0 | gap | *Holothuria arenicola* | 99.69 | 0 | 0 | error | TRUE | contamination with *Holothuria arenicola* |
| BMAR561-20 | *Arbacia stellata* | *Arbacia stellata* | 99.7 | 1 | 1 | match | No Match | NA | 0 | 0 | gap |  |  |
| BMAR1180-20 | *Asteropsis carinifera* | *Stellaster equestris* | 83.87 | 0 | 0 | gap | *Asteropsis carinifera* | 98.93 | 1 | 1 | match |  |  |
| BMAR1196-20 | *Asteropsis carinifera* | *Oreaster clavatus* | 83.92 | 0 | 0 | gap | *Asteropsis carinifera* | 98.93 | 1 | 1 | match |  |  |
| BMAR518-20 | *Asteropsis carinifera* | *Asteropsis carinifera* | 87.47 | 0 | 0 | gap | *Asteropsis carinifera* | 99.54 | 1 | 1 | match |  |  |
| BMAR641-20 | *Astropyga pulvinata* | *Proserpinaster neozelanicus* | 81.2 | 0 | 0 | gap | *Nidorellia armata* | 100 | 0 | 0 | error | TRUE | contamination with *Nidorellia armata* |
| BMAR495-20 | *Astropyga pulvinata* | *Astropyga pulvinata* | 99.64 | 1 | 1 | match | No Match | NA | 0 | 0 | gap |  |  |
| BMAR535-20 | *Astropyga pulvinata* | *Tripneustes depressus* | 100 | 0 | 0 | error | *Tripneustes kermadecensis* | 100 | 0 | 0 | error | TRUE | contamination with *Tripneustes depresses* |
| BMAR552-20 | *Astropyga pulvinata* | *Astropyga pulvinata* | 99.7 | 1 | 1 | match | No Match | NA | 0 | 0 | gap |  |  |
| BMAR595-20 | *Brissus obesus* | *Metalia nobilis* | 99.21 | 0 | 0 | error | No Match | NA | 0 | 0 | gap |  |  |
| BMAR635-20 | *Brissus obesus* | *Toxopneustes roseus* | 99.74 | 0 | 0 | error | *Toxopneustes pileolus* | 97.33 | 0 | 0 | error | TRUE | contamination with *Toxopneustes pileolus* |
| BMAR864-20 | *Chiridota aponocrita* | *Leptosynapta clarki* | 85.91 | 0 | 0 | gap | No Match | NA | 0 | 0 | gap |  |  |
| BMAR877-20 | *Chiridota aponocrita* | *Leptosynapta clarki* | 85.55 | 0 | 0 | gap | No Match | NA | 0 | 0 | gap |  |  |
| BMAR894-20 | *Chiridota aponocrita* | *Leptosynapta clarki* | 85.64 | 0 | 0 | gap | No Match | NA | 0 | 0 | gap |  |  |
| BMAR941-20 | *Chiridota aponocrita* | *Leptosynapta clarki* | 85.76 | 0 | 0 | gap | No Match | NA | 0 | 0 | gap |  |  |
| BMAR1128-20 | *Chiridota aponocrita* | *Leptosynapta clarki* | 85.91 | 0 | 0 | gap | No Match | NA | 0 | 0 | gap |  |  |
| BMAR1158-20 | *Chiridota aponocrita* | *Leptosynapta clarki* | 85.91 | 0 | 0 | gap | No Match | NA | 0 | 0 | gap |  |  |
| BMAR1203-20 | *Chiridota aponocrita* | *Leptosynapta clarki* | 85.67 | 0 | 0 | gap | No Match | NA | 0 | 0 | gap |  |  |
| BMAR296-19 | *Chiridota aponocrita* | *Leptosynapta clarki* | 85.37 | 0 | 0 | gap | No Match | NA | 0 | 0 | gap |  |  |
| BMAR530-20 | *Chiridota aponocrita* | *Leptosynapta clarki* | 85.92 | 0 | 0 | gap | No Match | NA | 0 | 0 | gap |  |  |
| BMAR543-20 | *Chiridota aponocrita* | *Leptosynapta clarki* | 85.6 | 0 | 0 | gap | No Match | NA | 0 | 0 | gap |  |  |
| BMAR945-20 | *Cucumaria flamma* | *Neocucumis proteus* | 84.5 | 0 | 0 | gap | No Match | NA | 0 | 0 | gap |  |  |
| BMAR1202-20 | *Cucumaria flamma* | *Neocucumis proteus* | 84.65 | 0 | 0 | gap | No Match | NA | 0 | 0 | gap |  |  |
| BMAR859-20 | *Diadema mexicanum* | *Diadema mexicanum* | 99.66 | 1 | 1 | match | *Diadema mexicanum* | 99.78 | 1 | 1 | match |  |  |
| BMAR297-19 | *Diadema mexicanum* | *Diadema mexicanum* | 100 | 1 | 1 | match | *Diadema mexicanum* | 100 | 1 | 1 | match |  |  |
| BMAR506-20 | *Diadema mexicanum* | *Diadema mexicanum* | 99.85 | 1 | 1 | match | *Diadema mexicanum* | 100 | 1 | 1 | match |  |  |
| BMAR533-20 | *Diadema mexicanum* | *Diadema mexicanum* | 99.85 | 1 | 1 | match | *Diadema mexicanum* | 99.78 | 1 | 1 | match |  |  |
| BMAR553-20 | *Diadema mexicanum* | *Diadema mexicanum* | 100 | 1 | 1 | match | *Diadema mexicanum* | 100 | 1 | 1 | match |  |  |
| BMAR599-20 | *Diadema mexicanum* | *Linckia laevigata* | 83.99 | 0 | 0 | gap | No Match | NA | 0 | 0 | gap | TRUE | probable contamination/misidentification: mismatch at class level |
| BMAR640-20 | *Diadema mexicanum* | *Proserpinaster neozelanicus* | 81.25 | 0 | 0 | gap | *Nidorellia armata* | 100 | 0 | 0 | error | TRUE | contamination with *Nidorellia armata* |
| BMAR367-19 | *Echinometra vanbrunti* | *Echinometra vanbrunti* | 99.69 | 1 | 1 | match | No Match | NA | 0 | 0 | gap |  |  |
| BMAR591-20 | *Echinometra vanbrunti* | *Echinometra vanbrunti* | 99.09 | 1 | 1 | match | No Match | NA | 0 | 0 | gap |  |  |
| BMAR350-19 | *Echinometra vanbrunti* | *Echinometra vanbrunti* | 99.21 | 1 | 1 | match | No Match | NA | 0 | 0 | gap |  |  |
| BMAR860-20 | *Euapta godeffroyi* | *Holothuria impatiens* | 98.29 | 0 | 0 | error | No Match | NA | 0 | 0 | gap | TRUE | contamination with *Holothuria impatiens* |
| BMAR857-20 | *Eucidaris thouarsii* | *Eucidaris thouarsii* | 99.84 | 1 | 1 | match | *Eucidaris thouarsii* | 99.47 | 1 | 1 | match |  |  |
| BMAR869-20 | *Eucidaris thouarsii* | *Eucidaris thouarsii* | 100 | 1 | 1 | match | No Match | NA | 0 | 0 | gap |  |  |
| BMAR1115-20 | *Eucidaris thouarsii* | *Eucidaris thouarsii* | 99.24 | 1 | 1 | match | *Eucidaris thouarsii* | 99.25 | 1 | 1 | match |  |  |
| BMAR597-20 | *Eucidaris thouarsii* | *Toxopneustes roseus* | 100 | 0 | 0 | error | *Toxopneustes pileolus* | 97.64 | 0 | 0 | error | TRUE | contamination with *Toxopneustes roseus* |
| BMAR481-20 | *Eucidaris thouarsii* | *Eucidaris thouarsii* | 99.39 | 1 | 1 | match | *Eucidaris thouarsii* | 99.25 | 1 | 1 | match |  |  |
| BMAR529-20 | *Eucidaris thouarsii* | *Eucidaris thouarsii* | 99.66 | 1 | 1 | match | *Eucidaris thouarsii* | 99.5 | 1 | 1 | match |  |  |
| BMAR942-20 | *Holothuria fuscocinerea* | *Holothuria pluricuriosa* | 98.65 | 0 | 1 | error | No Match | NA | 0 | 0 | gap |  |  |
| BMAR933-20 | *Holothuria arenicola* | *Holothuria arenicola* | 87.56 | 0 | 0 | gap | *Holothuria arenicola* | 99.37 | 1 | 1 | match |  |  |
| BMAR937-20 | *Holothuria arenicola* | *Holothuria arenicola* | 87.4 | 0 | 0 | gap | *Holothuria arenicola* | 99.37 | 1 | 1 | match |  |  |
| BMAR1147-20 | *Holothuria arenicola* | *Holothuria arenicola* | 87.71 | 0 | 0 | gap | *Holothuria arenicola* | 98 | 1 | 1 | match |  |  |
| BMAR1201-20 | *Holothuria arenicola* | *Holothuria arenicola* | 87.5 | 0 | 0 | gap | *Holothuria arenicola* | 98.24 | 1 | 1 | match |  |  |
| BMAR885-20 | *Holothuria arenicola* | *Holothuria arenicola* | 87.71 | 0 | 0 | gap | *Holothuria arenicola* | 99.69 | 1 | 1 | match |  |  |
| BMAR861-20 | *Holothuria impatiens* | *Holothuria impatiens* | 98.51 | 1 | 1 | match | No Match | NA | 0 | 0 | gap |  |  |
| BMAR875-20 | *Holothuria impatiens* | *Holothuria impatiens* | 98.51 | 1 | 1 | match | No Match | NA | 0 | 0 | gap |  |  |
| BMAR901-20 | *Holothuria impatiens* | *Holothuria impatiens* | 99.36 | 1 | 1 | match | No Match | NA | 0 | 0 | gap |  |  |
| BMAR915-20 | *Holothuria impatiens* | *Holothuria arenicola* | 87.71 | 0 | 0 | gap | *Holothuria arenicola* | 98.16 | 0 | 1 | error |  |  |
| BMAR916-20 | *Holothuria impatiens* | *Holothuria impatiens* | 98.72 | 1 | 1 | match | No Match | NA | 0 | 0 | gap |  |  |
| BMAR938-20 | *Holothuria impatiens* | *Holothuria hilla* | 91.49 | 0 | 0 | gap | No Match | NA | 0 | 0 | gap |  |  |
| BMAR1120-20 | *Holothuria impatiens* | *Holothuria languens* | 98.88 | 0 | 1 | error | No Match | NA | 0 | 0 | gap |  |  |
| BMAR1122-20 | *Holothuria impatiens* | *Holothuria impatiens* | 99.74 | 1 | 1 | match | No Match | NA | 0 | 0 | gap |  |  |
| BMAR1141-20 | *Holothuria impatiens* | *Holothuria imitans* | 99.36 | 0 | 1 | error | *Holothuria imitans* | 98.05 | 0 | 1 | error | TRUE | probable contamination/misidentification with *Holothuria imitans* |
| BMAR1139-20 | *Holothuria impatiens* | *Holothuria languens* | 100 | 0 | 1 | error | No Match | NA | 0 | 0 | gap |  |  |
| BMAR1132-20 | *Holothuria impatiens* | *Holothuria arenicola* | 87.4 | 0 | 0 | gap | *Holothuria arenicola* | 99.69 | 0 | 1 | error | TRUE | probable contamination/misidentification with *Holothuria arenicola* |
| BMAR1127-20 | *Holothuria impatiens* | *Holothuria impatiens* | 98.72 | 1 | 1 | match | No Match | NA | 0 | 0 | gap |  |  |
| BMAR1156-20 | *Holothuria impatiens* | *Holothuria imitans* | 99.36 | 0 | 1 | error | *Holothuria imitans* | 97.84 | 0 | 1 | error | TRUE | probable contamination/misidentification with *Holothuria imitans* |
| BMAR1159-20 | *Holothuria impatiens* | *Holothuria impatiens* | 99.36 | 1 | 1 | match | No Match | NA | 0 | 0 | gap |  |  |
| BMAR1161-20 | *Holothuria impatiens* | *Holothuria impatiens* | 99.74 | 1 | 1 | match | No Match | NA | 0 | 0 | gap |  |  |
| BMAR309-19 | *Holothuria impatiens* | *Holothuria impatiens* | 100 | 1 | 1 | match | No Match | NA | 0 | 0 | gap |  |  |
| BMAR327-19 | *Holothuria impatiens* | *Holothuria impatiens* | 100 | 1 | 1 | match | No Match | NA | 0 | 0 | gap |  |  |
| BMAR364-19 | *Holothuria impatiens* | *Holothuria imitans* | 99.36 | 0 | 1 | error | *Holothuria imitans* | 97.84 | 0 | 1 | error | TRUE | probable contamination/misidentification with *Holothuria imitans* |
| BMAR380-19 | *Holothuria impatiens* | *Holothuria impatiens* | 100 | 1 | 1 | match | No Match | NA | 0 | 0 | gap |  |  |
| BMAR567-20 | *Holothuria impatiens* | *Holopneustes purpurescens* | 84.12 | 0 | 0 | gap | No Match | NA | 0 | 0 | gap | TRUE | probable contamination/misidentification: mismatch at class level |
| BMAR573-20 | *Holothuria impatiens* | *Holothuria arenicola* | 87.4 | 0 | 0 | gap | No Match | NA | 0 | 0 | gap |  |  |
| BMAR576-20 | *Holothuria impatiens* | *Holothuria impatiens* | 99.74 | 1 | 1 | match | No Match | NA | 0 | 0 | gap |  |  |
| BMAR579-20 | *Holothuria impatiens* | *Holothuria arenicola* | 91.2 | 0 | 0 | gap | *Holothuria arenicola* | 98.86 | 0 | 1 | error |  |  |
| BMAR608-20 | *Holothuria impatiens* | *Holothuria arenicola* | 90.41 | 0 | 0 | gap | *Holothuria arenicola* | 99.69 | 0 | 1 | error | TRUE | probable contamination/misidentification with *Holothuria arenicola* |
| BMAR609-20 | *Holothuria impatiens* | *Holothuria impatiens* | 99.74 | 1 | 1 | match | No Match | NA | 0 | 0 | gap |  |  |
| BMAR622-20 | *Holothuria impatiens* | *Ophionereis reticulata* | 90.06 | 0 | 0 | gap | No Match | NA | 0 | 0 | gap | TRUE | probable contamination/misidentification: mismatch at class level |
| BMAR650-20 | *Holothuria impatiens* | *Holothuria arenicola* | 87.56 | 0 | 0 | gap | *Holothuria arenicola* | 98.16 | 0 | 1 | error |  |  |
| BMAR474-20 | *Holothuria impatiens* | *Holothuria impatiens* | 99.74 | 1 | 1 | match | No Match | NA | 0 | 0 | gap |  |  |
| BMAR538-20 | *Holothuria impatiens* | *Pentamera calcigera* | 84.91 | 0 | 0 | gap | No Match | NA | 0 | 0 | gap | TRUE | probable contamination/misidentification: mismatch at order level |
| BMAR539-20 | *Holothuria impatiens* | *Holothuria arguinensis* | 87.29 | 0 | 0 | gap | *Holothuria arenicola* | 99.37 | 0 | 1 | error | TRUE | probable contamination/misidentification with *Holothuria arenicola* |
| BMAR544-20 | *Holothuria impatiens* | *Holothuria imitans* | 99.57 | 0 | 1 | error | *Holothuria imitans* | 98.05 | 0 | 1 | error | TRUE | probable contamination/misidentification with *Holothuria imitans* |
| BMAR548-20 | *Holothuria impatiens* | *Holothuria arenicola* | 87.5 | 0 | 0 | gap | *Holothuria arenicola* | 98.56 | 0 | 1 | error |  |  |
| BMAR1123-20 | *Holothuria impatiens* | *Holothuria impatiens* | 99.74 | 1 | 1 | match | No Match | NA | 0 | 0 | gap |  |  |
| BMAR1119-20 | *Holothuria impatiens* | *Holothuria impatiens* | 100 | 1 | 1 | match | No Match | NA | 0 | 0 | gap |  |  |
| BMAR1157-20 | *Holothuria impatiens* | *Holothuria impatiens* | 99.74 | 1 | 1 | match | No Match | NA | 0 | 0 | gap |  |  |
| BMAR515-20 | *Holothuria impatiens* | *Holothuria impatiens* | 100 | 1 | 1 | match | No Match | NA | 0 | 0 | gap |  |  |
| BMAR549-20 | *Holothuria impatiens* | *Holothuria impatiens* | 99.74 | 1 | 1 | match | No Match | NA | 0 | 0 | gap |  |  |
| BMAR480-20 | *Holothuria impatiens* | *Holothuria impatiens* | 98.51 | 1 | 1 | match | No Match | NA | 0 | 0 | gap |  |  |
| BMAR940-20 | *Holothuria impatiens* | *Holothuria impatiens* | 99.48 | 1 | 1 | match | No Match | NA | 0 | 0 | gap |  |  |
| BMAR1160-20 | *Holothuria impatiens* | *Holothuria impatiens* | 100 | 1 | 1 | match | No Match | NA | 0 | 0 | gap |  |  |
| BMAR912-20 | *Holothuria kefersteinii* | *Holothuria leucospilota* | 89.67 | 0 | 0 | gap | No Match | NA | 0 | 0 | gap |  |  |
| BMAR1133-20 | *Holothuria kefersteinii* | *Holothuria kefersteinii* | 99.59 | 1 | 1 | match | No Match | NA | 0 | 0 | gap |  |  |
| BMAR1130-20 | *Holothuria pardalis* | *Holothuria arenicola* | 87.4 | 0 | 0 | gap | *Holothuria arenicola* | 99.69 | 0 | 1 | error | TRUE | probable contamination/misidentification with *Holothuria imitans* |
| BMAR378-19 | *Holothuria portovallartensis* | *Holothuria portovallartensis* | 98.8 | 1 | 1 | match | No Match | NA | 0 | 0 | gap |  |  |
| BMAR932-20 | *Holothuria rigida* | *Holothuria edulis* | 84.98 | 0 | 0 | gap | No Match | NA | 0 | 0 | gap |  |  |
| BMAR946-20 | *Holothuria rigida* | *Holothuria edulis* | 85.03 | 0 | 0 | gap | No Match | NA | 0 | 0 | gap |  |  |
| BMAR1143-20 | *Holothuria rigida* | *Holothuria edulis* | 89.39 | 0 | 0 | gap | No Match | NA | 0 | 0 | gap |  |  |
| BMAR475-20 | *Holothuria rigida* | *Holothuria arenicola* | 84.51 | 0 | 0 | gap | No Match | NA | 0 | 0 | gap |  |  |
| BMAR540-20 | *Holothuria rigida* | *Holothuria edulis* | 84.65 | 0 | 0 | gap | No Match | NA | 0 | 0 | gap |  |  |
| BMAR1137-20 | *Holothuroidea* | *Apostichopus japonicus* | 83.28 | NA | NA | gap | No Match | NA | NA | NA | gap |  |  |
| BMAR1182-20 | *Holothuroidea* | *Holothuria imitans* | 91.67 | NA | NA | gap | No Match | NA | NA | NA | gap |  |  |
| BMAR1208-20 | *Holothuroidea* | *Holothuria imitans* | 99.79 | NA | NA | improved | *Holothuria imitans* | 98.27 | NA | NA | improved |  |  |
| BMAR581-20 | *Holothuroidea* | *Holothuria imitans* | 99.79 | NA | NA | improved | *Holothuria imitans* | 98.27 | NA | NA | improved |  |  |
| BMAR895-20 | *Isostichopus fuscus* | *Isostichopus fuscus* | 100 | 1 | 1 | match | *Isostichopus fuscus* | 100 | 1 | 1 | match |  |  |
| BMAR1163-20 | *Isostichopus fuscus* | *Isostichopus fuscus* | 99.76 | 1 | 1 | match | *Isostichopus fuscus* | 99.76 | 1 | 1 | match |  |  |
| BMAR1199-20 | *Isostichopus fuscus* | *Isostichopus fuscus* | 100 | 1 | 1 | match | *Isostichopus fuscus* | 100 | 1 | 1 | match |  |  |
| BMAR658-20 | *Isostichopus fuscus* | *Isostichopus fuscus* | 100 | 1 | 1 | match | *Isostichopus fuscus* | 100 | 1 | 1 | match |  |  |
| BMAR659-20 | *Isostichopus fuscus* | *Isostichopus fuscus* | 99.77 | 1 | 1 | match | *Isostichopus fuscus* | 99.52 | 1 | 1 | match |  |  |
| BMAR496-20 | *Isostichopus fuscus* | *Isostichopus fuscus* | 100 | 1 | 1 | match | *Isostichopus fuscus* | 100 | 1 | 1 | match |  |  |
| BMAR913-20 | *Labidodemas americanum* | *Goniocidaris tubaria* | 82.52 | 0 | 0 | gap | No Match | NA | 0 | 0 | gap |  |  |
| BMAR1200-20 | *Labidodemas americanum* | *Goniocidaris tubaria* | 82.52 | 0 | 0 | gap | No Match | NA | 0 | 0 | gap |  |  |
| BMAR889-20 | *Labidodemas maccullochi* | *Ophionereis reticulata* | 89.65 | 0 | 0 | gap | No Match | NA | 0 | 0 | gap |  |  |
| BMAR484-19 | *Labidodemas maccullochi* | *Labidodemas pertinax* | 85.41 | 0 | 0 | gap | No Match | NA | 0 | 0 | gap |  |  |
| BMAR636-20 | *Lovenia cordiformis* | *Toxopneustes roseus* | 99.74 | 0 | 0 | error | *Toxopneustes pileolus* | 97.33 | 0 | 0 | error | TRUE | contamination with *Toxopneustes roseus* |
| BMAR637-20 | *Lovenia cordiformis* | *Lovenia cordiformis* | 99.39 | 1 | 1 | match | *Lovenia cordiformis* | 99.14 | 1 | 1 | match |  |  |
| BMAR655-20 | *Lovenia cordiformis* | *Lovenia cordiformis* | 99.84 | 1 | 1 | match | *Lovenia cordiformis* | 99.83 | 1 | 1 | match |  |  |
| BMAR560-20 | *Lovenia cordiformis* | *Lovenia cordiformis* | 99.85 | 1 | 1 | match | *Lovenia cordiformis* | 99.66 | 1 | 1 | match |  |  |
| BMAR510-20 | *Meoma ventricosa* | *Metalia nobilis* | 99.39 | 0 | 0 | error | No Match | NA | 0 | 0 | gap |  |  |
| BMAR527-20 | *Meoma ventricosa* | *Metalia nobilis* | 99.24 | 0 | 0 | error | No Match | NA | 0 | 0 | gap |  |  |
| BMAR943-20 | *Mithrodia bradleyi* | *Mithrodia bradleyi* | 99.31 | 1 | 1 | match | *Mithrodia bradleyi* | 99.31 | 1 | 1 | match |  |  |
| BMAR1204-20 | *Mithrodia bradleyi* | *Mithrodia bradleyi* | 99.54 | 1 | 1 | match | *Mithrodia bradleyi* | 99.54 | 1 | 1 | match |  |  |
| BMAR304-19 | *Mithrodia bradleyi* | *Mithrodia bradleyi* | 100 | 1 | 1 | match | *Mithrodia bradleyi* | 100 | 1 | 1 | match |  |  |
| BMAR512-20 | *Mithrodia bradleyi* | *Mithrodia bradleyi* | 99.77 | 1 | 1 | match | *Mithrodia bradleyi* | 99.77 | 1 | 1 | match |  |  |
| BMAR565-20 | *Mithrodia bradleyi* | *Mithrodia bradleyi* | 93.31 | 0 | 0 | gap | *Mithrodia bradleyi* | 99.31 | 1 | 1 | match |  |  |
| BMAR862-20 | *Neocucumis veleronis* | *Holopneustes purpurescens* | 84.12 | 0 | 0 | gap | No Match | NA | 0 | 0 | gap | TRUE | probable contamination/misidentification: mismatch at class level,  failure to match to congener sequence in GenBank |
| BMAR876-20 | *Neocucumis veleronis* | *Phyllophorella liuwutiensis* | 83.44 | 0 | 0 | gap | No Match | NA | 0 | 0 | gap | TRUE | probable contamination/misidentification: failure to match to  congener sequence in GenBank |
| BMAR888-20 | *Neocucumis veleronis* | *Apostichopus japonicus* | 83.28 | 0 | 0 | gap | No Match | NA | 0 | 0 | gap | TRUE | probable contamination/misidentification: mismatch at class level,  failure to match to congener sequence in GenBank |
| BMAR891-20 | *Neocucumis veleronis* | *Phyllophorella liuwutiensis* | 83.44 | 0 | 0 | gap | No Match | NA | 0 | 0 | gap | TRUE | probable contamination/misidentification: failure to match  to congener sequence in GenBank |
| BMAR914-20 | *Neocucumis veleronis* | *Apostichopus japonicus* | 83.28 | 0 | 0 | gap | No Match | NA | 0 | 0 | gap | TRUE | probable contamination/misidentification: mismatch at class level,  failure to match to congener sequence in GenBank |
| BMAR1131-20 | *Neocucumis veleronis* | *Phyllophorella liuwutiensis* | 83.44 | 0 | 0 | gap | No Match | NA | 0 | 0 | gap | TRUE | probable contamination/misidentification: failure to match  to congener sequence in GenBank |
| BMAR1146-20 | *Neocucumis veleronis* | *Holopneustes purpurescens* | 84.12 | 0 | 0 | gap | No Match | NA | 0 | 0 | gap | TRUE | probable contamination/misidentification: mismatch at class level,  failure to match to congener sequence in GenBank |
| BMAR1167-20 | *Neocucumis veleronis* | *Pseudocnus lubricus* | 83.41 | 0 | 0 | gap | No Match | NA | 0 | 0 | gap | TRUE | probable contamination/misidentification: mismatch at class level,  failure to match to congener sequence in GenBank |
| BMAR1184-20 | *Neocucumis veleronis* | *Phyllophorella liuwutiensis* | 83.44 | 0 | 0 | gap | No Match | NA | 0 | 0 | gap | TRUE | probable contamination/misidentification: failure  to match to congener sequence in GenBank |
| BMAR358-19 | *Neocucumis veleronis* | *Phyllophorella liuwutiensis* | 83.73 | 0 | 0 | gap | No Match | NA | 0 | 0 | gap | TRUE | probable contamination/misidentification: failure  to match to congener sequence in GenBank |
| BMAR574-20 | *Neocucumis veleronis* | *Phyllophorella liuwutiensis* | 83.44 | 0 | 0 | gap | No Match | NA | 0 | 0 | gap | TRUE | probable contamination/misidentification: failure  to match to congener sequence in GenBank |
| BMAR583-20 | *Neocucumis veleronis* | *Holopneustes purpurescens* | 84.12 | 0 | 0 | gap | No Match | NA | 0 | 0 | gap | TRUE | probable contamination/misidentification: mismatch  at class level, failure to match to congener sequence in GenBank |
| BMAR611-20 | *Neocucumis veleronis* | *Phyllophorella liuwutiensis* | 83.44 | 0 | 0 | gap | No Match | NA | 0 | 0 | gap | TRUE | probable contamination/misidentification: failure  to match to congener sequence in GenBank |
| BMAR872-20 | *Neothyone gibber* | *Rhynchocidaris triplopora* | 83.59 | 0 | 0 | gap | No Match | NA | 0 | 0 | gap |  |  |
| BMAR873-20 | *Neothyone gibber* | *Rhynchocidaris triplopora* | 83.59 | 0 | 0 | gap | No Match | NA | 0 | 0 | gap |  |  |
| BMAR892-20 | *Neothyone gibber* | *Pentamera calcigera* | 83.97 | 0 | 0 | gap | No Match | NA | 0 | 0 | gap |  |  |
| BMAR917-20 | *Neothyone gibber* | *Pentamera calcigera* | 84.18 | 0 | 0 | gap | No Match | NA | 0 | 0 | gap |  |  |
| BMAR936-20 | *Neothyone gibber* | *Pentamera calcigera* | 83.97 | 0 | 0 | gap | No Match | NA | 0 | 0 | gap |  |  |
| BMAR1136-20 | *Neothyone gibber* | *Pentamera calcigera* | 83.97 | 0 | 0 | gap | No Match | NA | 0 | 0 | gap |  |  |
| BMAR1150-20 | *Neothyone gibber* | *Pentamera calcigera* | 84.12 | 0 | 0 | gap | No Match | NA | 0 | 0 | gap |  |  |
| BMAR1183-20 | *Neothyone gibber* | *Pentamera calcigera* | 84.12 | 0 | 0 | gap | No Match | NA | 0 | 0 | gap |  |  |
| BMAR300-19 | *Neothyone gibber* | *Phyrella fragilis* | 84.24 | 0 | 0 | gap | No Match | NA | 0 | 0 | gap |  |  |
| BMAR329-19 | *Neothyone gibber* | *Phyrella fragilis* | 84.24 | 0 | 0 | gap | No Match | NA | 0 | 0 | gap |  |  |
| BMAR362-19 | *Neothyone gibber* | *Pentamera calcigera* | 83.84 | 0 | 0 | gap | No Match | NA | 0 | 0 | gap |  |  |
| BMAR379-19 | *Neothyone gibber* | *Phyrella fragilis* | 83.54 | 0 | 0 | gap | No Match | NA | 0 | 0 | gap |  |  |
| BMAR568-20 | *Neothyone gibber* | *Phyrella fragilis* | 84.21 | 0 | 0 | gap | No Match | NA | 0 | 0 | gap |  |  |
| BMAR569-20 | *Neothyone gibber* | *Rhynchocidaris triplopora* | 84.19 | 0 | 0 | gap | No Match | NA | 0 | 0 | gap |  |  |
| BMAR580-20 | *Neothyone gibber* | *Rhynchocidaris triplopora* | 83.59 | 0 | 0 | gap | No Match | NA | 0 | 0 | gap |  |  |
| BMAR582-20 | *Neothyone gibber* | *Pentamera calcigera* | 84.12 | 0 | 0 | gap | No Match | NA | 0 | 0 | gap |  |  |
| BMAR507-20 | *Neothyone gibber* | *Pentamera calcigera* | 84.47 | 0 | 0 | gap | No Match | NA | 0 | 0 | gap |  |  |
| BMAR537-20 | *Neothyone gibber* | *Pentamera calcigera* | 84.12 | 0 | 0 | gap | No Match | NA | 0 | 0 | gap |  |  |
| BMAR898-20 | *Nidorellia armata* | *Proserpinaster neozelanicus* | 81.36 | 0 | 0 | gap | *Nidorellia armata* | 100 | 1 | 1 | match |  |  |
| BMAR1142-20 | *Nidorellia armata* | *Iconaster longimanus* | 81.61 | 0 | 0 | gap | *Nidorellia armata* | 99.54 | 1 | 1 | match |  |  |
| BMAR1194-20 | *Nidorellia armata* | *Iconaster longimanus* | 81.6 | 0 | 0 | gap | *Nidorellia armata* | 100 | 1 | 1 | match |  |  |
| BMAR368-19 | *Nidorellia armata* | *Toxopneustes roseus* | 99.84 | 0 | 0 | error | *Toxopneustes pileolus* | 97.63 | 0 | 0 | error | TRUE | contamination with *Toxopneustes roseus* |
| BMAR502-20 | *Nidorellia armata* | *Iconaster longimanus* | 81.61 | 0 | 0 | gap | *Nidorellia armata* | 99.85 | 1 | 1 | match |  |  |
| BMAR532-20 | *Nidorellia armata* | *Proserpinaster neozelanicus* | 81.34 | 0 | 0 | gap | *Nidorellia armata* | 99.54 | 1 | 1 | match |  |  |
| BMAR294-19 | *Ophiactis savignyi* | *Ophiactis simplex* | 99.03 | 0 | 1 | error | *Ophiactis simplex* | 99.02 | 0 | 1 | error |  |  |
| BMAR882-20 | *Ophiactis savignyi* | *Ophiactis simplex* | 98.74 | 0 | 1 | error | *Ophiactis simplex* | 98.93 | 0 | 1 | error |  |  |
| BMAR1169-20 | *Ophiactis savignyi* | *Ophiactis savignyi* | 99.39 | 1 | 1 | match | *Ophiactis savignyi* | 99.39 | 1 | 1 | match |  |  |
| BMAR347-19 | *Ophiactis savignyi* | *Ophiactis savignyi* | 98.82 | 1 | 1 | match | *Ophiactis savignyi* | 98.82 | 1 | 1 | match |  |  |
| BMAR620-20 | *Ophiactis savignyi* | *Ophiactis savignyi* | 99.39 | 1 | 1 | match | *Ophiactis savignyi* | 99.39 | 1 | 1 | match |  |  |
| BMAR621-20 | *Ophiactis savignyi* | *Ophiactis savignyi* | 99.39 | 1 | 1 | match | *Ophiactis savignyi* | 99.39 | 1 | 1 | match |  |  |
| BMAR623-20 | *Ophiactis savignyi* | *Ophiactis savignyi* | 99.39 | 1 | 1 | match | *Ophiactis savignyi* | 99.39 | 1 | 1 | match |  |  |
| BMAR483-20 | *Ophiactis savignyi* | *Ophiactis savignyi* | 99.39 | 1 | 1 | match | *Ophiactis savignyi* | 99.39 | 1 | 1 | match |  |  |
| BMAR500-20 | *Ophiactis savignyi* | *Ophiactis savignyi* | 99.39 | 1 | 1 | match | *Ophiactis savignyi* | 99.39 | 1 | 1 | match |  |  |
| BMAR1118-20 | *Ophiactis simplex* | *Ophiactis simplex* | 99.21 | 1 | 1 | match | *Ophiactis simplex* | 99.36 | 1 | 1 | match |  |  |
| BMAR295-19 | *Ophiactis simplex* | *Holothuria imitans* | 99.79 | 0 | 0 | error | *Holothuria imitans* | 98.27 | 0 | 0 | error | TRUE | contamination with *Holothuria imitans* |
| BMAR333-19 | *Ophiactis simplex* | *Ophiactis simplex* | 98.63 | 1 | 1 | match | *Ophiactis simplex* | 98.82 | 1 | 1 | match |  |  |
| BMAR366-19 | *Ophiactis simplex* | *Ophiactis simplex* | 98.49 | 1 | 1 | match | *Ophiactis simplex* | 99.1 | 1 | 1 | match |  |  |
| BMAR601-20 | Ophidiasteridae | *Linckia laevigata* | 86.32 | NA | NA | gap | *Phataria unifascialis* | 99.84 | NA | NA | improved |  |  |
| BMAR603-20 | Ophidiasteridae | *Linckia laevigata* | 83.03 | NA | NA | gap | No Match | NA | NA | NA | gap |  |  |
| BMAR604-20 | Ophidiasteridae | *Linckia laevigata* | 86.39 | NA | NA | gap | *Phataria unifascialis* | 99.67 | NA | NA | improved |  |  |
| BMAR287-19 | Ophidiasteridae | *Linckia laevigata* | 85.96 | NA | NA | gap | *Phataria unifascialis* | 99.67 | NA | NA | improved |  |  |
| BMAR312-19 | Ophidiasteridae | *Linckia laevigata* | 86.18 | NA | NA | gap | *Phataria unifascialis* | 99.36 | NA | NA | improved |  |  |
| BMAR907-20 | Ophidiasteridae | *Linckia laevigata* | 86.93 | NA | NA | gap | *Phataria unifascialis* | 99.06 | NA | NA | improved |  |  |
| BMAR924-20 | Ophidiasteridae | *Linckia laevigata* | 86.63 | NA | NA | gap | *Phataria unifascialis* | 99.37 | NA | NA | improved |  |  |
| BMAR349-19 | Ophidiasteridae | *Linckia laevigata* | 83.92 | NA | NA | gap | No Match | NA | NA | NA | gap |  |  |
| BMAR645-20 | Ophidiasteridae | *Linckia laevigata* | 86.78 | NA | NA | gap | *Phataria unifascialis* | 99.21 | NA | NA | improved |  |  |
| BMAR557-20 | Ophidiasteridae | *Linckia laevigata* | 86.32 | NA | NA | gap | *Phataria unifascialis* | 100 | NA | NA | improved |  |  |
| BMAR880-20 | Ophidiasteridae | *Linckia laevigata* | 86.32 | NA | NA | gap | *Phataria unifascialis* | 100 | NA | NA | improved |  |  |
| BMAR503-20 | *Ophiocoma aethiops* | *Iconaster longimanus* | 81.61 | 0 | 0 | gap | *Nidorellia armata* | 99.85 | 0 | 0 | error | TRUE | contamination with *Nidorellia armata* |
| BMAR854-20 | *Ophiocomella alexandri* | *Ophiocomella alexandri* | 99.54 | 1 | 1 | match | No Match | NA | 0 | 0 | gap |  |  |
| BMAR886-20 | *Ophiocomella alexandri* | *Ophiocomella alexandri* | 97.7 | 1 | 1 | match | No Match | NA | 0 | 0 | gap |  |  |
| BMAR903-20 | *Ophiocomella alexandri* | *Ophiocomella alexandri* | 99.54 | 1 | 1 | match | No Match | NA | 0 | 0 | gap |  |  |
| BMAR1117-20 | *Ophiocomella alexandri* | *Ophiocomella alexandri* | 99.24 | 1 | 1 | match | No Match | NA | 0 | 0 | gap |  |  |
| BMAR1179-20 | *Ophiocomella alexandri* | *Ophiocomella alexandri* | 99.39 | 1 | 1 | match | No Match | NA | 0 | 0 | gap |  |  |
| BMAR291-19 | *Ophiocomella alexandri* | *Ophiocomella alexandri* | 99.62 | 1 | 1 | match | No Match | NA | 0 | 0 | gap |  |  |
| BMAR292-19 | *Ophiocomella alexandri* | *Ophiocomella alexandri* | 99.68 | 1 | 1 | match | No Match | NA | 0 | 0 | gap |  |  |
| BMAR307-19 | *Ophiocomella alexandri* | *Ophiocomella alexandri* | 99.8 | 1 | 1 | match | No Match | NA | 0 | 0 | gap |  |  |
| BMAR319-19 | *Ophiocomella alexandri* | *Ophiocomella alexandri* | 99.83 | 1 | 1 | match | No Match | NA | 0 | 0 | gap |  |  |
| BMAR372-19 | *Ophiocomella alexandri* | *Ophiocomella alexandri* | 97.34 | 1 | 1 | match | No Match | NA | 0 | 0 | gap |  |  |
| BMAR351-19 | *Ophiocomella alexandri* | *Ophiocomella alexandri* | 99.05 | 1 | 1 | match | No Match | NA | 0 | 0 | gap |  |  |
| BMAR586-20 | *Ophiocomella alexandri* | *Ophiocomella alexandri* | 97.11 | 1 | 1 | match | No Match | NA | 0 | 0 | gap |  |  |
| BMAR593-20 | *Ophiocomella alexandri* | *Ophiocomella alexandri* | 99.54 | 1 | 1 | match | No Match | NA | 0 | 0 | gap |  |  |
| BMAR618-20 | *Ophiocomella alexandri* | *Ophiocomella alexandri* | 99.37 | 1 | 1 | match | No Match | NA | 0 | 0 | gap |  |  |
| BMAR630-20 | *Ophiocomella alexandri* | *Ophiocomella alexandri* | 99.54 | 1 | 1 | match | No Match | NA | 0 | 0 | gap |  |  |
| BMAR649-20 | *Ophiocomella alexandri* | *Ophiocomella alexandri* | 96.96 | 0 | 0 | gap | No Match | NA | 0 | 0 | gap |  |  |
| BMAR651-20 | *Ophiocomella alexandri* | *Ophiocomella alexandri* | 99.54 | 1 | 1 | match | No Match | NA | 0 | 0 | gap |  |  |
| BMAR657-20 | *Ophiocomella alexandri* | *Ophiocomella alexandri* | 99.54 | 1 | 1 | match | No Match | NA | 0 | 0 | gap |  |  |
| BMAR476-20 | *Ophiocomella alexandri* | *Ophiocomella alexandri* | 99.09 | 1 | 1 | match | No Match | NA | 0 | 0 | gap |  |  |
| BMAR494-20 | *Ophiocomella alexandri* | *Ophiocomella alexandri* | 99.7 | 1 | 1 | match | No Match | NA | 0 | 0 | gap |  |  |
| BMAR505-20 | *Ophiocomella alexandri* | *Ophiocomella alexandri* | 99.7 | 1 | 1 | match | No Match | NA | 0 | 0 | gap |  |  |
| BMAR528-20 | *Ophiocomella alexandri* | *Ophiocomella alexandri* | 99.54 | 1 | 1 | match | No Match | NA | 0 | 0 | gap |  |  |
| BMAR911-20 | *Ophioderma* cf. *panamense* | *Ophioderma panamense* | 97.66 | 1 | 1 | match | *Ophioderma panamense* | 97.65 | 1 | 1 | match |  | use of ‘cf.’ implies a genus-level identification, but the authors count this  as a species ID for when assessing matches; we have done the same here |
| BMAR921-20 | *Ophioderma* cf. *panamense* | *Ophioderma panamense* | 98.05 | 1 | 1 | match | *Ophioderma panamense* | 98.04 | 1 | 1 | match |  | use of ‘cf.’ implies a genus-level identification, but the authors count this  as a species ID for when assessing matches; we have done the same here |
| BMAR492-20 | *Ophioderma hendleri* | *Ophioderma hendleri* | 95.71 | 0 | 0 | gap | No Match | NA | 0 | 0 | gap |  |  |
| BMAR909-20 | *Ophioderma hendleri* | *Ophioderma hendleri* | 95.71 | 0 | 0 | gap | No Match | NA | 0 | 0 | gap |  |  |
| BMAR910-20 | *Ophioderma hendleri* | *Ophioderma hendleri* | 95.13 | 0 | 0 | gap | No Match | NA | 0 | 0 | gap |  |  |
| BMAR944-20 | *Ophioderma hendleri* | *Ophioderma hendleri* | 96.3 | 0 | 0 | gap | No Match | NA | 0 | 0 | gap |  |  |
| BMAR1171-20 | *Ophioderma hendleri* | *Ophioderma hendleri* | 95.32 | 0 | 0 | gap | No Match | NA | 0 | 0 | gap |  |  |
| BMAR1186-20 | *Ophioderma hendleri* | *Ophioderma hendleri* | 95.91 | 0 | 0 | gap | No Match | NA | 0 | 0 | gap |  |  |
| BMAR308-19 | *Ophioderma hendleri* | *Ophioderma hendleri* | 95.09 | 0 | 0 | gap | No Match | NA | 0 | 0 | gap |  |  |
| BMAR320-19 | *Ophioderma hendleri* | *Ophioderma hendleri* | 95.71 | 0 | 0 | gap | No Match | NA | 0 | 0 | gap |  |  |
| BMAR648-20 | *Ophioderma hendleri* | *Ophioderma hendleri* | 95.52 | 0 | 0 | gap | No Match | NA | 0 | 0 | gap |  |  |
| BMAR520-20 | *Ophioderma hendleri* | *Ophioderma hendleri* | 95.71 | 0 | 0 | gap | No Match | NA | 0 | 0 | gap |  |  |
| BMAR908-20 | *Ophioderma panamense* | *Ophioderma panamense* | 97.66 | 1 | 1 | match | *Ophioderma panamense* | 97.65 | 1 | 1 | match |  |  |
| BMAR923-20 | *Ophioderma panamense* | *Ophioderma panamense* | 97.86 | 1 | 1 | match | *Ophioderma panamense* | 97.84 | 1 | 1 | match |  |  |
| BMAR305-19 | *Ophioderma panamense* | *Ophioderma panamense* | 97.86 | 1 | 1 | match | *Ophioderma panamense* | 97.86 | 1 | 1 | match |  |  |
| BMAR374-19 | *Ophioderma panamense* | *Ophioderma panamense* | 99.51 | 1 | 1 | match | *Ophioderma panamense* | 99.51 | 1 | 1 | match |  |  |
| BMAR546-20 | *Ophioderma panamense* | *Ophioderma panamense* | 98.05 | 1 | 1 | match | *Ophioderma panamense* | 98.04 | 1 | 1 | match |  |  |
| BMAR927-20 | *Ophioderma* sp. | *Ophioderma panamense* | 99.61 | NA | 1 | improved | *Ophioderma panamense* | 99.61 | NA | 1 | improved |  |  |
| BMAR1185-20 | *Ophioderma* sp. | *Ophioderma hendleri* | 95.71 | NA | 0 | gap | No Match | NA | NA | 0 | gap |  |  |
| BMAR887-20 | *Ophioderma teres* | *Ophioderma teres* | 97.87 | 1 | 1 | match | *Ophioderma teres* | 97.86 | 1 | 1 | match |  |  |
| BMAR922-20 | *Ophioderma teres* | *Ophioderma rubicunda* | 93.38 | 0 | 0 | gap | No Match | NA | 0 | 0 | gap |  |  |
| BMAR288-19 | *Ophioderma teres* | *Ophioderma teres* | 97.27 | 1 | 1 | match | *Ophioderma teres* | 97.25 | 1 | 1 | match |  |  |
| BMAR631-20 | *Ophioderma teres* | *Ophioderma teres* | 97.27 | 1 | 1 | match | *Ophioderma teres* | 97.25 | 1 | 1 | match |  |  |
| BMAR489-20 | *Ophioderma teres* | *Ophioderma teres* | 97.08 | 1 | 1 | match | *Ophioderma teres* | 97.06 | 1 | 1 | match |  |  |
| BMAR928-20 | *Ophiolepis pacifica* | *Ophiolepis impressa* | 94.52 | 0 | 0 | gap | No Match | NA | 0 | 0 | gap |  |  |
| BMAR1181-20 | *Ophiolepis pacifica* | *Ophiolepis impressa* | 93.76 | 0 | 0 | gap | No Match | NA | 0 | 0 | gap |  |  |
| BMAR1189-20 | *Ophiolepis pacifica* | *Ophiolepis impressa* | 94.52 | 0 | 0 | gap | No Match | NA | 0 | 0 | gap |  |  |
| BMAR646-20 | *Ophiolepis pacifica* | *Ophiolepis impressa* | 94.52 | 0 | 0 | gap | No Match | NA | 0 | 0 | gap |  |  |
| BMAR545-20 | *Ophiolepis pacifica* | *Ophiolepis impressa* | 94.52 | 0 | 0 | gap | No Match | NA | 0 | 0 | gap |  |  |
| BMAR607-20 | *Ophiolepis* sp.? | *Ophionereis reticulata* | 89.8 | NA | 0 | gap | No Match | NA | NA | 0 | gap |  |  |
| BMAR865-20 | *Ophionereis annulata* | *Ophionereis reticulata* | 89.65 | 0 | 0 | gap | No Match | NA | 0 | 0 | gap |  |  |
| BMAR890-20 | *Ophionereis annulata* | *Labidodemas pertinax* | 85.71 | 0 | 0 | gap | No Match | NA | 0 | 0 | gap |  |  |
| BMAR904-20 | *Ophionereis annulata* | *Ophionereis reticulata* | 89.8 | 0 | 0 | gap | No Match | NA | 0 | 0 | gap |  |  |
| BMAR929-20 | *Ophionereis annulata* | *Ophioderma panamense* | 97.66 | 0 | 0 | error | *Ophioderma panamense* | 97.65 | 0 | 0 | error |  |  |
| BMAR930-20 | *Ophionereis annulata* | *Ophionereis reticulata* | 89.65 | 0 | 0 | gap | No Match | NA | 0 | 0 | gap |  |  |
| BMAR1173-20 | *Ophionereis annulata* | *Ophionereis reticulata* | 89.8 | 0 | 0 | gap | No Match | NA | 0 | 0 | gap |  |  |
| BMAR289-19 | *Ophionereis annulata* | *Ophionereis vittata* | 90.24 | 0 | 0 | gap | No Match | NA | 0 | 0 | gap |  |  |
| BMAR303-19 | *Ophionereis annulata* | *Ophionereis reticulata* | 90.23 | 0 | 0 | gap | No Match | NA | 0 | 0 | gap |  |  |
| BMAR321-19 | *Ophionereis annulata* | *Ophionereis vittata* | 90.29 | 0 | 0 | gap | No Match | NA | 0 | 0 | gap |  |  |
| BMAR339-19 | *Ophionereis annulata* | *Ophionereis vittata* | 90.22 | 0 | 0 | gap | No Match | NA | 0 | 0 | gap |  |  |
| BMAR587-20 | *Ophionereis annulata* | *Ophionereis schayeri* | 90.3 | 0 | 0 | gap | No Match | NA | 0 | 0 | gap |  |  |
| BMAR594-20 | *Ophionereis annulata* | *Ophionereis reticulata* | 89.65 | 0 | 0 | gap | No Match | NA | 0 | 0 | gap |  |  |
| BMAR617-20 | *Ophionereis annulata* | *Ophionereis reticulata* | 89.8 | 0 | 0 | gap | No Match | NA | 0 | 0 | gap |  |  |
| BMAR652-20 | *Ophionereis annulata* | *Ophionereis reticulata* | 89.55 | 0 | 0 | gap | No Match | NA | 0 | 0 | gap |  |  |
| BMAR654-20 | *Ophionereis annulata* | *Ophionereis reticulata* | 89.65 | 0 | 0 | gap | No Match | NA | 0 | 0 | gap |  |  |
| BMAR490-20 | *Ophionereis annulata* | *Ophionereis reticulata* | 89.65 | 0 | 0 | gap | *Ophionereis annulata* | 100 | 1 | 1 | match |  |  |
| BMAR504-20 | *Ophionereis annulata* | *Ophionereis reticulata* | 89.84 | 0 | 0 | gap | No Match | NA | 0 | 0 | gap |  |  |
| BMAR558-20 | *Ophionereis annulata* | *Ophionereis reticulata* | 89.8 | 0 | 0 | gap | No Match | NA | 0 | 0 | gap |  |  |
| BMAR536-20 | *Ophionereis annulata* | *Ophionereis reticulata* | 87.99 | 0 | 0 | gap | No Match | NA | 0 | 0 | gap |  |  |
| BMAR883-20 | *Ophiothela mirabilis* | *Ophiothela mirabilis* | 100 | 1 | 1 | match | *Ophiothela mirabilis* | 100 | 1 | 1 | match |  |  |
| BMAR919-20 | *Ophiothela mirabilis* | *Ophiothela mirabilis* | 100 | 1 | 1 | match | *Ophiothela mirabilis* | 100 | 1 | 1 | match |  |  |
| BMAR920-20 | *Ophiothela mirabilis* | *Ophiothela mirabilis* | 100 | 1 | 1 | match | *Ophiothela mirabilis* | 100 | 1 | 1 | match |  |  |
| BMAR931-20 | *Ophiothela mirabilis* | *Ophiothela mirabilis* | 100 | 1 | 1 | match | *Ophiothela mirabilis* | 100 | 1 | 1 | match |  |  |
| BMAR325-19 | *Ophiothela mirabilis* | *Ophiothela mirabilis* | 100 | 1 | 1 | match | *Ophiothela mirabilis* | 100 | 1 | 1 | match |  |  |
| BMAR344-19 | *Ophiothela mirabilis* | *Ophiothela mirabilis* | 100 | 1 | 1 | match | *Ophiothela mirabilis* | 100 | 1 | 1 | match |  |  |
| BMAR487-20 | *Ophiothela mirabilis* | *Ophiothela mirabilis* | 100 | 1 | 1 | match | *Ophiothela mirabilis* | 100 | 1 | 1 | match |  |  |
| BMAR493-20 | *Ophiothela mirabilis* | *Ophiothela mirabilis* | 99.85 | 1 | 1 | match | *Ophiothela danae* | 99.69 | 0 | 1 | error |  | possible misidentification in GenBank/Chacón-Monge et al. (2024) |
| BMAR498-20 | *Ophiothela mirabilis* | *Ophiothela mirabilis* | 100 | 1 | 1 | match | *Ophiothela mirabilis* | 100 | 1 | 1 | match |  |  |
| BMAR499-20 | *Ophiothela mirabilis* | *Ophiothela mirabilis* | 100 | 1 | 1 | match | *Ophiothela mirabilis* | 100 | 1 | 1 | match |  |  |
| BMAR525-20 | *Ophiothela mirabilis* | *Ophiothela mirabilis* | 100 | 1 | 1 | match | *Ophiothela mirabilis* | 100 | 1 | 1 | match |  |  |
| BMAR566-20 | *Ophiothela mirabilis* | *Ophiothela mirabilis* | 100 | 1 | 1 | match | *Ophiothela mirabilis* | 100 | 1 | 1 | match |  |  |
| BMAR524-20 | *Ophiothrix spiculata* | *Ophiothrix spiculata* | 98.93 | 1 | 1 | match | *Ophiothrix spiculata* | 99.13 | 1 | 1 | match |  |  |
| BMAR852-20 | *Ophiothrix spiculata* | *Ophiothrix spiculata* | 98.72 | 1 | 1 | match | *Ophiothrix spiculata* | 98.61 | 1 | 1 | match |  |  |
| BMAR853-20 | *Ophiothrix spiculata* | *Ophiothrix spiculata* | 99.57 | 1 | 1 | match | *Ophiothrix spiculata* | 99.57 | 1 | 1 | match |  |  |
| BMAR866-20 | *Ophiothrix spiculata* | *Ophiothrix spiculata* | 99.79 | 1 | 1 | match | *Ophiothrix spiculata* | 99.83 | 1 | 1 | match |  |  |
| BMAR867-20 | *Ophiothrix spiculata* | *Ophiothrix spiculata* | 99.57 | 1 | 1 | match | *Ophiothrix spiculata* | 99.57 | 1 | 1 | match |  |  |
| BMAR1124-20 | *Ophiothrix spiculata* | *Ophiothrix spiculata* | 98.72 | 1 | 1 | match | *Ophiothrix spiculata* | 99.13 | 1 | 1 | match |  |  |
| BMAR1152-20 | *Ophiothrix spiculata* | *Ophiothrix spiculata* | 98.29 | 1 | 1 | match | *Ophiothrix spiculata* | 99.13 | 1 | 1 | match |  |  |
| BMAR1187-20 | *Ophiothrix spiculata* | *Ophiothrix spiculata* | 98.49 | 1 | 1 | match | *Ophiothrix spiculata* | 98.78 | 1 | 1 | match |  |  |
| BMAR311-19 | *Ophiothrix spiculata* | *Ophiothrix spiculata* | 99.3 | 1 | 1 | match | *Ophiothrix spiculata* | 99.44 | 1 | 1 | match |  |  |
| BMAR323-19 | *Ophiothrix spiculata* | *Ophiothrix spiculata* | 98.83 | 1 | 1 | match | *Ophiothrix spiculata* | 99.07 | 1 | 1 | match |  |  |
| BMAR343-19 | *Ophiothrix spiculata* | *Ophiothrix spiculata* | 98.29 | 1 | 1 | match | *Ophiothrix spiculata* | 98.89 | 1 | 1 | match |  |  |
| BMAR352-19 | *Ophiothrix spiculata* | *Ophiothrix spiculata* | 98.72 | 1 | 1 | match | *Ophiothrix spiculata* | 98.88 | 1 | 1 | match |  |  |
| BMAR371-19 | *Ophiothrix spiculata* | *Ophiothrix spiculata* | 99.3 | 1 | 1 | match | *Ophiothrix spiculata* | 99.44 | 1 | 1 | match |  |  |
| BMAR588-20 | *Ophiothrix spiculata* | *Ophiothrix spiculata* | 99.14 | 1 | 1 | match | *Ophiothrix spiculata* | 99.31 | 1 | 1 | match |  |  |
| BMAR606-20 | *Ophiothrix spiculata* | *Ophiothrix spiculata* | 100 | 1 | 1 | match | *Ophiothrix spiculata* | 100 | 1 | 1 | match |  |  |
| BMAR619-20 | *Ophiothrix spiculata* | *Ophiothrix spiculata* | 97.64 | 1 | 1 | match | *Ophiothrix spiculata* | 98.78 | 1 | 1 | match |  |  |
| BMAR632-20 | *Ophiothrix spiculata* | *Ophiothrix spiculata* | 98.5 | 1 | 1 | match | *Ophiothrix spiculata* | 98.96 | 1 | 1 | match |  |  |
| BMAR644-20 | *Ophiothrix spiculata* | *Ophiothrix spiculata* | 99.36 | 1 | 1 | match | *Ophiothrix spiculata* | 99.35 | 1 | 1 | match |  |  |
| BMAR647-20 | *Ophiothrix spiculata* | *Ophiothrix spiculata* | 98.5 | 1 | 1 | match | *Ophiothrix spiculata* | 98.48 | 1 | 1 | match |  |  |
| BMAR479-20 | *Ophiothrix spiculata* | *Ophiothrix spiculata* | 99.57 | 1 | 1 | match | *Ophiothrix spiculata* | 99.65 | 1 | 1 | match |  |  |
| BMAR485-20 | *Ophiothrix spiculata* | *Ophiothrix spiculata* | 98.93 | 1 | 1 | match | *Ophiothrix spiculata* | 99.13 | 1 | 1 | match |  |  |
| BMAR486-20 | *Ophiothrix spiculata* | *Ophiothrix spiculata* | 99.79 | 1 | 1 | match | *Ophiothrix spiculata* | 99.78 | 1 | 1 | match |  |  |
| BMAR488-20 | *Ophiothrix spiculata* | *Ophiothrix spiculata* | 98.07 | 1 | 1 | match | *Ophiothrix spiculata* | 99.78 | 1 | 1 | match |  |  |
| BMAR519-20 | *Ophiothrix spiculata* | *Ophiothrix spiculata* | 98.93 | 1 | 1 | match | *Ophiothrix spiculata* | 98.96 | 1 | 1 | match |  |  |
| BMAR1207-20 | *Pentamera chierchiae* | *Thyone benti* | 86.02 | 0 | 0 | gap | No Match | NA | 0 | 0 | gap |  |  |
| BMAR570-20 | *Pentamera chierchiae* | *Thyone benti* | 86.02 | 0 | 0 | gap | No Match | NA | 0 | 0 | gap |  |  |
| BMAR899-20 | *Pharia pyramidata* | *Linckia laevigata* | 84.02 | 0 | 0 | gap | No Match | NA | 0 | 0 | gap |  |  |
| BMAR1197-20 | *Pharia pyramidata* | *Linckia laevigata* | 83.99 | 0 | 0 | gap | No Match | NA | 0 | 0 | gap |  |  |
| BMAR600-20 | *Pharia pyramidata* | *Diadema mexicanum* | 100 | 0 | 0 | error | *Diadema mexicanum* | 100 | 0 | 0 | error | TRUE | contamination with *Diadema mexicanum* |
| BMAR482-20 | *Pharia pyramidata* | *Linckia laevigata* | 99.39 | 0 | 0 | error | No Match | NA | 0 | 0 | gap |  |  |
| BMAR541-20 | *Pharia pyramidata* | *Linckia laevigata* | 84.15 | 0 | 0 | gap | No Match | NA | 0 | 0 | gap |  |  |
| BMAR555-20 | *Pharia pyramidata* | *Linckia laevigata* | 83.99 | 0 | 0 | gap | No Match | NA | 0 | 0 | gap |  |  |
| BMAR563-20 | *Pharia pyramidata* | *Linckia laevigata* | 83.69 | 0 | 0 | gap | No Match | NA | 0 | 0 | gap |  |  |
| BMAR906-20 | *Phataria unifascialis* | *Linckia laevigata* | 86.02 | 0 | 0 | gap | *Phataria unifascialis* | 99.06 | 1 | 1 | match |  |  |
| BMAR925-20 | *Phataria unifascialis* | *Linckia laevigata* | 86.47 | 0 | 0 | gap | *Phataria unifascialis* | 99.53 | 1 | 1 | match |  |  |
| BMAR870-20 | *Phataria unifascialis* | *Linckia laevigata* | 86.32 | 0 | 0 | gap | *Phataria unifascialis* | 100 | 1 | 1 | match |  |  |
| BMAR1114-20 | *Phataria unifascialis* | *Linckia laevigata* | 86.32 | 0 | 0 | gap | *Phataria unifascialis* | 99.37 | 1 | 1 | match |  |  |
| BMAR1153-20 | *Phataria unifascialis* | *Linckia laevigata* | 86.32 | 0 | 0 | gap | *Phataria unifascialis* | 99.37 | 1 | 1 | match |  |  |
| BMAR1188-20 | *Phataria unifascialis* | *Linckia laevigata* | 86.63 | 0 | 0 | gap | *Phataria unifascialis* | 99.69 | 1 | 1 | match |  |  |
| BMAR313-19 | *Phataria unifascialis* | *Linckia laevigata* | 86.34 | 0 | 0 | gap | *Phataria unifascialis* | 99.52 | 1 | 1 | match |  |  |
| BMAR340-19 | *Phataria unifascialis* | *Linckia laevigata* | 86.3 | 0 | 0 | gap | *Phataria unifascialis* | 98.8 | 1 | 1 | match |  |  |
| BMAR598-20 | *Phataria unifascialis* | *Linckia laevigata* | 86.47 | 0 | 0 | gap | *Phataria unifascialis* | 99.37 | 1 | 1 | match |  |  |
| BMAR625-20 | *Phataria unifascialis* | *Linckia laevigata* | 86.45 | 0 | 0 | gap | *Phataria unifascialis* | 99.21 | 1 | 1 | match |  |  |
| BMAR661-20 | *Phataria unifascialis* | *Linckia laevigata* | 86.32 | 0 | 0 | gap | *Phataria unifascialis* | 99.06 | 1 | 1 | match |  |  |
| BMAR542-20 | *Phataria unifascialis* | *Linckia laevigata* | 86.02 | 0 | 0 | gap | *Phataria unifascialis* | 99.06 | 1 | 1 | match |  |  |
| BMAR550-20 | *Phataria unifascialis* | *Linckia laevigata* | 86.2 | 0 | 0 | gap | *Phataria unifascialis* | 99.18 | 1 | 1 | match |  |  |
| BMAR564-20 | *Phataria unifascialis* | *Linckia laevigata* | 86.25 | 0 | 0 | gap | *Phataria unifascialis* | 99.19 | 1 | 1 | match |  |  |
| BMAR324-19 | *Phataria unifascialis* | *Linckia laevigata* | 86.2 | 0 | 0 | gap | *Phataria unifascialis* | 100 | 1 | 1 | match |  |  |
| BMAR517-20 | *Phataria unifascialis* | *Linckia laevigata* | 85.87 | 0 | 0 | gap | *Phataria unifascialis* | 99.8 | 1 | 1 | match |  |  |
| BMAR871-20 | *Pseudocnus californicus* | *Pseudocolochirus violaceus* | 89.69 | 0 | 0 | gap | No Match | NA | 0 | 0 | gap |  |  |
| BMAR918-20 | *Pseudocnus californicus* | *Pseudocolochirus violaceus* | 90.21 | 0 | 0 | gap | No Match | NA | 0 | 0 | gap |  |  |
| BMAR1140-20 | *Pseudocnus californicus* | *Pseudocolochirus violaceus* | 89.21 | 0 | 0 | gap | No Match | NA | 0 | 0 | gap |  |  |
| BMAR522-20 | *Pseudocnus californicus* | *Apostichopus japonicus* | 83.13 | 0 | 0 | gap | No Match | NA | 0 | 0 | gap |  |  |
| BMAR332-19 | *Stichopus horrens* | *Stichopus horrens* | 99.31 | 1 | 1 | match | *Stichopus horrens* | 99.76 | 1 | 1 | match |  |  |
| BMAR660-20 | *Stichopus horrens* | *Stichopus horrens* | 99.24 | 1 | 1 | match | *Stichopus horrens* | 99.78 | 1 | 1 | match |  |  |
| BMAR879-20 | *Toxopneustes roseus* | *Toxopneustes roseus* | 100 | 1 | 1 | match | *Toxopneustes pileolus* | 97.78 | 0 | 1 | error |  | likely correctly interpreted as a gap (matching congener is sufficiently divergent) |
| BMAR900-20 | *Toxopneustes roseus* | *Toxopneustes roseus* | 99.7 | 1 | 1 | match | *Toxopneustes pileolus* | 97.62 | 0 | 1 | error |  | likely correctly interpreted as a gap (matching congener is sufficiently divergent) |
| BMAR1155-20 | *Toxopneustes roseus* | *Toxopneustes roseus* | 100 | 1 | 1 | match | *Toxopneustes pileolus* | 97.78 | 0 | 1 | error |  | likely correctly interpreted as a gap (matching congener is sufficiently divergent) |
| BMAR1195-20 | *Toxopneustes roseus* | *Toxopneustes roseus* | 100 | 1 | 1 | match | *Toxopneustes pileolus* | 97.78 | 0 | 1 | error |  | likely correctly interpreted as a gap (matching congener is sufficiently divergent) |
| BMAR317-19 | *Toxopneustes roseus* | *Toxopneustes roseus* | 99.84 | 1 | 1 | match | *Toxopneustes pileolus* | 97.62 | 0 | 1 | error |  | likely correctly interpreted as a gap (matching congener is sufficiently divergent) |
| BMAR330-19 | *Toxopneustes roseus* | *Toxopneustes roseus* | 100 | 1 | 1 | match | *Toxopneustes pileolus* | 97.8 | 0 | 1 | error |  | likely correctly interpreted as a gap (matching congener is sufficiently divergent) |
| BMAR354-19 | *Toxopneustes roseus* | *Toxopneustes roseus* | 100 | 1 | 1 | match | *Toxopneustes pileolus* | 97.64 | 0 | 1 | error |  | likely correctly interpreted as a gap (matching congener is sufficiently divergent) |
| BMAR369-19 | *Toxopneustes roseus* | *Iconaster longimanus* | 81.24 | 0 | 0 | gap | *Nidorellia armata* | 99.83 | 0 | 0 | error | TRUE | contamination with *Nidorellia armata* |
| BMAR596-20 | *Toxopneustes roseus* | *Toxopneustes roseus* | 100 | 1 | 1 | match | *Toxopneustes pileolus* | 97.78 | 0 | 1 | error |  | likely correctly interpreted as a gap (matching congener is sufficiently divergent) |
| BMAR627-20 | *Toxopneustes roseus* | *Toxopneustes roseus* | 100 | 1 | 1 | match | *Toxopneustes pileolus* | 97.78 | 0 | 1 | error |  | likely correctly interpreted as a gap (matching congener is sufficiently divergent) |
| BMAR633-20 | *Toxopneustes roseus* | *Toxopneustes roseus* | 99.85 | 1 | 1 | match | *Toxopneustes pileolus* | 97.62 | 0 | 1 | error |  | likely correctly interpreted as a gap (matching congener is sufficiently divergent) |
| BMAR477-20 | *Toxopneustes roseus* | *Toxopneustes roseus* | 100 | 1 | 1 | match | *Toxopneustes pileolus* | 97.78 | 0 | 1 | error |  | likely correctly interpreted as a gap (matching congener is sufficiently divergent) |
| BMAR509-20 | *Toxopneustes roseus* | *Toxopneustes roseus* | 100 | 1 | 1 | match | *Toxopneustes pileolus* | 97.78 | 0 | 1 | error |  | likely correctly interpreted as a gap (matching congener is sufficiently divergent) |
| BMAR531-20 | *Toxopneustes roseus* | *Toxopneustes roseus* | 100 | 1 | 1 | match | *Toxopneustes pileolus* | 97.78 | 0 | 1 | error |  | likely correctly interpreted as a gap (matching congener is sufficiently divergent) |
| BMAR554-20 | *Toxopneustes roseus* | *Toxopneustes roseus* | 100 | 1 | 1 | match | *Toxopneustes pileolus* | 97.78 | 0 | 1 | error |  | likely correctly interpreted as a gap (matching congener is sufficiently divergent) |
| BMAR1154-20 | Toxopneustidae | *Lytechinus williamsi* | 90.27 | NA | NA | gap | No Match | NA | NA | NA | gap |  |  |
| BMAR365-19 | *Tripneustes depressus* | *Tripneustes depressus* | 100 | 1 | 1 | match | *Tripneustes kermadecensis* | 100 | 0 | 1 | error |  |  |
| BMAR501-20 | *Tripneustes depressus* | *Tripneustes depressus* | 100 | 1 | 1 | match | *Tripneustes gratilla* | 99.85 | 0 | 1 | error |  |  |
| BMAR534-20 | *Tripneustes depressus* | *Tripneustes depressus* | 100 | 1 | 1 | match | *Tripneustes kermadecensis* | 100 | 0 | 1 | error |  |  |
| BMAR556-20 | *Tripneustes depressus* | *Tripneustes depressus* | 100 | 1 | 1 | match | *Tripneustes gratilla* | 99.85 | 0 | 1 | error |  |  |

Success of species- and genus-level identification is explicitly scored under ‘Sp. ID’ and ‘Gen. ID’, respectively. Results of identification queries are interpreted as follows: match – result has concordant taxonomy and exceeds 97 % pairwise identity; error – result has conflicting taxonomy and exceeds 97% pairwise identity; gap – no result or result with less than 97 % pairwise identity; improved – result has more specific taxonomy than indicated by morphology-based ID. Excluded samples are indicated by a value of ‘TRUE’ under ‘Exclude’, with explanation under ‘Notes’.

SMT2

Simplified results of sequence-based identification using GenBank BLASTn and BOLD ID Engine, including only a single instance of each distinct outcome per taxon, thus eliminating pseudoreplication of taxa represented by multiple samples (n=45)

|  |  |  |  |  |  |  |  |  |
| --- | --- | --- | --- | --- | --- | --- | --- | --- |
| **Morphology-based ID** | **GenBank BLASTn** | | | **BOLD ID Engine** | | | **Count of samples** | **Process IDs** |
| **Species ID** | **Genus ID** | **Result** | **Species ID** | **Genus ID** | **Result** |
| Amphiuridae | NA | NA | gap | NA | NA | gap | 1 | BMAR881-20 |
| Amphiuridae | NA | NA | gap | NA | NA | improved | 1 | BMAR602-20 |
| *Arbacia stellata* | 1 | 1 | match | 0 | 0 | gap | 7 | BMAR1151-20, BMAR1193-20, BMAR356-19, BMAR561-20, BMAR855-20, BMAR856-20, BMAR905-20 |
| *Asteropsis carinifera* | 0 | 0 | gap | 1 | 1 | match | 3 | BMAR1180-20, BMAR1196-20, BMAR518-20 |
| *Astropyga pulvinata* | 1 | 1 | match | 0 | 0 | gap | 2 | BMAR495-20, BMAR552-20 |
| *Brissus obesus* | 0 | 0 | error | 0 | 0 | gap | 1 | BMAR595-20 |
| *Chiridota aponocrita* | 0 | 0 | gap | 0 | 0 | gap | 10 | BMAR1128-20, BMAR1158-20, BMAR1203-20, BMAR296-19, BMAR530-20, BMAR543-20, BMAR864-20, BMAR877-20, BMAR894-20, BMAR941-20 |
| *Cucumaria flamma* | 0 | 0 | gap | 0 | 0 | gap | 2 | BMAR1202-20, BMAR945-20 |
| *Diadema mexicanum* | 1 | 1 | match | 1 | 1 | match | 5 | BMAR297-19, BMAR506-20, BMAR533-20, BMAR553-20, BMAR859-20 |
| *Echinometra vanbrunti* | 1 | 1 | match | 0 | 0 | gap | 3 | BMAR350-19, BMAR367-19, BMAR591-20 |
| *Eucidaris thouarsii* | 1 | 1 | match | 0 | 0 | gap | 1 | BMAR869-20 |
| *Eucidaris thouarsii* | 1 | 1 | match | 1 | 1 | match | 4 | BMAR1115-20, BMAR481-20, BMAR529-20, BMAR857-20 |
| *Holothuria arenicola* | 0 | 0 | gap | 1 | 1 | match | 5 | BMAR1147-20, BMAR1201-20, BMAR885-20, BMAR933-20, BMAR937-20 |
| *Holothuria fuscocinerea* | 0 | 1 | error | 0 | 0 | gap | 1 | BMAR942-20 |
| *Holothuria impatiens* | 0 | 1 | error | 0 | 0 | gap | 2 | BMAR1120-20, BMAR1139-20 |
| *Holothuria impatiens* | 0 | 0 | gap | 0 | 1 | error | 4 | BMAR548-20, BMAR579-20, BMAR650-20, BMAR915-20 |
| *Holothuria impatiens* | 0 | 0 | gap | 0 | 0 | gap | 2 | BMAR573-20, BMAR938-20 |
| *Holothuria impatiens* | 1 | 1 | match | 0 | 0 | gap | 22 | BMAR1119-20, BMAR1122-20, BMAR1123-20, BMAR1127-20, BMAR1157-20, BMAR1159-20, BMAR1160-20, BMAR1161-20, BMAR309-19, BMAR327-19, BMAR380-19, BMAR474-20, BMAR480-20, BMAR515-20, BMAR549-20, BMAR576-20, BMAR609-20, BMAR861-20, BMAR875-20, BMAR901-20, BMAR916-20, BMAR940-20 |
| *Holothuria kefersteinii* | 0 | 0 | gap | 0 | 0 | gap | 1 | BMAR912-20 |
| *Holothuria kefersteinii* | 1 | 1 | match | 0 | 0 | gap | 1 | BMAR1133-20 |
| *Holothuria portovallartensis* | 1 | 1 | match | 0 | 0 | gap | 1 | BMAR378-19 |
| *Holothuria rigida* | 0 | 0 | gap | 0 | 0 | gap | 5 | BMAR1143-20, BMAR475-20, BMAR540-20, BMAR932-20, BMAR946-20 |
| Holothuroidea | NA | NA | gap | NA | NA | gap | 2 | BMAR1137-20, BMAR1182-20 |
| Holothuroidea | NA | NA | improved | NA | NA | improved | 2 | BMAR1208-20, BMAR581-20 |
| *Isostichopus fuscus* | 1 | 1 | match | 1 | 1 | match | 6 | BMAR1163-20, BMAR1199-20, BMAR496-20, BMAR658-20, BMAR659-20, BMAR895-20 |
| *Labidodemas americanum* | 0 | 0 | gap | 0 | 0 | gap | 2 | BMAR1200-20, BMAR913-20 |
| *Labidodemas maccullochi* | 0 | 0 | gap | 0 | 0 | gap | 2 | BMAR484-19, BMAR889-20 |
| *Lovenia cordiformis* | 1 | 1 | match | 1 | 1 | match | 3 | BMAR560-20, BMAR637-20, BMAR655-20 |
| *Meoma ventricosa* | 0 | 0 | error | 0 | 0 | gap | 2 | BMAR510-20, BMAR527-20 |
| *Mithrodia bradleyi* | 0 | 0 | gap | 1 | 1 | match | 1 | BMAR565-20 |
| *Mithrodia bradleyi* | 1 | 1 | match | 1 | 1 | match | 4 | BMAR1204-20, BMAR304-19, BMAR512-20, BMAR943-20 |
| *Neothyone gibber* | 0 | 0 | gap | 0 | 0 | gap | 18 | BMAR1136-20, BMAR1150-20, BMAR1183-20, BMAR300-19, BMAR329-19, BMAR362-19, BMAR379-19, BMAR507-20, BMAR537-20, BMAR568-20, BMAR569-20, BMAR580-20, BMAR582-20, BMAR872-20, BMAR873-20, BMAR892-20, BMAR917-20, BMAR936-20 |
| *Nidorellia armata* | 0 | 0 | gap | 1 | 1 | match | 5 | BMAR1142-20, BMAR1194-20, BMAR502-20, BMAR532-20, BMAR898-20 |
| *Ophiactis savignyi* | 0 | 1 | error | 0 | 1 | error | 2 | BMAR294-19, BMAR882-20 |
| *Ophiactis savignyi* | 1 | 1 | match | 1 | 1 | match | 7 | BMAR1169-20, BMAR347-19, BMAR483-20, BMAR500-20, BMAR620-20, BMAR621-20, BMAR623-20 |
| *Ophiactis simplex* | 1 | 1 | match | 1 | 1 | match | 3 | BMAR1118-20, BMAR333-19, BMAR366-19 |
| Ophidiasteridae | NA | NA | gap | NA | NA | gap | 2 | BMAR349-19, BMAR603-20 |
| Ophidiasteridae | NA | NA | gap | NA | NA | improved | 9 | BMAR287-19, BMAR312-19, BMAR557-20, BMAR601-20, BMAR604-20, BMAR645-20, BMAR880-20, BMAR907-20, BMAR924-20 |
| *Ophiocomella alexandri* | 0 | 0 | gap | 0 | 0 | gap | 1 | BMAR649-20 |
| *Ophiocomella alexandri* | 1 | 1 | match | 0 | 0 | gap | 21 | BMAR1117-20, BMAR1179-20, BMAR291-19, BMAR292-19, BMAR307-19, BMAR319-19, BMAR351-19, BMAR372-19, BMAR476-20, BMAR494-20, BMAR505-20, BMAR528-20, BMAR586-20, BMAR593-20, BMAR618-20, BMAR630-20, BMAR651-20, BMAR657-20, BMAR854-20, BMAR886-20, BMAR903-20 |
| *Ophioderma* cf. *panamense* | 1 | 1 | match | 1 | 1 | match | 2 | BMAR911-20, BMAR921-20 |
| *Ophioderma hendleri* | 0 | 0 | gap | 0 | 0 | gap | 10 | BMAR1171-20, BMAR1186-20, BMAR308-19, BMAR320-19, BMAR492-20, BMAR520-20, BMAR648-20, BMAR909-20, BMAR910-20, BMAR944-20 |
| *Ophioderma panamense* | 1 | 1 | match | 1 | 1 | match | 5 | BMAR305-19, BMAR374-19, BMAR546-20, BMAR908-20, BMAR923-20 |
| *Ophioderma* sp. | NA | 1 | gap | NA | 0 | gap | 1 | BMAR1185-20 |
| *Ophioderma* sp. | NA | 1 | improved | NA | 1 | improved | 1 | BMAR927-20 |
| *Ophioderma teres* | 0 | 0 | gap | 0 | 0 | gap | 1 | BMAR922-20 |
| *Ophioderma teres* | 1 | 1 | match | 1 | 1 | match | 4 | BMAR288-19, BMAR489-20, BMAR631-20, BMAR887-20 |
| *Ophiolepis pacifica* | 0 | 0 | gap | 0 | 0 | gap | 5 | BMAR1181-20, BMAR1189-20, BMAR545-20, BMAR646-20, BMAR928-20 |
| *Ophiolepis* sp.? | NA | 0 | gap | NA | 0 | gap | 1 | BMAR607-20 |
| *Ophionereis annulata* | 0 | 0 | error | 0 | 0 | error | 1 | BMAR929-20 |
| *Ophionereis annulata* | 0 | 0 | gap | 0 | 0 | gap | 17 | BMAR1173-20, BMAR289-19, BMAR303-19, BMAR321-19, BMAR339-19, BMAR504-20, BMAR536-20, BMAR558-20, BMAR587-20, BMAR594-20, BMAR617-20, BMAR652-20, BMAR654-20, BMAR865-20, BMAR890-20, BMAR904-20, BMAR930-20 |
| *Ophionereis annulata* | 0 | 0 | gap | 1 | 1 | match | 1 | BMAR490-20 |
| *Ophiothela mirabilis* | 1 | 1 | match | 0 | 1 | error | 1 | BMAR493-20 |
| *Ophiothela mirabilis* | 1 | 1 | match | 1 | 1 | match | 11 | BMAR325-19, BMAR344-19, BMAR487-20, BMAR498-20, BMAR499-20, BMAR525-20, BMAR566-20, BMAR883-20, BMAR919-20, BMAR920-20, BMAR931-20 |
| *Ophiothrix spiculata* | 1 | 1 | match | 1 | 1 | match | 24 | BMAR1124-20, BMAR1152-20, BMAR1187-20, BMAR311-19, BMAR323-19, BMAR343-19, BMAR352-19, BMAR371-19, BMAR479-20, BMAR485-20, BMAR486-20, BMAR488-20, BMAR519-20, BMAR524-20, BMAR588-20, BMAR606-20, BMAR619-20, BMAR632-20, BMAR644-20, BMAR647-20, BMAR852-20, BMAR853-20, BMAR866-20, BMAR867-20 |
| *Pentamera chierchiae* | 0 | 0 | gap | 0 | 0 | gap | 2 | BMAR1207-20, BMAR570-20 |
| *Pharia pyramidata* | 0 | 0 | error | 0 | 0 | gap | 1 | BMAR482-20 |
| *Pharia pyramidata* | 0 | 0 | gap | 0 | 0 | gap | 5 | BMAR1197-20, BMAR541-20, BMAR555-20, BMAR563-20, BMAR899-20 |
| *Phataria unifascialis* | 0 | 0 | gap | 1 | 1 | match | 16 | BMAR1114-20, BMAR1153-20, BMAR1188-20, BMAR313-19, BMAR324-19, BMAR340-19, BMAR517-20, BMAR542-20, BMAR550-20, BMAR564-20, BMAR598-20, BMAR625-20, BMAR661-20, BMAR870-20, BMAR906-20, BMAR925-20 |
| *Pseudocnus californicus* | 0 | 0 | gap | 0 | 0 | gap | 4 | BMAR1140-20, BMAR522-20, BMAR871-20, BMAR918-20 |
| *Stichopus horrens* | 1 | 1 | match | 1 | 1 | match | 2 | BMAR332-19, BMAR660-20 |
| *Toxopneustes roseus* | 1 | 1 | match | 0 | 1 | error | 14 | BMAR1155-20, BMAR1195-20, BMAR317-19, BMAR330-19, BMAR354-19, BMAR477-20, BMAR509-20, BMAR531-20, BMAR554-20, BMAR596-20, BMAR627-20, BMAR633-20, BMAR879-20, BMAR900-20 |
| Toxopneustidae | NA | NA | gap | NA | NA | gap | 1 | BMAR1154-20 |
| *Tripneustes depressus* | 1 | 1 | match | 0 | 1 | error | 4 | BMAR365-19, BMAR501-20, BMAR534-20, BMAR556-20 |

Excluded are any probable instances of contamination, sample mix-ups, or misidentifications by the original authors, as indicated in SMT1. The samples attributable to each distinct outcome are listed by their process IDs.