

Supplementary file 1

Table 1: Shell measurements (in mm) recorded in the Moroccan *Mercuria* species: *M. tensiftensis* sp. n. from 1, a ditch in Sidi Bouzid and 2, a pond near Lahjar Spring, Essaouira; 3, *M. midarensis* sp. n. from a ditch near Midar; *M. targouasensis* from 4, a ditch in Mirleft and 5, Oum Rbii Springs, Khenifra; 6, *M. tingitana* from a swampy area between Tangier and Ksar es Seghir.

| | 1 | 2 | 3 | 4 | 5 | 6 |
|--------|--|--|--|--|--|---|
| | Mean \pm SD; CV (Max-Min) (n=18) | Mean \pm SD; CV (Max-Min) (n=16) | Mean \pm SD; CV (Max-Min) (n=29) | Mean \pm SD; CV (Max-Min) (n=19) | Mean \pm SD; CV (Max-Min) (n=19) | Mean \pm SD; CV (Max-Min) (n=6) |
| SL | 4.07 \pm 0.43; 0.11 (5.10–3.50) | 3.50 \pm 0.22; 0.06 (3.95–3.06) | 3.50 \pm 0.20; 0.06 (3.94–3.01) | 2.90 \pm 0.29; 0.10 (3.43–2.63) | 3.82 \pm 0.26; 0.06 (4.37–3.35) | 3.31 \pm 0.29; 0.08 (3.60–2.93) |
| SW | 2.75 \pm 0.25; 0.09 (3.23–2.33) | 2.43 \pm 0.22; 0.09 (3.03–2.18) | 2.42 \pm 0.15; 0.07 (2.71–2.07) | 2.09 \pm 0.23; 0.11 (2.51–1.75) | 2.86 \pm 0.27; 0.09 (3.52–2.39) | 2.11 \pm 0.17; 0.08 (2.27–1.88) |
| LBW | 3.02 \pm 0.24; 0.08 (3.64–2.71) | 2.74 \pm 0.20; 0.08 (3.22–2.41) | 2.77 \pm 0.14; 0.05 (3.02–2.43) | 2.32 \pm 0.21; 0.09 (2.71–2.06) | 3.09 \pm 0.18; 0.05 (3.52–2.81) | 2.49 \pm 0.27; 0.10 (2.74–2.09) |
| WBW | 2.36 \pm 0.19; 0.08 (2.74–2.12) | 2.18 \pm 0.15; 0.07 (2.55–1.98) | 2.17 \pm 0.12; 0.06 (2.45–1.81) | 1.97 \pm 0.19; 0.10 (2.30–1.69) | 2.32 \pm 0.11; 0.04 (2.69–2.21) | 1.90 \pm 0.12; 0.06 (2.03–1.75) |
| SL–LBW | 1.03 \pm 0.21; 0.21 (1.46–0.69) | 0.74 \pm 0.08; 0.11 (0.87–0.62) | 0.72 \pm 0.11; 0.16 (0.97–0.55) | 0.57 \pm 0.10; 0.18 (0.71–0.43) | 0.71 \pm 0.12; 0.17 (0.94–0.44) | 0.81 \pm 0.08; 0.10 (0.93–0.69) |
| AL | 1.96 \pm 0.09; 0.05 (2.20–1.80) | 1.73 \pm 0.14; 0.08 (2.11–1.56) | 1.76 \pm 0.10; 0.06 (2.02–1.55) | 1.50 \pm 0.16; 0.11 (1.77–1.30) | 1.98 \pm 0.12; 0.06 (2.26–1.78) | 1.49 \pm 0.13; 0.09 (1.68–1.30) |
| AW | 1.43 \pm 0.10; 0.07 (1.61–1.25) | 1.33 \pm 0.12; 0.09 (1.56–1.15) | 1.28 \pm 0.08; 0.06 (1.45–1.11) | 1.10 \pm 0.13; 0.12 (1.26–0.81) | 1.56 \pm 0.11; 0.07 (1.80–1.39) | 1.08 \pm 0.12; 0.11 (1.20–0.92) |
| AH | 1.96 \pm 0.11; 0.06 (2.22–1.79) | 1.74 \pm 0.16; 0.09 (2.11–1.51) | 1.80 \pm 0.09; 0.05 (2.02–1.65) | 1.42 \pm 0.10; 0.08 (1.60–1.28) | 2.06 \pm 0.17; 0.08 (2.53–1.85) | 1.57 \pm 0.13; 0.08 (1.68–1.38) |
| WPW | 1.44 \pm 0.24; 0.17 (1.92–1.10) | 1.12 \pm 0.16; 0.14 (1.41–0.68) | 1.19 \pm 0.09; 0.08 (1.7–0.7) | 0.16 \pm 0.12; 0.11 (1.34–1.00) | 1.26 \pm 0.11; 0.09 (1.50–0.99) | 1.17 \pm 0.08; 0.07 (1.28–1.04) |
| WAW | 0.23 \pm 0.08; 0.35 (0.41–0.12) | 0.26 \pm 0.11; 0.41 (0.52–0.12) | 0.22 \pm 0.07; 0.32 (0.35–0.06) | 0.37 \pm 0.13; 0.37 (0.57–0.17) | 0.23 \pm 0.09; 0.39 (0.45–0.09) | 0.32 \pm 0.04; 0.14 (0.39–0.26) |
| NSW | 4.44 \pm 0.51; 0.12 (5.00–4.00) | 4.15 \pm 0.49; 0.12 (5.00–3.00) | 4.16 \pm 0.36; 0.09 (5.00–4.00) | 3.44 \pm 0.53; 0.15 (4.00–3.00) | 4.11 \pm 0.43; 0.10 (5.00–3.00) | 4.00 \pm 0; 0 (4.00–4.00) |
| SL/SW | 1.47 \pm 0.09; 0.06 (1.66–1.35) | 1.44 \pm 0.07; 0.05 (1.55–1.30) | 1.41 \pm 0.16; 0.12 (1.58–0.85) | 1.39 \pm 0.07; 0.05 (1.50–1.28) | 1.34 \pm 0.09; 0.07 (1.58–1.21) | 1.56 \pm 0.04; 0.03 (1.66–1.51) |

Table 2: Radula formulae and measurements (in μm) recorded in the Moroccan *Mercuria* species: *M. tensiftensis* sp. n. from 1, a ditch in Sidi Bouzid and 2, a pond near Lahjar Spring, Essaouira; 3, *M. midarensis* sp. n. from a ditch near Midar; *M. targouasensis* from 4, a ditch in Mirleft and 5, Oum Rbii Springs, Khenifra; 6, *M. tingitana* from a swampy area between Tangier and Ksar es Seghir; 7, *M. bakeri* from a spring at 3.5 km N of Taghramt.

| | 1 | 2 | 3 | 4 | 5 | 6 | 7 |
|-------------------------------|---------------------|---------------------|---------------------|---------------------|---------------------|---------------------|---------------------|
| Central teeth formula | 4-C-4/1-1 | (5)4-C-4(5)/1-1 | (3)4-C-4(3)/1-1 | 3-C-3/1-1 | (4)3-C-3(4)/1-1 | 4-C-4/1-1 | (3)4-C-4(3)/1-1 |
| Central teeth width | ~ 20 μm | ~ 20 μm | ~ 20 μm | ~ 20 μm | ~ 30 μm | ~ 20 μm | ~ 15 μm |
| Lateral teeth formula | 3-C-3 | 4-C-4 | (2)3-C-3(2) | (4)3-C-3(4) | 3-C-3 | 3-C-3 | 3-C-3 |
| Cusps of inner marginal teeth | ≥ 13 | ≥ 13 | ≥ 12 | ≥ 11 | ≥ 13 | ≥ 15 | ≥ 15 |
| Cusps of outer marginal teeth | ≥ 15 | ≥ 15 | ≥ 18 | ≥ 14 | ≥ 17 | ≥ 21 | ≥ 20 |
| Radula length | ~ 960 μm | ~ 800 μm | ~ 850 μm | ~ 750 μm | ~ 960 μm | ~ 600 μm | ~ 750 μm |
| Radula width | ~ 127 μm | ~ 100 μm | ~ 120 μm | ~ 100 μm | ~ 150 μm | ~ 100 μm | ~ 100 μm |
| Number of rows | ~ 60 | ~ 60 | ~ 55 | ~ 50 | ~ 55 | ~ 50 | ~ 60 |

Table 3: Ctenidium, osphradium and stomach measurements (in mm) recorded in the Moroccan *Mercuria* species: *M. tensiftensis* sp. n. from 1, a ditch in Sidi Bouzid and 2, a pond near Lahjar Spring, Essaouira; 3, *M. midarensis* sp. n. from a ditch near Midar; *M. targouasensis* from 4, a ditch in Mirleft and 5, from Oum Rbii Springs, Khenifra; 6, *M. tingitana* from a swampy area between Tangier and Ksar es Seghir; 7, *M. bakeri* from a spring at 3.5 km N of Taghramt. ND= No data

| | 1 Mean ± SD; CV (Max-Min) (n=6) | 2 Mean ± SD; CV (Max-Min) (n=8) | 3 Mean ± SD; CV (Max-Min) (n=6) | 4 Mean ± SD; CV (Max-Min) (n=11) | 5 Mean ± SD; CV (Max-Min) (n=8) | 6 Mean ± SD; CV (Max-Min) (n=2) | 7 Mean ± SD; CV (Max-Min) (n=1) |
|------|--|--|--|---|--|--|--|
| CL | 1.60±0.22; 0.14 (1.88–1.35) | 1.19±0.26; 0.22 (1.49–0.85) | 1.16±0.07; 0.06 (1.27–1.07) | 0.95±0.14; 0.15 (1.22–0.76) | 1.43±0.28; 0.20 (1.93–1.23) | 1.23±0.21; 0.18 (1.38–1.08) | 1.10 |
| Os L | 0.42±0.17; 0.40 (0.56–0.23) | 0.42±0.09; 0.24 (0.54–0.27) | 0.55±0.12; 0.22 (0.69–0.38) | 0.34±0.09; 0.28 (0.59–0.26) | 0.41±0.11; 0.28 (0.59–0.31) | 0.47±0.04; 0.10 (0.50–0.43) | 0.32 |
| Os W | 0.10±0.01; 0.17 (0.12–0.08) | 0.10±0.01; 0.16 (0.12–0.08) | 0.10±0.01; 0.16 (0.12–0.08) | 0.09±0.01; 0.18 (0.12–0.06) | 0.09±0.04; 0.42 (0.15–0.05) | 0.11±0.01; 0.15 (0.12–0.09) | 0.09 |
| St L | 1.13±0.17; 0.16 (1.40–0.88) | 0.76±0.11; 0.15 (0.96–0.61) | 1.03±0.11; 0.11 (1.16–0.84) | 0.71±0.12; 0.18 (0.89–0.52) | 0.94±0.05; 0.06 (1.03–0.87) | 0.77 | ND |
| St W | 1.09±0.19; 0.18 (1.31–0.78) | 0.79±0.15; 0.19 (0.99–0.55) | 0.84±0.10; 0.12 (1.01–0.75) | 0.75±0.11; 0.15 (0.96–0.57) | 1.03±0.09; 0.09 (1.15–0.93) | 0.82 | ND |
| Ss L | 0.97±0.15; 0.16 (1.26–0.82) | 0.68±0.12; 0.18 (0.81–0.43) | 0.68±0.07; 0.10 (0.74–0.56) | 0.58±0.09; 0.16 (0.74–0.47) | 0.93±0.16; 0.18 (1.21–0.77) | 0.58 | ND |
| Ss W | 0.73±0.07; 0.10 (0.84–0.66) | 0.43±0.06; 0.16 (0.55–0.34) | 0.53±0.04; 0.08 (0.59–0.48) | 0.46±0.06; 0.14 (0.55–0.32) | 0.66±0.09; 0.14 (0.81–0.53) | 0.47 | ND |

Table 4: Female genitalia measurements (in mm) recorded in the Moroccan *Mercuria* species: *M. tensiftensis* sp. n. from 1, a ditch in Sidi Bouzid and 2, from a pond near Lahjar Spring, Essaouira; 3, *M. midarensis* sp. n. from a ditch near Midar; *M. targouasensis* from 4, a ditch in Mirleft and 5, from Oum Rbii Springs, Khenifra; 6, *M. tingitana* from a swampy area between Tangier and Ksar es Seghir. ND= No data

| | 1 | 2 | 3 | 4 | 5 | 6 |
|-------|-------------------------------------|-------------------------------------|-------------------------------------|-------------------------------------|-------------------------------------|-------------------------------------|
| | Mean ± SD; CV (Max-Min) (n=4) | Mean ± SD; CV (Max-Min) (n=2) | Mean ± SD; CV (Max-Min) (n=4) | Mean ± SD; CV (Max-Min) (n=5) | Mean ± SD; CV (Max-Min) (n=8) | Mean ± SD; CV (Max-Min) (n=1) |
| Po L | 2.53±0.62; 0.25 (3.41–1.92) | 1.65±0.40; 0.24 (1.94–1.37) | 1.89±0.23; 0.13 (2.13–1.56) | 1.75±0.37; 0.22 (2.24–0.19) | 2.18±0.44; 0.21 (3.12–1.71) | 1.74 |
| Po W | 0.86±0.34; 0.40 (1.35–0.55) | 0.49±0.07; 0.14 (0.54–0.44) | 0.73±0.07; 0.10 (0.78–0.61) | 0.57±0.09; 0.17 (0.68–0.42) | 0.78±0.13; 0.17 (1.03–0.63) | 0.63 |
| Ag L | 1.24±0.50; 0.40 (1.97–0.80) | 0.68±0.46; 0.67 (1.03–0.36) | 0.92±0.20; 0.22 (1.11–0.63) | 0.77±0.17; 0.22 (0.98–0.51) | 1.06±0.15; 0.14 (1.27–0.88) | 0.68 |
| Cg L | 1.19±0.19; 0.16 (1.42–1.01) | 0.83±0.23; 0.28 (1.00–0.67) | 1.12±0.11; 0.10 (1.22–0.96) | 0.81±0.15; 0.19 (0.98–0.59) | 1.20±0.27; 0.23 (1.74–0.86) | 0.80 |
| SR1 L | 0.20 | 0.21 | 0.21 | 0.12±0.02; 0.24 (0.16–0.09) | 0.16±0.03; 0.21 (0.20–0.13) | 0.22 |
| BC L | 1.09±0.23; 0.21 (1.23–0.74) | 0.88±0.35; 0.40 (1.13–0.63) | 1.00±0.14; 0.15 (1.20–0.88) | 0.81±0.32; 0.29 (1.07–0.46) | 1.09±0.23; 0.21 (1.59–0.88) | 0.60 |
| BC W | 0.43±0.16; 0.37 (0.67–0.31) | 0.35±0.17; 0.50 (0.47–0.23) | 0.42±0.11; 0.28 (0.56–0.28) | 0.33±0.12; 0.38 (0.47–0.17) | 0.51±0.11; 0.23 (0.77–0.40) | 0.39 |
| dBC L | N.D. | 0.23 | N.D. | 0.05 | 0.09 | N.D. |

Table 5: Male genitalia measurements (in mm) recorded in the Moroccan *Mercuria* species: *M. tensiftensis* sp. n. from 1, a ditch in Sidi Bouzid and 2, from a pond in Lahjar Spring, Essaouira; 3, *M. midarensis* sp. n. from a ditch near Midar; *M. targouasensis* from 4, a ditch in Mirleft and 5, from Oum Rbii Springs, Khenifra; 6, *M. bakeri* from a spring at 3.5 km N of Taghramt. ND= No data.

| | 1 | 2 | 3 | 4 | 5 | 6 |
|------------|-------------------------------------|-------------------------------------|-------------------------------------|-------------------------------------|-------------------------------------|-------|
| | Mean ± SD; CV (Max-Min) (n=2) | Mean ± SD; CV (Max-Min) (n=7) | Mean ± SD; CV (Max-Min) (n=4) | Mean ± SD; CV (Max-Min) (n=7) | Mean ± SD; CV (Max-Min) (n=2) | (n=1) |
| Pr L | 1.80±0.13; 0.07 (1.89–1.71) | 1.09±0.29; 0.27 (1.40–0.63) | 0.99±0.07; 0.08 (1.10–0.92) | 0.91±0.24; 0.27 (1.32–0.55) | 1.11±0.29; 0.27 (1.32–0.90) | N.D. |
| Pr W | 0.81±0.17; 0.22 (0.94–0.69) | 0.47±0.11; 0.24 (0.61–0.28) | 0.52±0.10; 0.20 (0.66–0.44) | 0.35±0.11; 0.32 (0.55–0.21) | 0.57±0.16; 0.28 (0.68–0.46) | N.D. |
| P L | 1.34±0.79; 0.59 (1.90–0.77) | 2.03±0.25; 0.12 (2.26–1.51) | 2.98±0.36; 0.12 (3.25–2.57) | 1.04±0.35; 0.34 (1.66–0.57) | 2.46±0.11; 0.05 (2.54–2.38) | 2.09 |
| P W | 0.38±0.19; 0.50 (0.52–0.24) | 0.33±0.07; 0.23 (0.44–0.24) | 0.46±0.09; 0.21 (0.57–0.39) | 0.23±0.07; 0.31 (0.32–0.10) | 0.46±0.11; 0.26 (0.54–0.37) | 0.35 |
| PA L | 0.64±0.46; 0.71 (0.97–0.32) | 0.55±0.15; 0.28 (0.69–0.32) | 0.99±0.19; 0.20 (1.12–0.77) | 0.57±0.19; 0.34 (0.78–0.28) | 1.07±0.21; 0.20 (1.22–0.92) | 0.60 |
| PA W | 0.39±0.21; 0.55 (0.54–0.23) | 0.35±0.07; 0.20 (0.46–0.27) | 0.49±0.07; 0.15 (0.55–0.44) | 0.31±0.07; 0.22 (0.39–0.19) | 0.65±0.11; 0.18 (0.73–0.56) | 0.28 |
| HeadL | 1.31±0.25; 0.19 (1.49–1.13) | 0.96±0.10; 0.11 (1.17–0.85) | 1.14±0.16; 0.14 (1.32–1.01) | 0.84±0.09; 0.11 (0.97–0.71) | 1.41±0.05; 0.05 (1.45–1.37) | 0.85 |
| PL/PA L | 2.19±0.33; 0.15 (2.42–1.96) | 3.87±0.90; 0.23 (5.24–2.96) | 3.03±0.27; 0.09 (3.33–2.85) | 1.91±0.56; 0.29 (2.96–1.33) | 2.35±0.57; 0.24 (2.75–1.94) | 3.46 |
| PL/Head L | 0.98±0.42; 0.43 (1.28–0.69) | 2.11±0.27; 0.13 (2.44–1.77) | 2.61±0.29; 0.11 (2.92–2.35) | 1.25±0.46; 0.37 (2.15–0.62) | 1.74±0.01; 0.01 (1.75–1.73) | 2.45 |
| PA L/HeadL | 0.47±0.26; 0.56 (0.65–0.28) | 0.57±0.14; 0.25 (0.75–0.37) | 0.87±0.13; 0.15 (1.01–0.76) | 0.69±0.25; 0.36 (0.96–0.36) | 0.76±0.18; 0.24 (0.89–0.63) | 0.71 |

Table 6: Nervous system measurements (in mm) recorded in the Moroccan *Mercuria* species: *M. tensiftensis* sp. n. from 1, a ditch in Sidi Bouzid and 2, from a pond near Lahjar Spring, Essaouira; 3, *M. midarensis* sp. n. from a ditch near Midar; *M. targouasensis* from 4, a ditch in Mirleft and 5, from Oum Rbii Springs, Khenifra. ND= No data.

| | 1 | 2 | 3 | 4 | 5 |
|--------|---|---|---|---|---|
| | Mean \pm SD; CV (Max-Min) (n=3) | Mean \pm SD; CV (Max-Min) (n=5) | Mean \pm SD; CV (Max-Min) (n=4) | Mean \pm SD; CV (Max-Min) (n=1) | Mean \pm SD; CV (Max-Min) (n=3) |
| LRCG | 0.26 \pm 0.02; 0.09 (0.29–0.24) | 0.22 \pm 0.03; 0.16 (0.26–0.18) | 0.25 \pm 0.06; 0.25 (0.33–0.17) | 0.29 | 0.28 \pm 0.04; 0.17 (0.31–0.22) |
| LLCG | 0.26 \pm 0.02; 0.08 (0.28–0.24) | 0.21 \pm 0.02; 0.10 (0.24–0.19) | 0.26 \pm 0.09; 0.37 (0.37–0.14) | 0.27 | 0.25 \pm 0.05; 0.22 (0.31–0.21) |
| LCC | 0.09 \pm 0.02; 0.25 (0.12–0.07) | 0.12 \pm 0.01; 0.12 (0.14–0.10) | 0.15 \pm 0.06; 0.44 (0.25–0.09) | 0.13 | 0.13 \pm 0.004; 0.03 (0.14–0.13) |
| LRPG | 0.12 \pm 0.02; 0.24 (0.14–0.10) | 0.09 \pm 0.01; 0.16 (0.10–0.08) | 0.09 \pm 0.03; 0.32 (0.11–0.07) | 0.14 | 0.10 |
| LLPG | N.D. | 0.12 \pm 0.01; 0.08 (0.14–0.12) | 0.10 \pm 0.03; 0.29 (0.13–0.06) | 0.17 | 0.15 \pm 0.01; 0.08 (0.16–0.14) |
| LPsupC | 0.36 \pm 0.09; 0.27 (0.43–0.25) | 0.33 \pm 0.05; 0.16 (0.39–0.25) | 0.47 \pm 0.15; 0.32 (0.69–0.38) | 0.56 | 0.54 \pm 0.15; 0.29 (0.69–0.38) |
| LPsubC | N.D. | 0.07 \pm 0.01; 0.16 (0.08–0.06) | 0.013 | N.D. | 0.02 \pm 0.01; 0.58 (0.03–0.01) |
| LsupG | 0.12 \pm 0.07; 0.05 (0.13–0.12) | 0.07 \pm 0.01; 0.20 (0.08–0.05) | 0.16 \pm 0.08; 0.52 (0.29–0.09) | 0.09 | 0.12 \pm 0.01; 0.05 (0.13–0.12) |
| LsubG | N.D. | 0.09 \pm 0.008; 0.09 (0.10–0.09) | 0.10 \pm 0.01; 0.14 (0.12–0.09) | 0.06 | 0.11 \pm 0.02; 0.24 (0.14–0.08) |
| RPG | 0.64 \pm 0.02; 0.03 (0.65–0.61) | 0.79 \pm 0.14; 0.18 (1.00–0.64) | 0.70 \pm 0.15; 0.22 (0.81–0.48) | 0.70 | 0.76 \pm 0.12; 0.15 (0.84–0.62) |