SUPPLEMENTARY MATERIAL

**Table S1.** Stations where Hamatipedidae were recorded.

|  |  |  |  |  |  |  |  |  |
| --- | --- | --- | --- | --- | --- | --- | --- | --- |
| Atlantic Ocean | Station | Longitude | Latitude | Depth [m] | **Cruise** | **Gear** | **Locality** | **Date** |
| 245A | - 36.9283 | -53.0233 | 2707 | RV Atlantis II 060 | EBS | Argentine Basin | 14.03.1971 |
| 259A | -37.2217 | -52.75 | 3317 | RV Atlantis II 060 | EBS | Argentine Basin | 26.03.1971 |
| 293 | 8.9667 | -54.0717 | 1456–1518 | RV Knorr 25 | EBS | Guiana Basin | 27.02.1972 |
| 295 | 8.070 | -54.355 | 1000–1022 | RV Knorr 25 | EBS | Guiana Basin | 28.02.1972 |
| Pacific Ocean | BSS 33 | -39.6717 | 148.775 | 293–329 | RV*Franklin* | WHIOEBS | Australia, Tasmania, Eastern Bass Strait, 50 km NE of Babel I. | 27.03.1979 |
| BSS 169S | -39.04 | 148.51 | 120 | RV*Franklin* | WHIOEBS | Australia, Tasmania, Eastern Bass Strait, 85 km NE of North Point, Flinders I. | 15.11.1981 |
| BSS 167 | -39.7467 | 148.6767 | 124 | RV*Franklin* | WHIOEBS | Australia, Tasmania, Eastern Bass Strait, 63 km E of North Point, Flinders I. | 14.11.1981 |
| BSS 173 | -39.4383 | 147.8117 | 49 | RV*Franklin* | WHIOEBS | Australia, Tasmania, Eastern Bass Strait, 30 km north of North Point Flinders I. | 17.11.1981 |
| SLOPE 2 | -34.965 | 151.1334 | 503 | RV*Franklin* | WHIOEBS | Australia, New South Wales, Off Nowra | 14.07.1986 |
| SLOPE 19 | -37.1217 | 150.3367 | 520 | RV*Franklin* | WHIOEBS | Australia, New South Wales, Off Eden | 20.07.1986 |
| SLOPE 22 | -37.01 | 150.345 | 363 | RV*Franklin* | WHIOEBS | Australia, New South Wales, Off Eden | 21.07.1986 |
| SLOPE 25 | -38.4317 | 148.9767 | 1850 | RV*Franklin* | WHIOEBS | Australia, Victoria, South of Point Hicks | 22.07.1986 |
| SLOPE 32 | -38.365 | 149.3333 | 1000 | RV*Franklin* | WHIOEBS | Australia, Victoria, S of Point Hicks | 23.07.1986 |
| SLOPE 33 | -38.3267 | 149.405 | 930–951 | RV*Franklin* | WHIOEBS | Australia, Victoria, South of Point Hicks | 23.07.1986 |
| SLOPE 40 | -38.295 | 149.1883 | 400 | RV*Franklin* | WHIOEBS | Australia, Victoria, S of Point Hicks | 24.07.1986 |
| SLOPE 45 | -42.0367 | 148.645 | 800 | RV*Franklin* | WHIOEBS | Australia, Tasmania, Off Freycinet Peninsula | 27.07.1986 |
| SLOPE 54 | -34.83 | 151.4339 | 2175–2600 | RV*Franklin* | WHIOEBS | Australia, New South Wales, 70 km ESE of Nowra | 22.10.1988 |
| SLOPE 67 | -38.3992 | 149.2836 | 1119–1277 | RV*Franklin* | WHIOEBS | Australia, Victoria, 67 km S of Point Hicks | 25.10.1988 |

**Table S2.** The slope of the regression line (b) calculated for each character and type of the grow: isometry (b=1)⁠, negative allometry (b<1) or positive allometry (b>1)

|  |  |  |  |
| --- | --- | --- | --- |
| **Variable** | **log y = log a + b log x** | **b** | **Type of growth** |
| Carapace | log y = 0.6571x + 0.3068 | 0.65 | Negative allometry |
| Pereonite-1 | log y = 0.6752x + 0.2024 | 0.67 | Negative allometry |
| Pereonite-2 | log y = 0.8993x – 0.4341 | 0.89 | Negative allometry |
| Pereonite-3 | log y = 0.9175x – 0.4814 | 0.91 | Negative allometry |
| Pereonite-4 | log y = 0.9708x – 0.7471 | 0.97 | isometry |
| Pereonite-5 | log y = 1.0539x – 1.129 | 1.05 | isomery |
| Pereonite-6 | log y = 2.4879x – 6.6331 | 2.48 | Positive allometry |
| Uropod endopod | log y = 0.5762x – 0.0298 | 0.57 | Negative allometry |
| Uropod exopod | log y = 0.5178x + 0.0754 | 0.51 | Negative allometry |

**Table S3.**Diagnostic characters for neuters of *Hamatipeda*

|  |  |  |  |  |  |  |  |  |  |  |  |  |
| --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- |
|  | Pereonites 1–3 margins | Pereonites 4–6 margins | Pereonites 2–5 proximal margins | Pereonite-4 | Antennule article-3 | Cheliped carpus | Pereopods 4–6 carpus with | Pereopod 4–6 carpus molariformspines | Unguis | Pereopod-2  dactylus+unguis/ propodus ratio | Uropod exopod | Endopod |
| ***H. longa*** | rectangular | rounded | simple | long (1.6 L:W) | long (4.5 L:W) | 2.0 L:W | three distal spines | smooth | trifurcate | 0.6 | 0.5 as endopod | two-articled |
| ***H. trapezoida*** | narrower posteriorly | rounded | simple | long (1.6 L:W) | long (3.7 L:W) | 2.1 L:W | three distal spines | serrate | trifurcate | 0.8 | 0.9 as endopod | one-articled |
| ***H. prolata*** | rectangular | rectangular | simple | very long (2.2 L:W) | long (3.4 L:W) | 2.6 L:W | three distal spines | serrate | trifurcate | 0.7 | 0.6 as endopod | two-articled |
| ***H. caipirinha*** | narrower posteriorly | rounded | simple | long (1.7 L:W) | long (4.7 L:W) | 2.2 L:W | three distal spines | serrate | trifurcate | 0.8 | 0.9 as endopod | two-articled |
| ***H. caipiroska*** | narrower posteriorly | rectangular | simple | short (1.4 L:W) | long (5.1 L:W) | 1.6 L:W | three distal spines | serrate | trifurcate | 0.6 | 0.7 as endopod | two-articled |
| ***H. lelibi*** | narrowerposteriorly | narrower anteriorly | with small process | very short (1.1 L:W) | long (5.7 L:W) | 2.2 L:W | three distal spines | serrate | trifurcate | 0.5 | 0.8 as endopod | one-articled |
| ***H. mojito*** | narrower posteriorly | rounded | simple | very long (2.0 L:W) | long (4.6 L:W) | 2.0 L:W | three distal spines | smooth | trifurcate | 0.8 | 0.8 as endopod | two-articled |
| ***H. kohtsukai*** | narrower posteriorly | rectangular | simple | very short (1.2 L:W) | very long (7.3 L:W) | 2.2 L:W | four distal spines | serrate | bifurcate | 0.9 | 0.8 as endopod | one-articled with a suture |