Supplement for Reservoir Effects from Shells of Tell Abraq, Sharjah Emirate, UAE

Models for species-specific reservoir effects of Tell Abraq:

Terebralia palustris:

```
// Delta_R values updated for Marine20
 Plot()
 {
  Sequence()
  {
   Boundary("start 1");
   Phase("1")
   {
    Curve("Intcal20","Intcal20.14c");
    R_Date("19242 HK",3728,26);
    Curve("Marine20","Marine20.14c");
    Delta_R("19243_Ter",U(-500,500));
    R_Date("19243 Ter",4037,27);
    R_Date("19243 Ter dupl",3919,24);
   };
   Boundary("End 1");
   Boundary("start 2");
   Phase("2")
   {
    Curve("Intcal20","Intcal20.14c");
    R_Date("14593 HK",3668,22);
    Curve("Marine20","Marine20.14c");
    Delta_R("14593_Ter",U(-600,600));
    R_Date("14593 Ter1",4226,21);
    R_Date("14593 Ter2",4222,16);
   };
   Boundary("End 2");
   Boundary("start 3");
   Phase("3")
   {
    Curve("Intcal20","Intcal20.14c");
    R_Date("19259 HK",3645,22);
    Curve("Marine20","Marine20.14c");
    Delta_R("19259_Ter",U(-500,500));
    R_Date("19259 Ter",3812,24);
   };
   Boundary("End 3");
   Boundary("start 4");
   Phase("4")
   {
    Curve("Intcal20","Intcal20.14c");
    R_Date("19421 HK",3440,23);
    Curve("Marine20","Marine20.14c");
    Delta_R("19421_Ter",U(-500,500));
    R_Date("19422 Ter",3913,19);
   };
   Boundary("End 4");
   Boundary("start 5");
```

```
  Phase("5")
  {
   Curve("Intcal20","Intcal20.14c");
   R_Date("19309 HK",3409,21);
   Curve("Marine20","Marine20.14c");
   Delta_R("19309_Ter",U(-500,500));
   R_Date("19310 Ter",3879,16);
  };
  Boundary("End 5");
  Boundary("start 6");
  Phase("6")
  {
   Curve("Intcal20","Intcal20.14c");
   R_Date("18618 HK",3063,23);
   Curve("Marine20","Marine20.14c");
   Delta_R("18618_Ter",U(-500,500));
   R_Date("18618 Ter1",3337,22);
   R_Date("18618 Ter2",3281,21);
   R_Date("18618 Ter1",3203,22);
  };
  Boundary("End 6");
  Boundary("start 7");
  Phase("7")
  {
   Curve("Intcal20","Intcal20.14c");
   R_Date("18597 HK",2883,21);
   Curve("Marine20","Marine20.14c");
   Delta_R("18597_Ter",U(-500,500));
   R_Date("18597 Ter1",3361,21);
   R_Date("18597 Ter2",3305,22);
   R_Date("18597 Ter1",3498,22);
  };
  Boundary("End 7");
  Boundary("start 8");
  Phase("8")
  {
   Curve("Intcal20","Intcal20.14c");
   R_Date("18243 HK",2872,20);
   Curve("Marine20","Marine20.14c");
   Delta_R("18243_Ter",U(-500,500));
   R_Date("18243 Ter1",3352,20);
   R_Date("18243 Ter2",3521,21);
   R_Date("18243 Ter1",3425,26);
  };
  Boundary("End 8");
 };
};
```

Marcia sp:

```
// Delta_R values updated for Marine20
 Plot()
 {
  Sequence()
  {
   Boundary("Start 1");
   Phase("1")
```

```
  {
   Curve("Intcal20","Intcal20.14c");
   R_Date("14593 HK",3668,22);
   Curve("Marine20","Marine20.14c");
   Delta_R("14593_Mar",U(-100,700));
   R_Date("14593 Mar1",4382,23);
  };
  Boundary("End 1");
  Boundary("Start 2");
  Phase("2")
  {
   Curve("Intcal20","Intcal20.14c");
   R_Date("18597 HK",2883,21);
   Curve("Marine20","Marine20.14c");
   Delta_R("18597_Mar",U(-500,500));
   R_Date("18597 Mar1",3377,22);
   R_Date("18597 Mar2",3398,22);
   R_Date("18597 Mar3",3354,23);
   R_Date("18597 Mar4",3334,21);
  };
  Boundary("End 2");
  Boundary("Start 3");
  Phase("3")
  {
   Curve("Intcal20","Intcal20.14c");
   R_Date("18243 HK",2872,20);
   Curve("Marine20","Marine20.14c");
   Delta_R("18243_Mar",U(-500,500));
   R_Date("18243 Mar1",3455,21);
   R_Date("18243 Mar2",3438,21);
   R_Date("18243 Mar3",3349,24);
   R_Date("18243 Mar4",3405,22);
  };
  Boundary("End 3");
 };
};
```

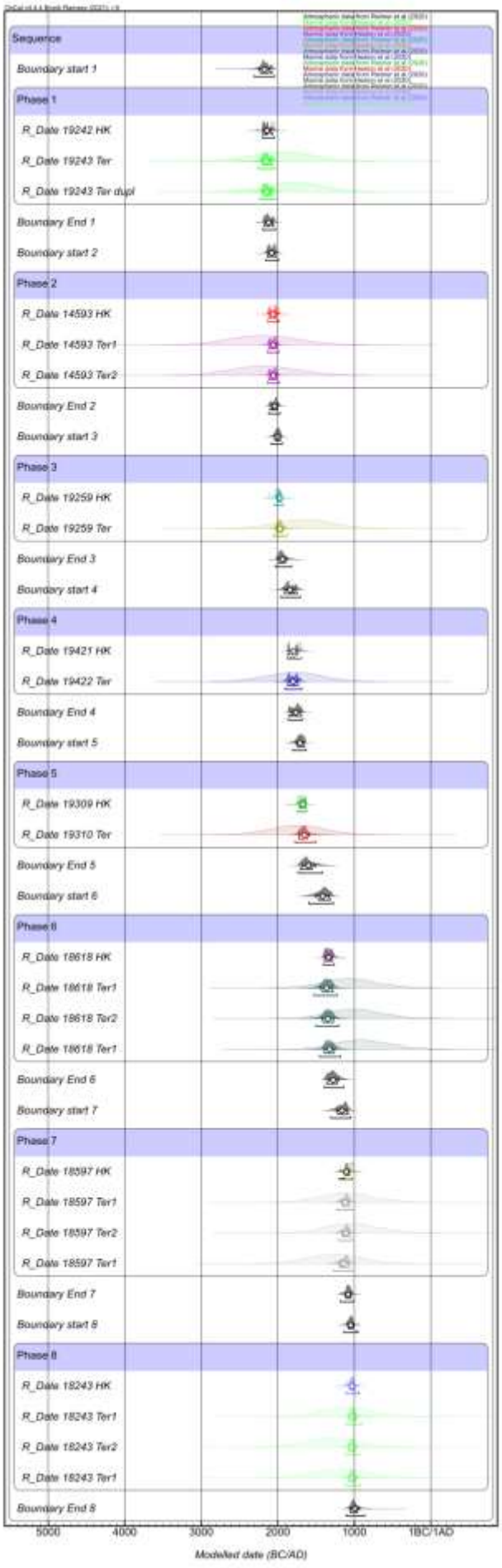
Hexaplex kuesterianus:

```
// Delta_R values updated for Marine20
 Plot()
 {
  Sequence()
  {
   Boundary("start 1");
   Phase("1")
   {
    Curve("Intcal20","Intcal20.14c");
    R_Date("19259 HK",3654,22);
    Curve("Marine20","Marine20.14c");
    Delta_R("19259_Hx",U(-300,300));
    R_Date("19261 Hx",4152,13);
   };
   Boundary("End 1");
   Boundary("start 2");
   Phase("2")
   {
```

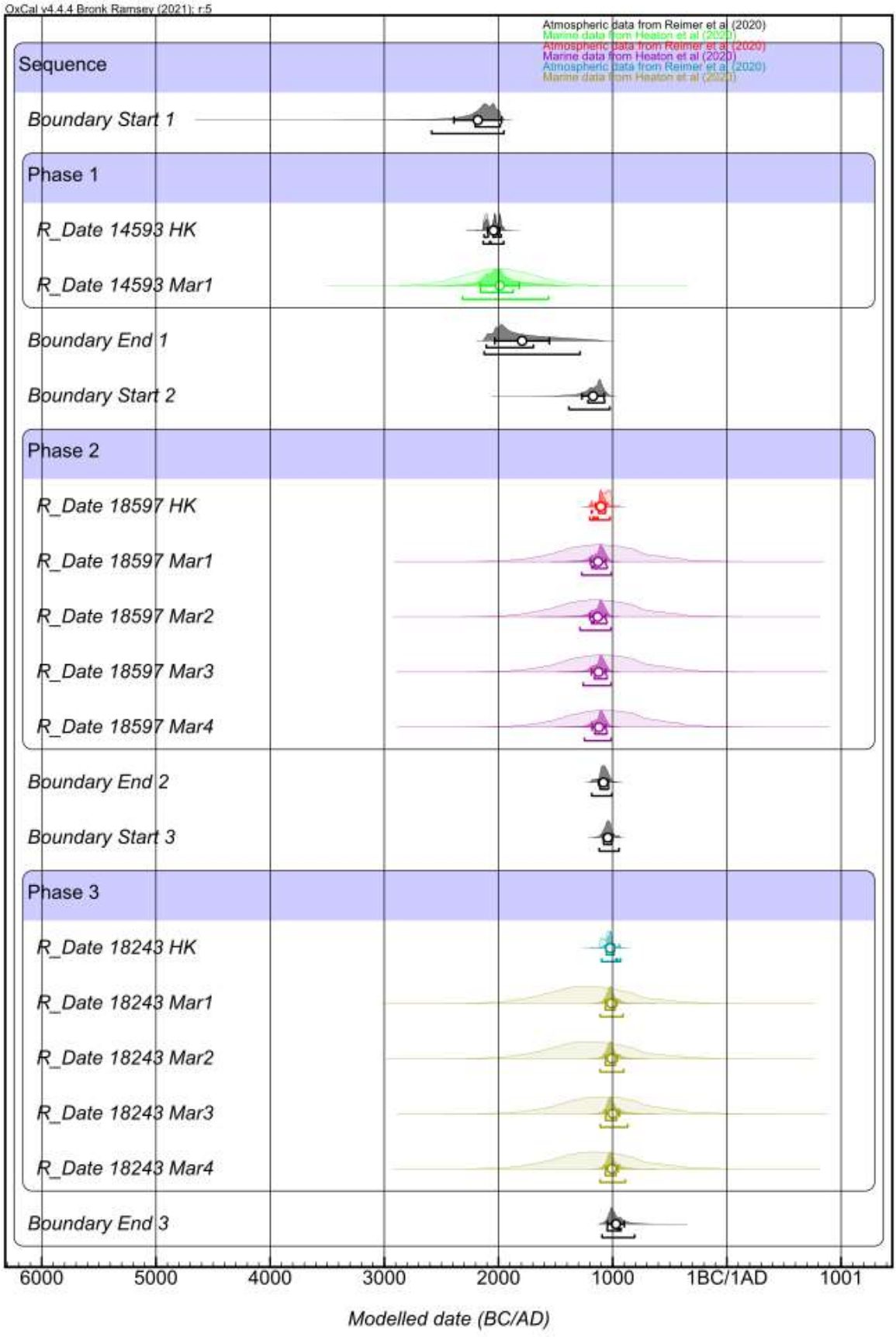
```
  Curve("Intcal20","Intcal20.14c");
  R_Date("19421 HK",3440,23);
  Curve("Marine20","Marine20.14c");
  Delta_R("19421_Hx",U(-300,300));
  R_Date("19443 Hx",3881,18);
 };
 Boundary("End 2");
 Boundary("start 3");
 Phase("2")
 {
  Curve("Intcal20","Intcal20.14c");
  R_Date("19309 HK",3409,21);
  Curve("Marine20","Marine20.14c");
  Delta_R("19309_Hx",U(-500,500));
  R_Date("19311 Hx",4109,16);
 };
 Boundary("End 3");
 Boundary("start 4");
 Phase("3")
 {
  Curve("Intcal20","Intcal20.14c");
  R_Date("18618 HK",3063,23);
  Curve("Marine20","Marine20.14c");
  Delta_R("18618_Hx",U(-300,300));
  R_Date("18618 Hx1",3428,21);
  R_Date("18618 Hx2",3482,22);
  R_Date("18618 Hx3",3457,20);
 };
 Boundary("End 4");
};
};
```

Multiplots of the models:

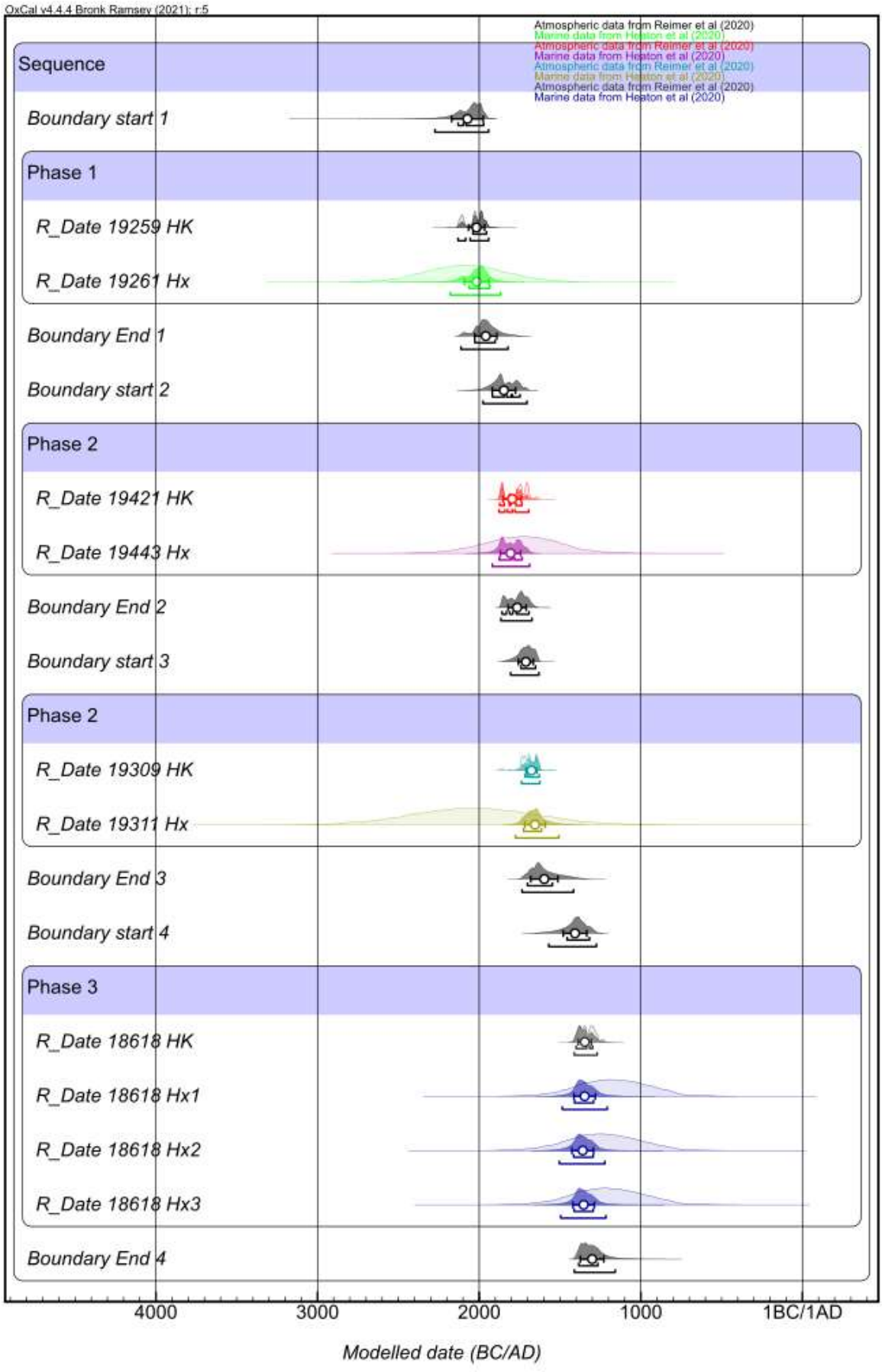
Terebralia palustris:


Sequence
Boundary start 1
Phase 1
R_Date 19242 HK
R_Date 19243 Ter
R_Date 19243 Ter dupl
Boundary End 1
Boundary start 2
Phase 2
R_Date 14593 HK
R_Date 14593 Ter1
R_Date 14593 Ter2
Boundary End 2
Boundary start 3
Phase 3
R_Date 19259 HK
R_Date 19259 Ter
Boundary End 3
Boundary start 4
Phase 4
R_Date 19421 HK
R_Date 19422 Ter
Boundary End 4
Boundary start 5
Phase 5
R_Date 19309 HK
R_Date 19310 Ter
Boundary End 5
Boundary start 6
Phase 6
R_Date 18618 HK
R_Date 18618 Ter1
R_Date 18618 Ter2
R_Date 18618 Ter1
Boundary End 6
Boundary start 7
Phase 7
R_Date 18597 HK
R_Date 18597 Ter1
R_Date 18597 Ter2
R_Date 18597 Ter1
Boundary End 7
Boundary start 8
Phase 8
R_Date 18243 HK
R_Date 18243 Ter1
R_Date 18243 Ter2
R_Date 18243 Ter1
Boundary End 8
5000
4000
3000
2000
1000
1BC/1AD
Modelled date (BC/AD)

Marcia sp.:

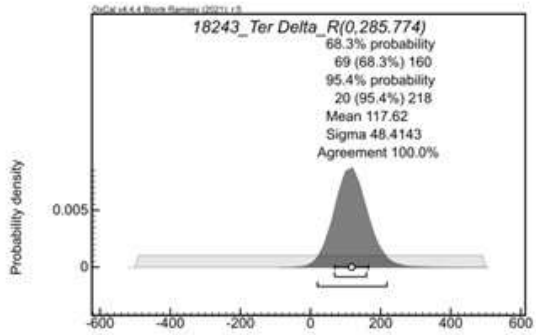


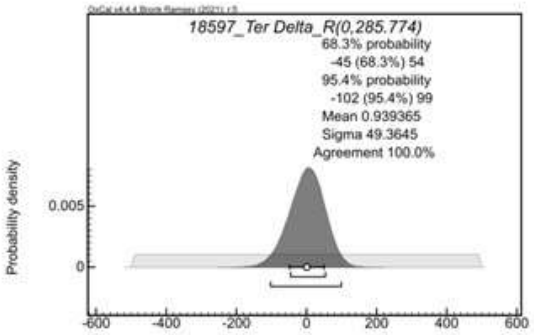
Hexaplex kuesterianus:

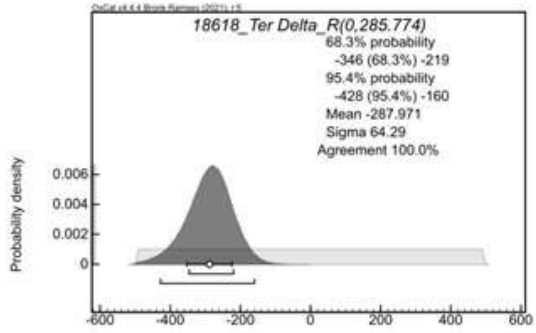


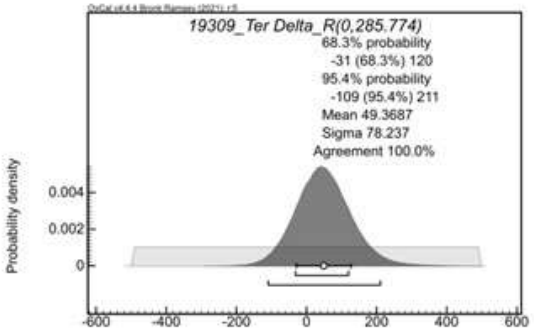
Delta R Plots of the respective models:

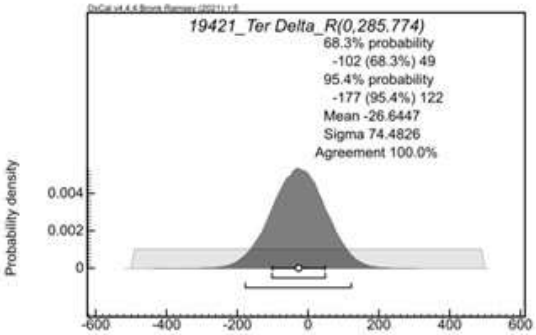
Terebralia palustris:

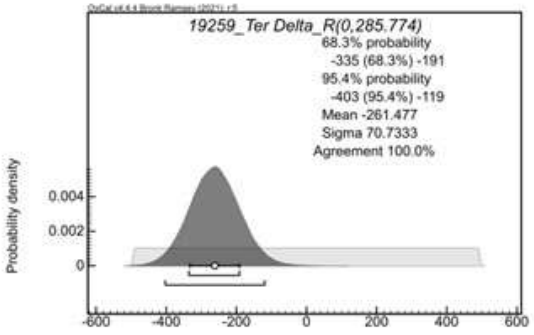


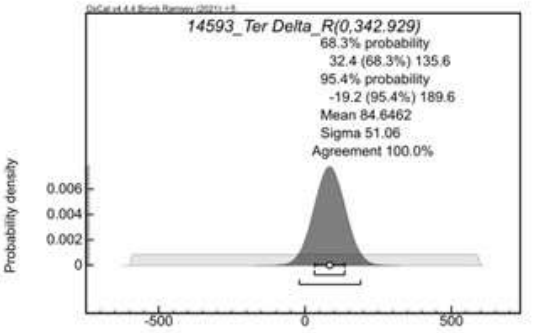


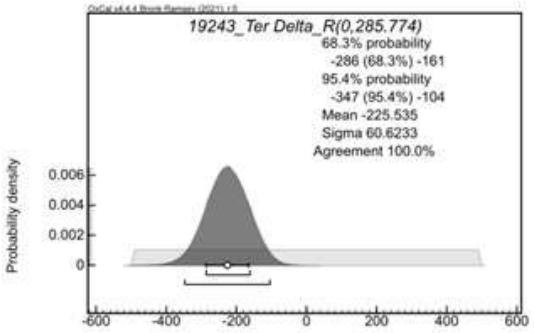




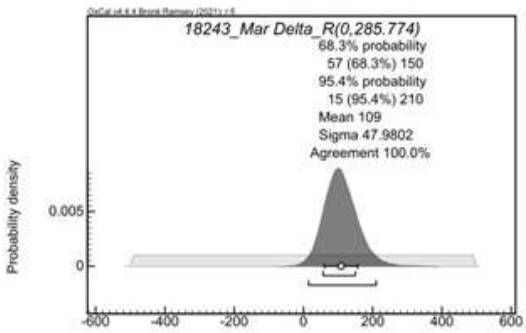


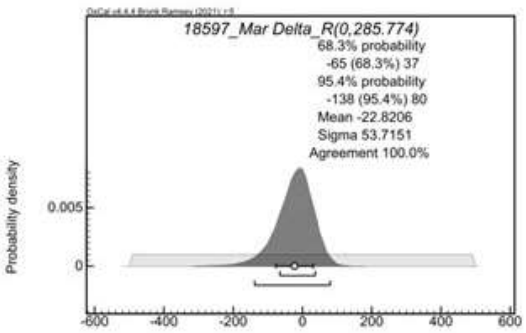


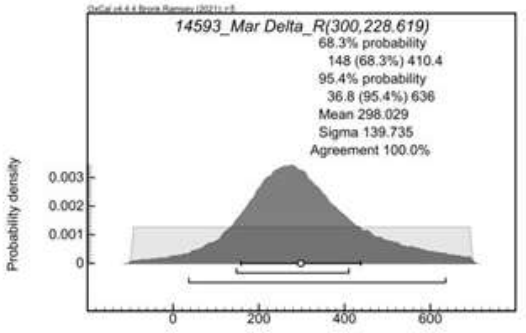




Marcia sp.:







Hexaplex kuesterianus: