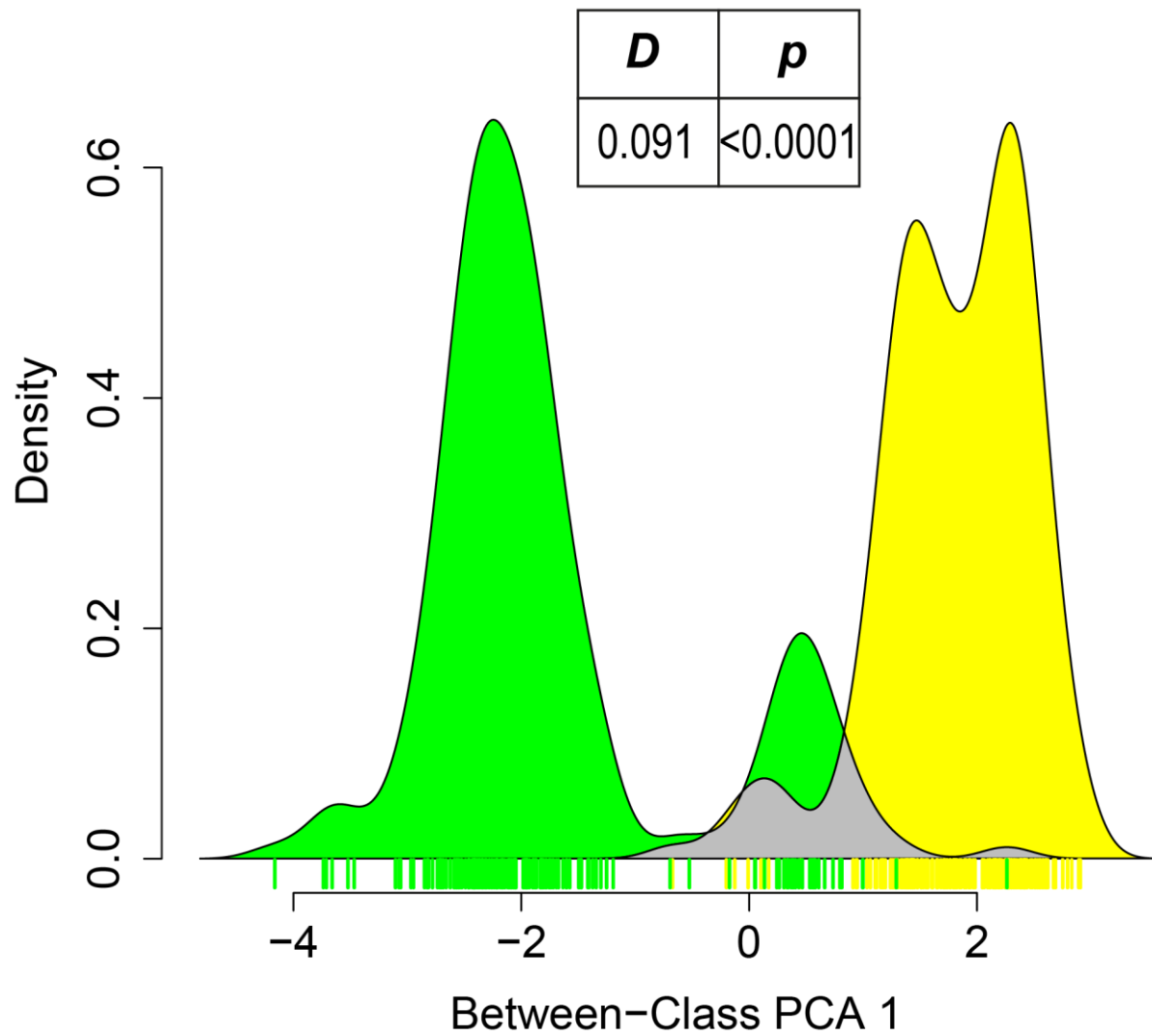
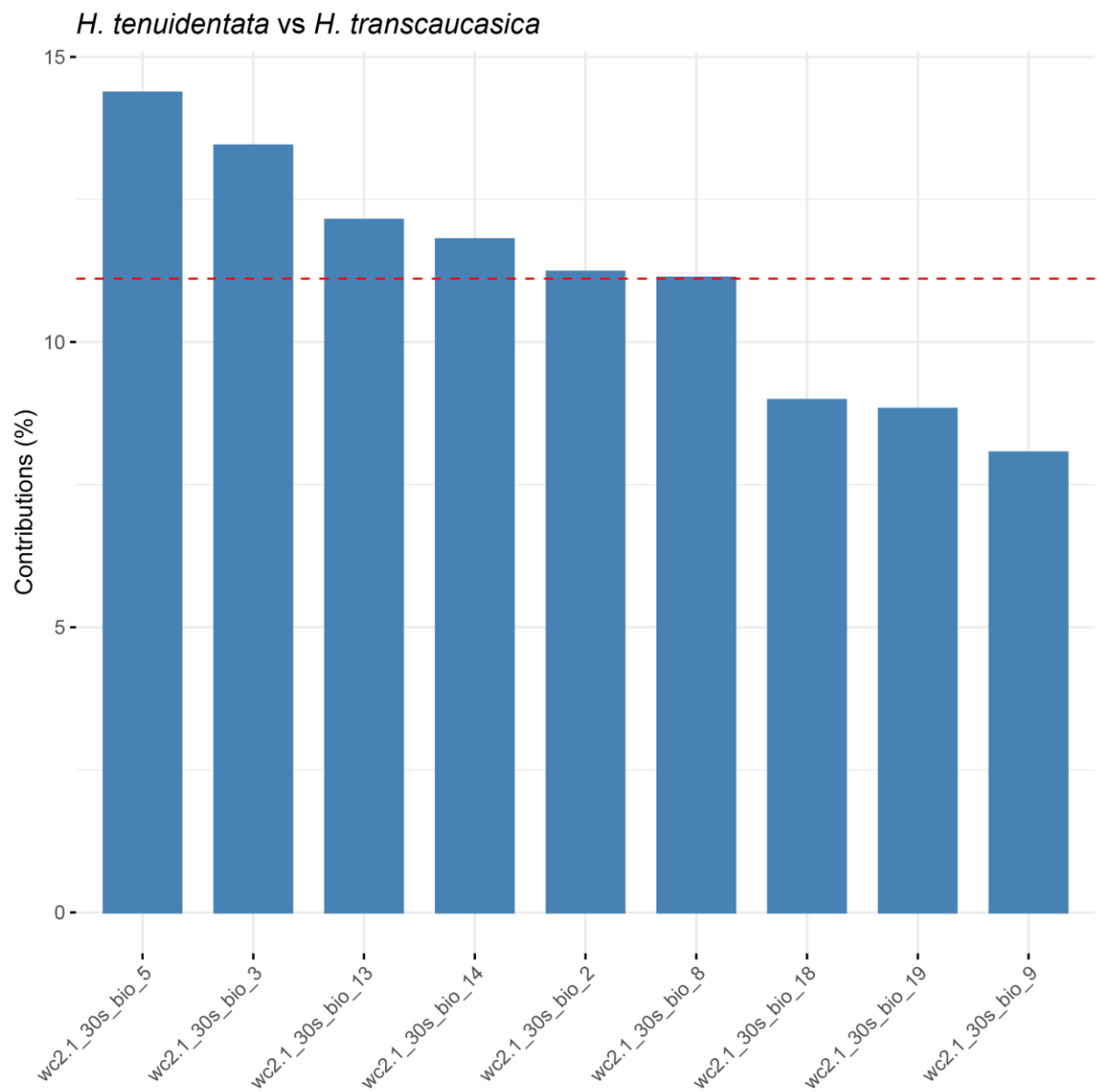


*H. tenuidentata* vs *H. transcaucasica*

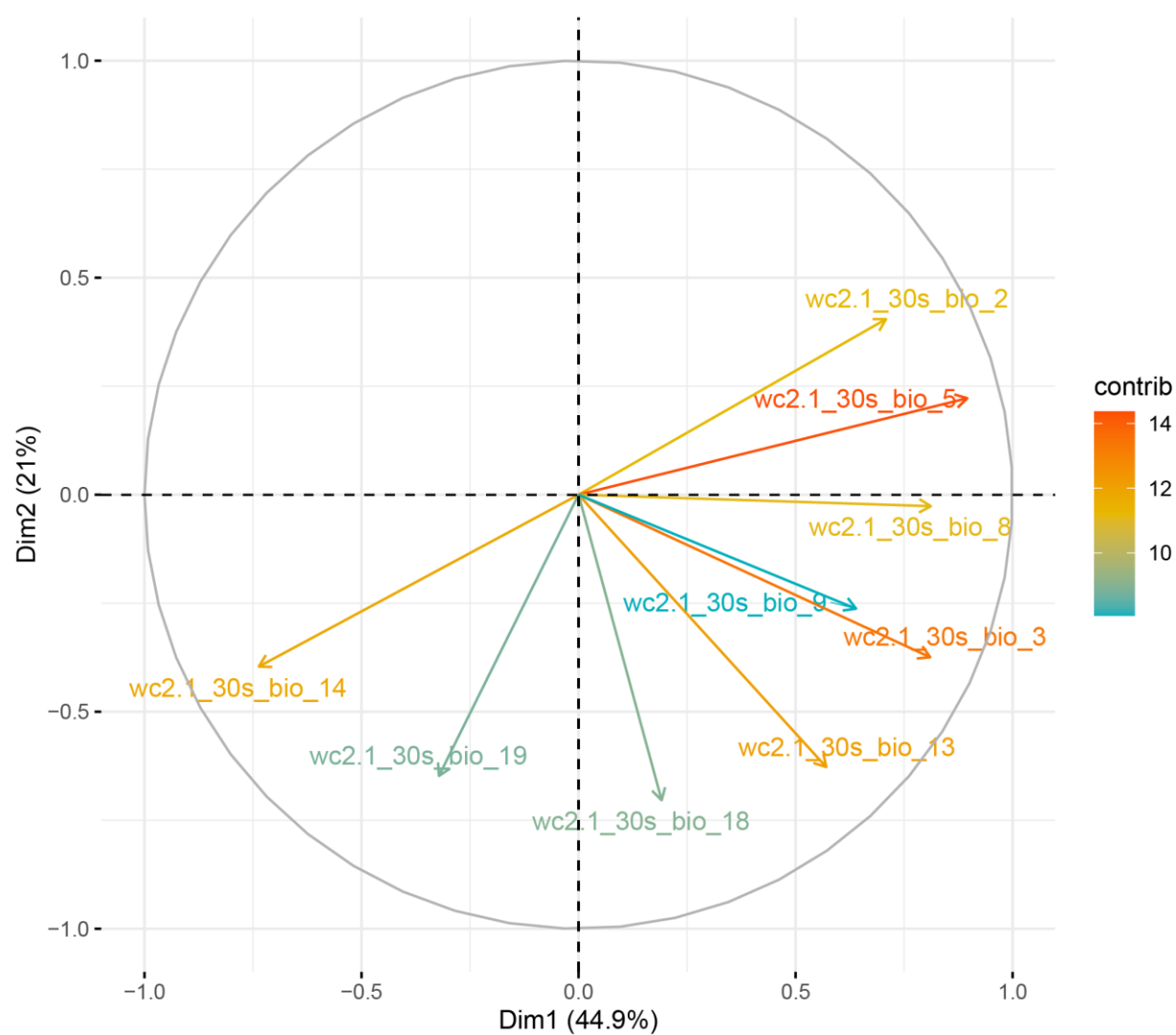


**Supplementary Figure 1.** Niche comparison between *H. tenuidentata sensu stricto* and *H. transcaucasica sensu stricto*. Green: *H. tenuidentata*. Yellow: *H. transcaucasica*. Grey: niche overlap.

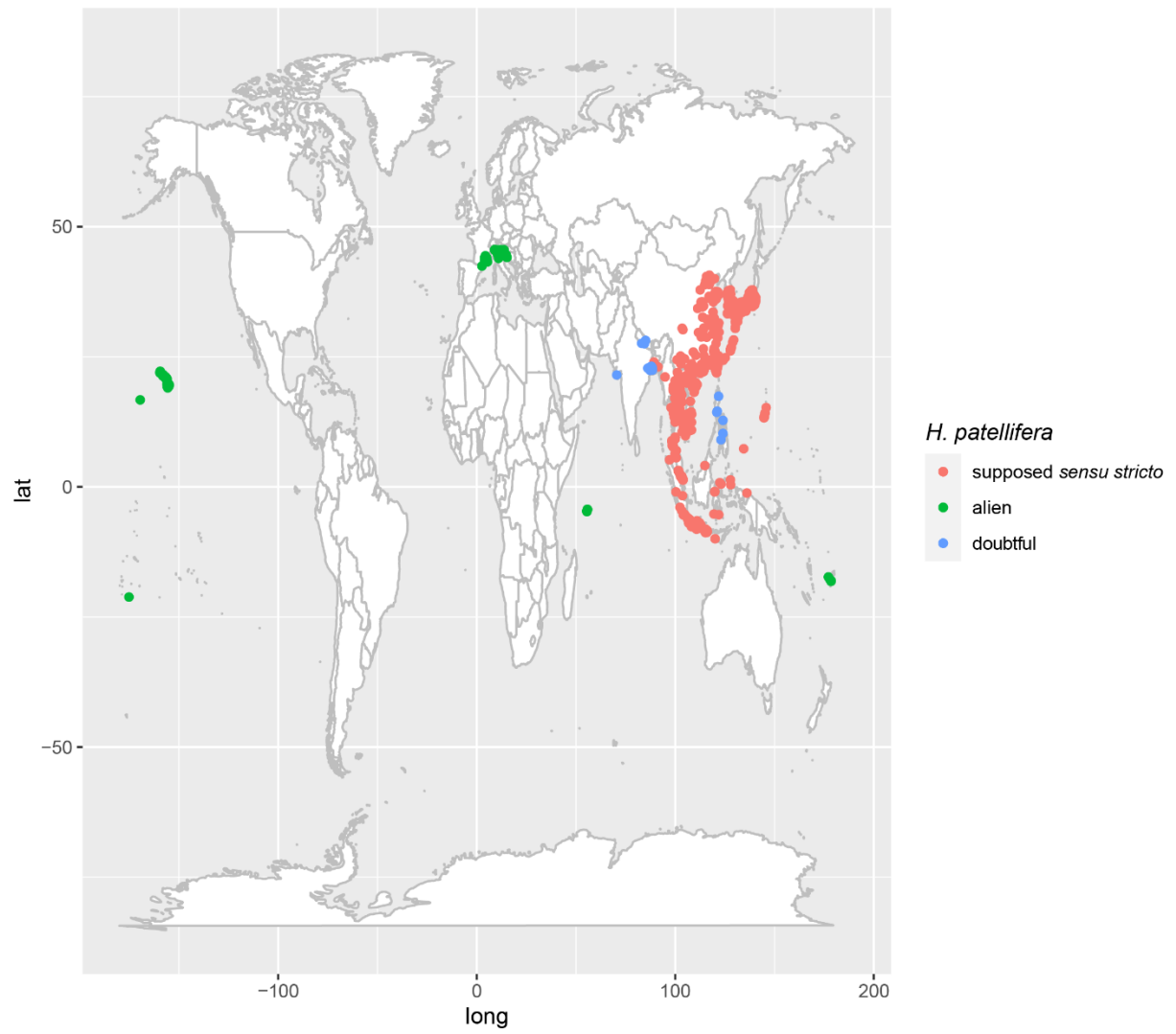


**Supplementary Figure 2.** Metrics' importance for the PCA between *H. tenuidentata* and *H. transcaucasica*.

*H. tenuidentata* vs *H. transcaucasica*  
Variables – PCA

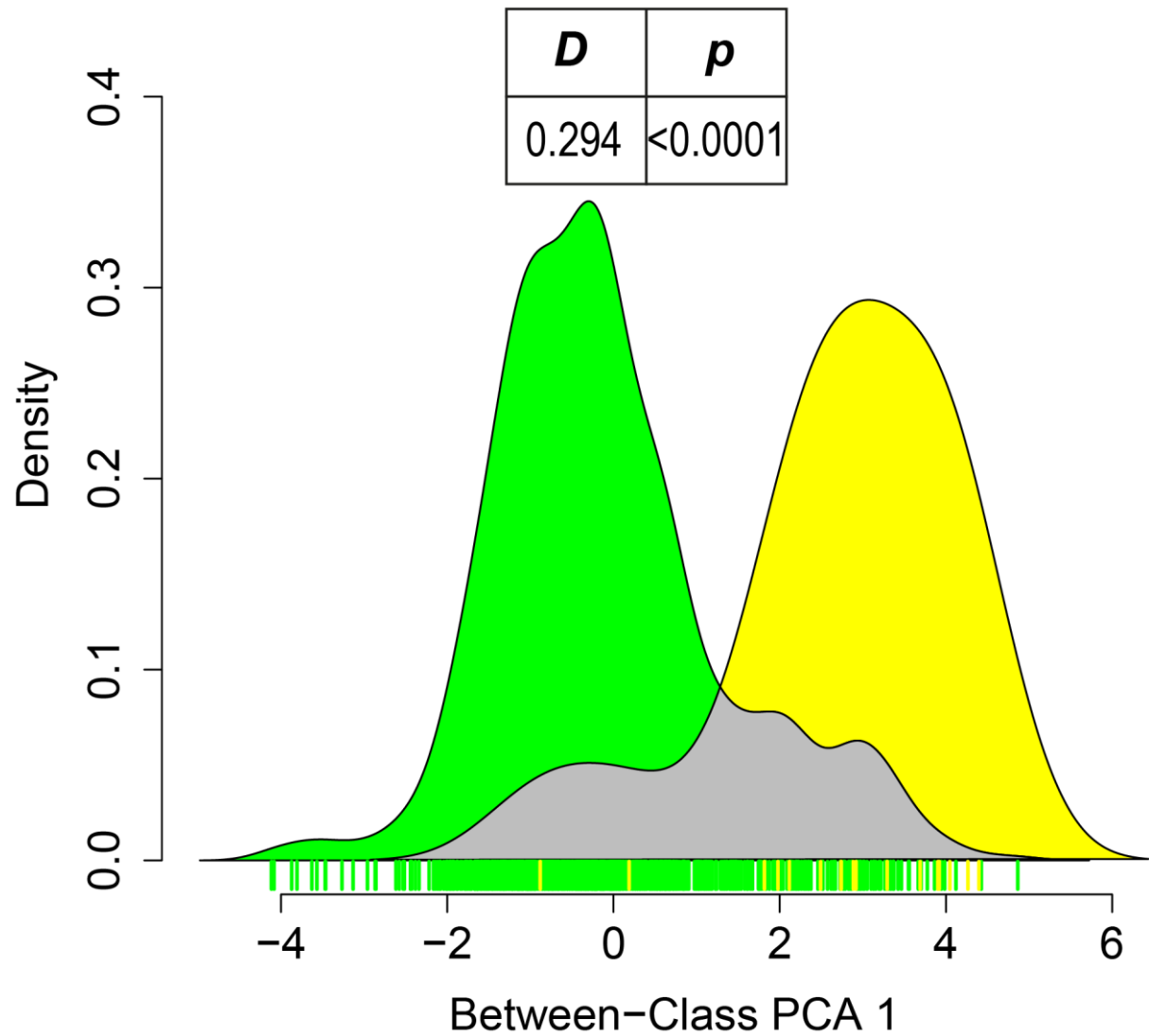


**Supplementary Figure 3.** First two PCs for the PCA between *H. tenuidentata* and *H. transcaucasica*.

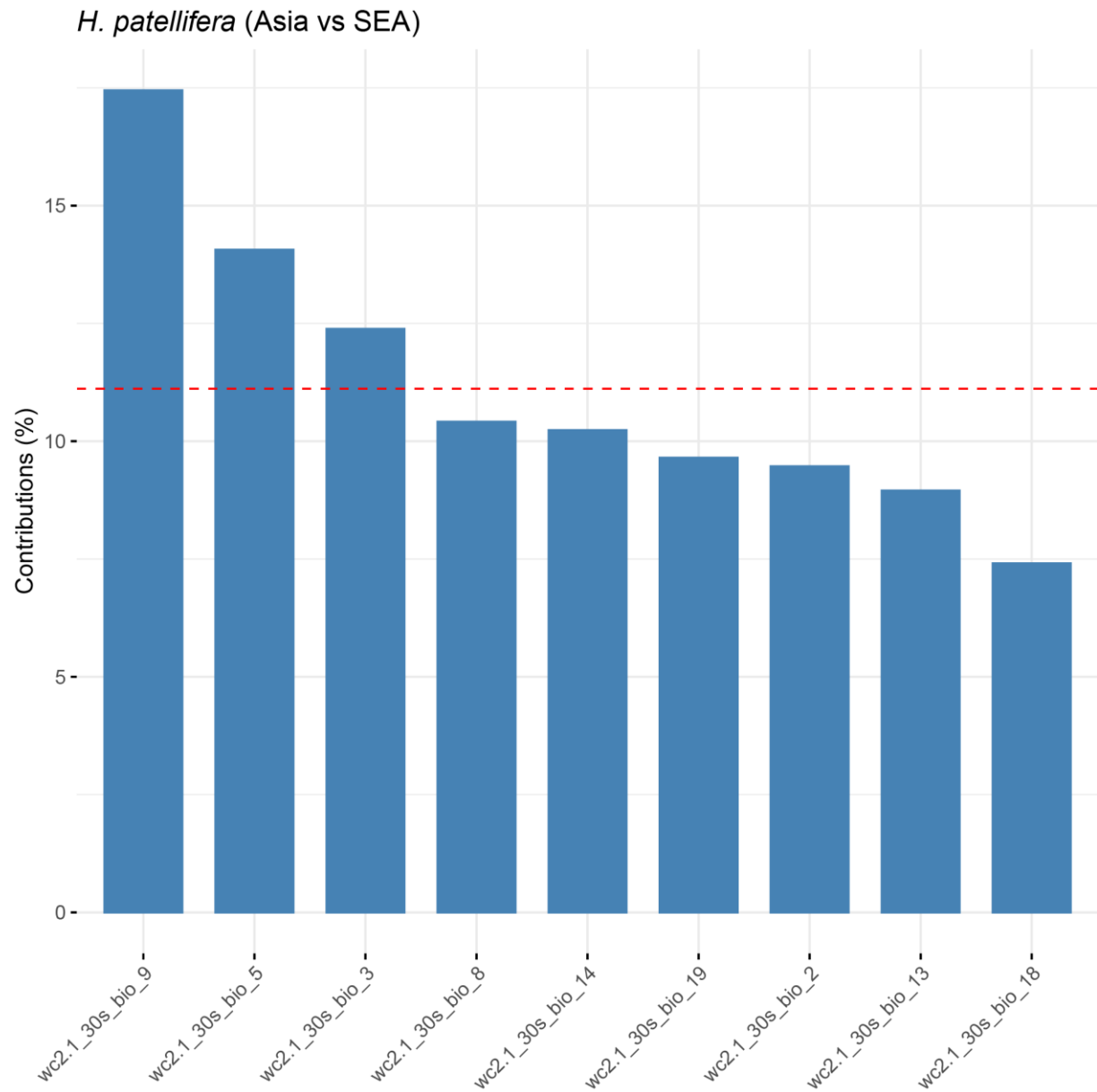


**Supplementary Figure 4.** Presence records used in the analyses for *H. patellifera*.

***H. patellifera* (Asia vs SEA)**



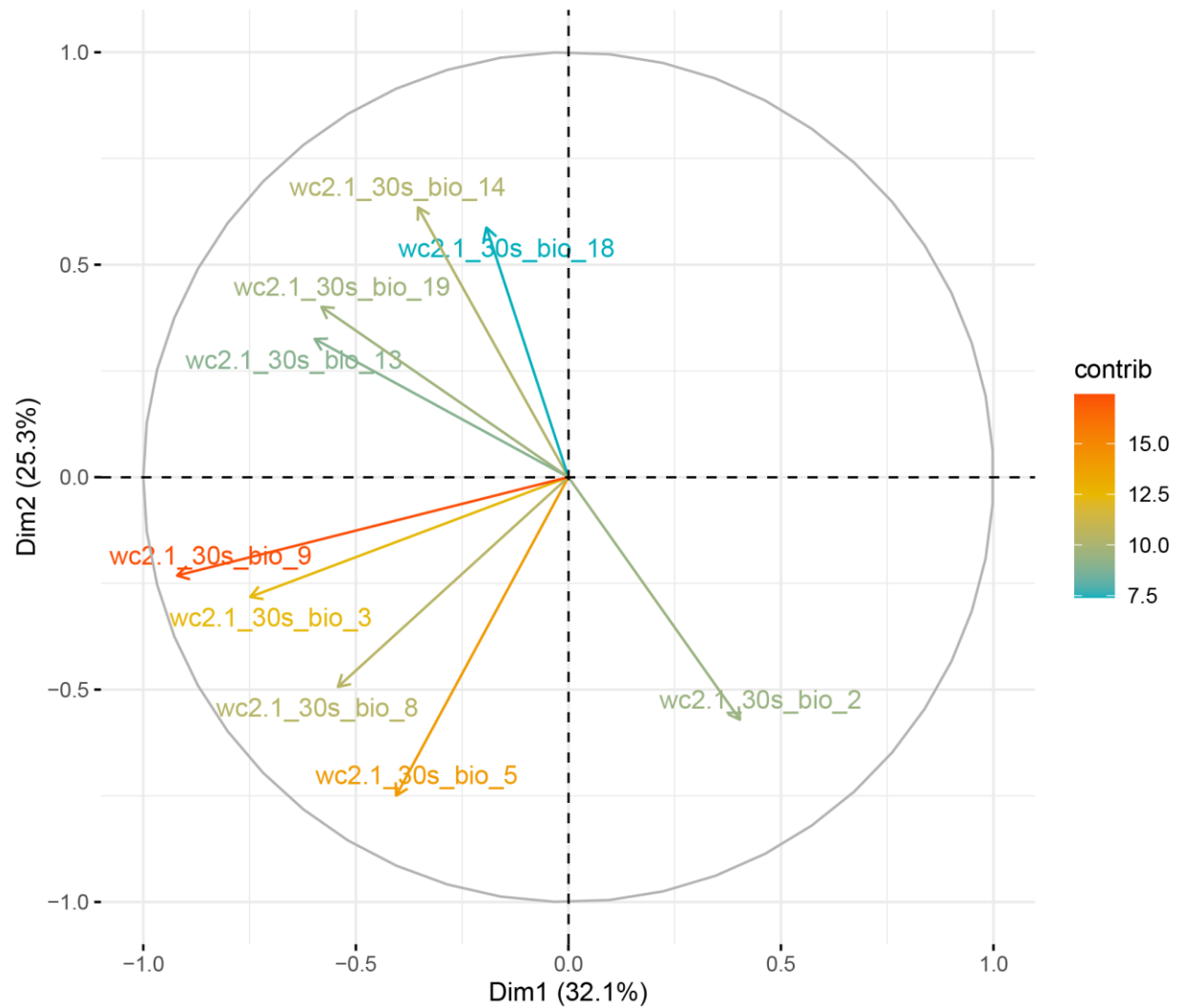
**Supplementary Figure 5.** Niche comparison between dubious *H. patellifera* and the rest of the known distribution. Green: rest of the distribution. Yellow: dubious points. Grey: niche overlap.



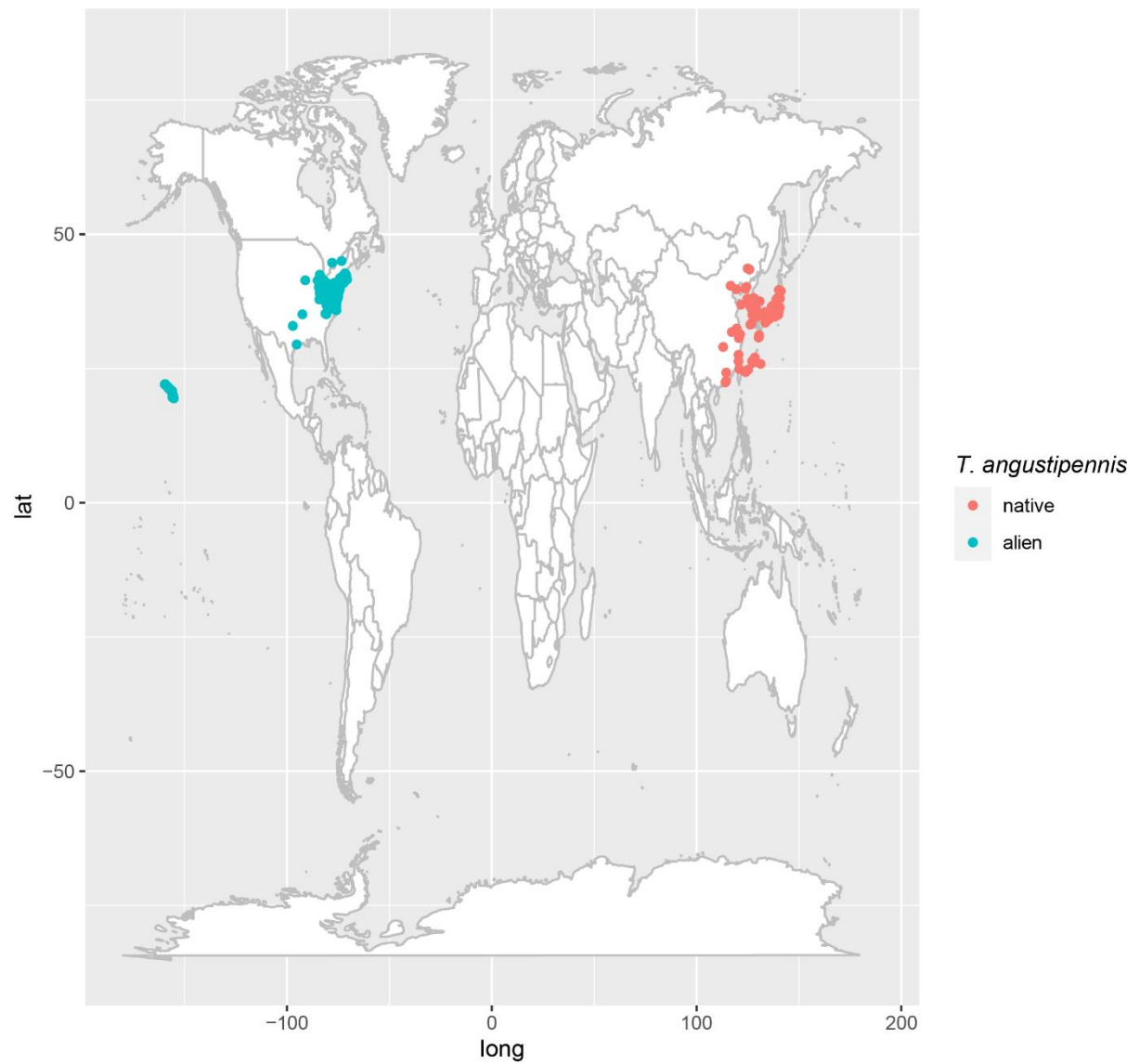
**Supplementary Figure 6.** Metrics' importance for the PCA between dubious *H. patellifera* and the rest of the known distribution.

*H. patellifera* (Asia vs SEA)

Variables – PCA

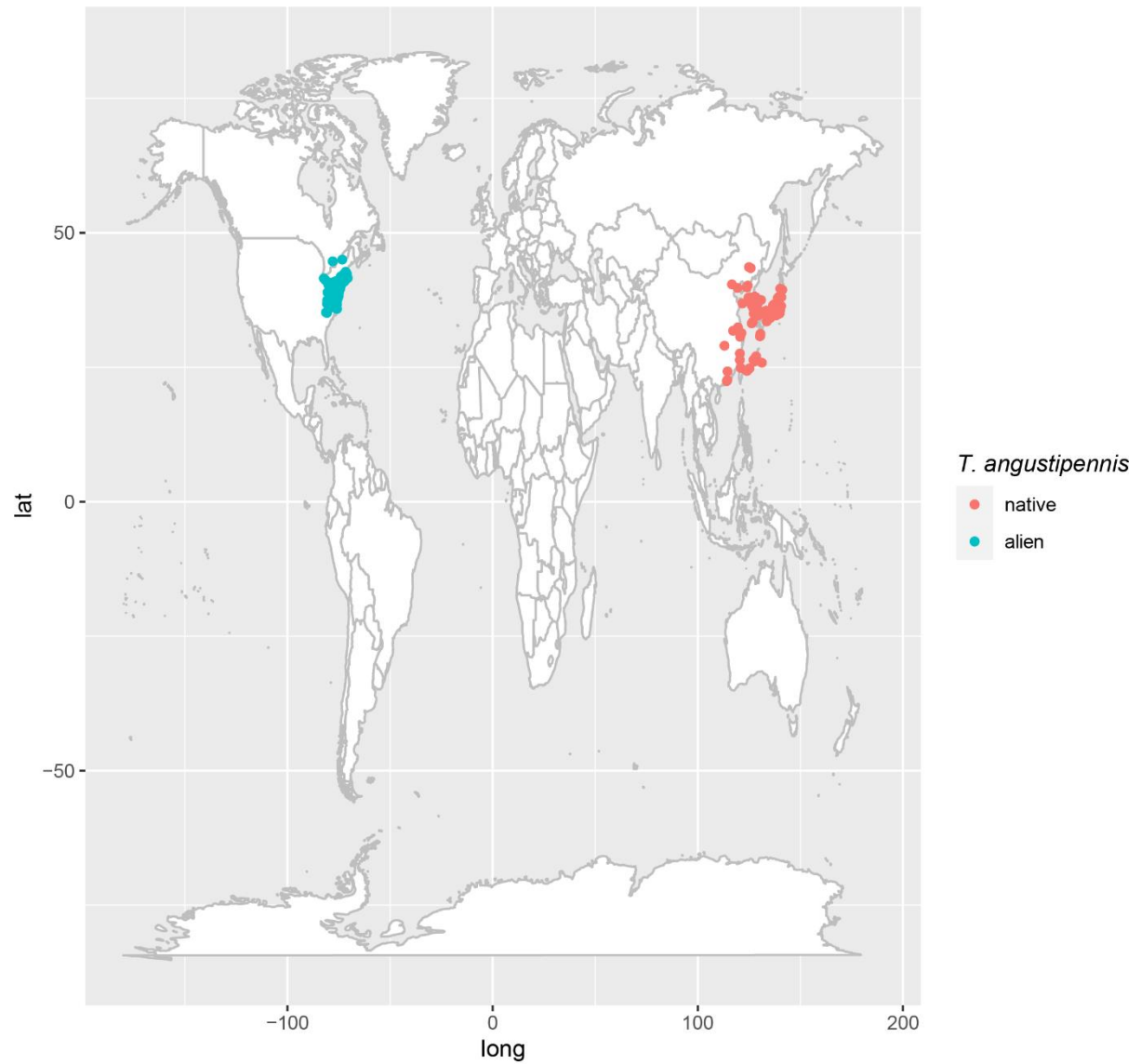


**Supplementary Figure 7.** First two PCs for the PCA between dubious *H. patellifera* and the rest of the known distribution.

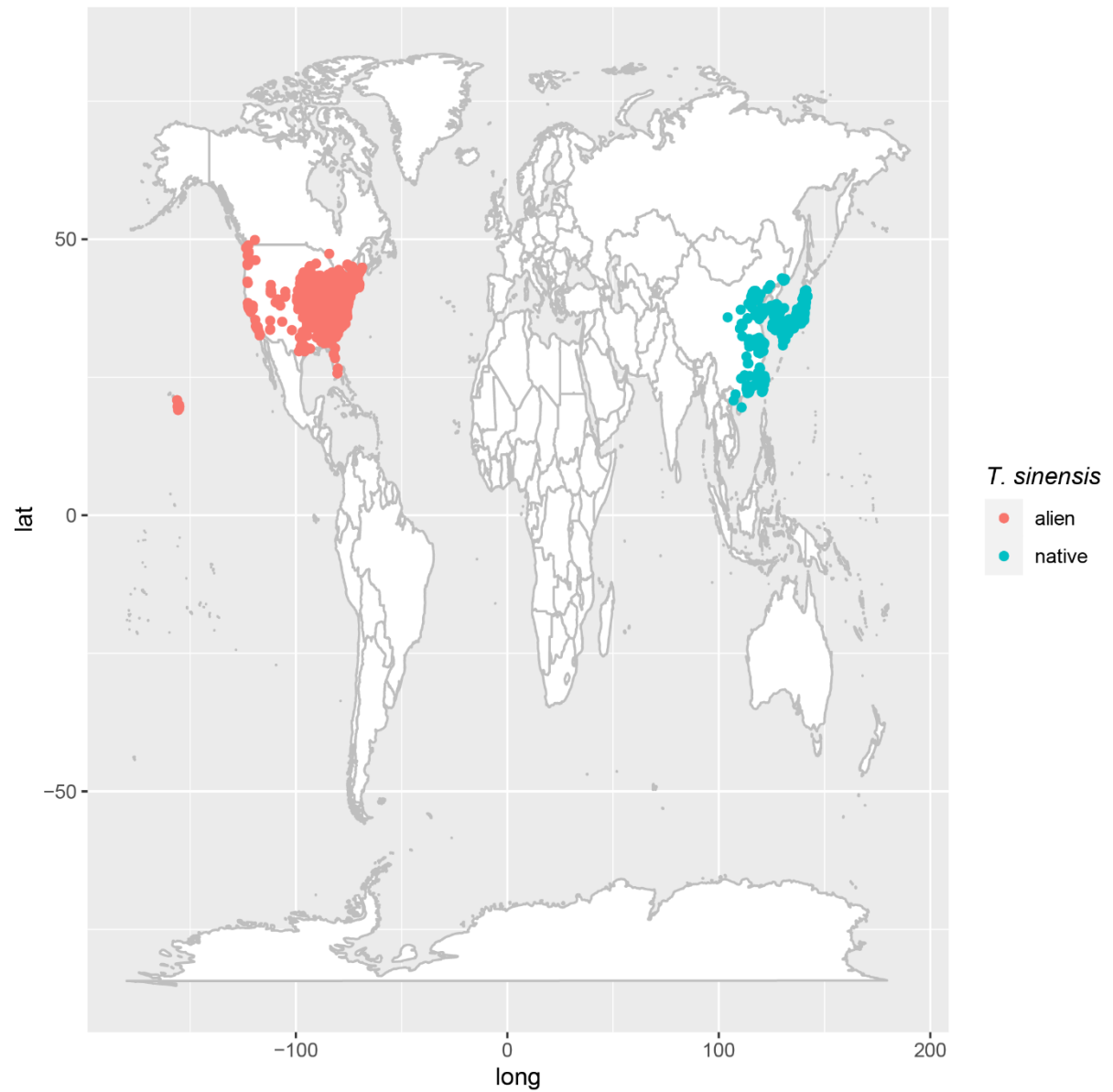


**Supplementary Figure 8.** Presence records used in the analyses for *T. angustipennis* with the full dataset.

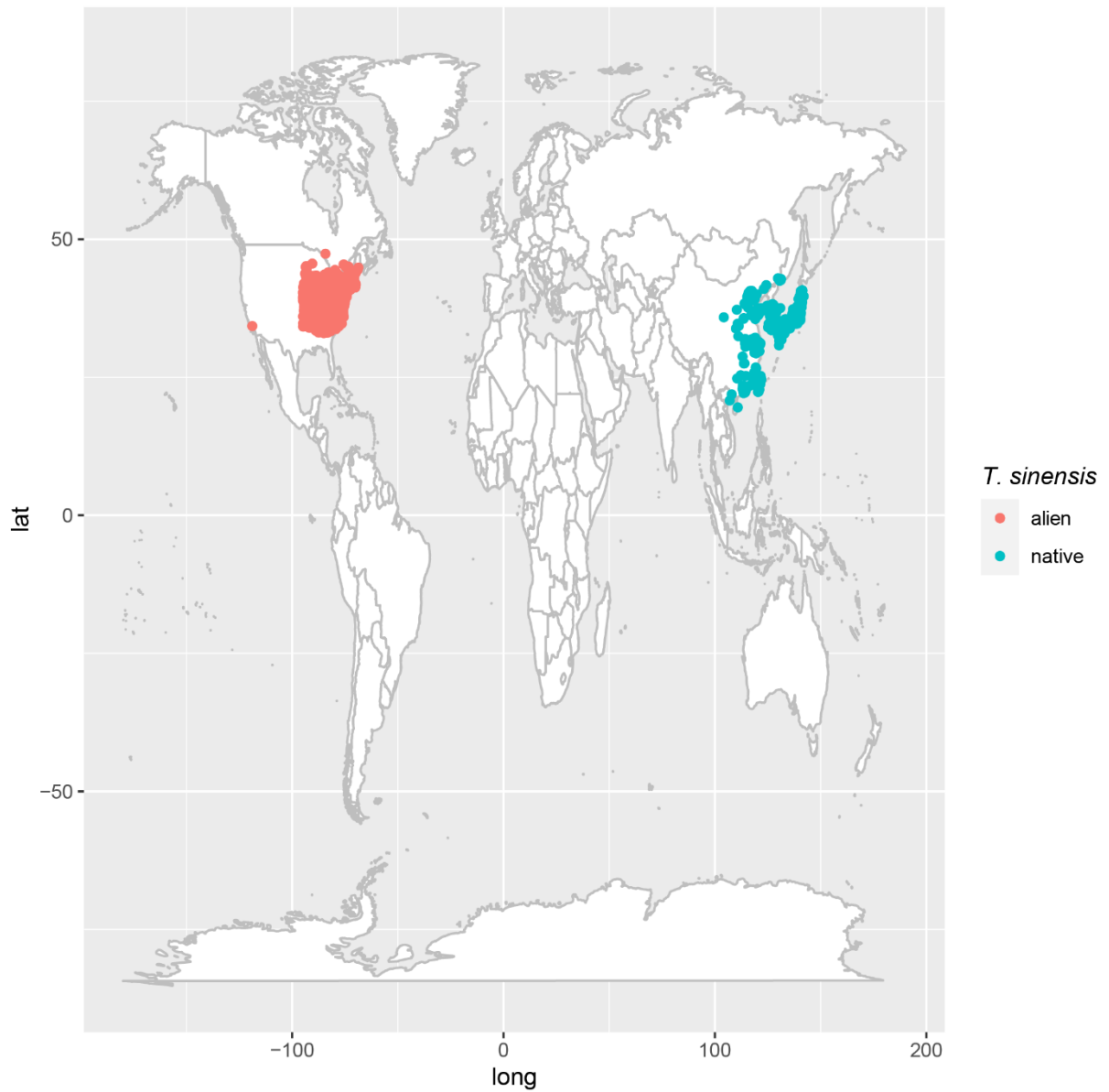




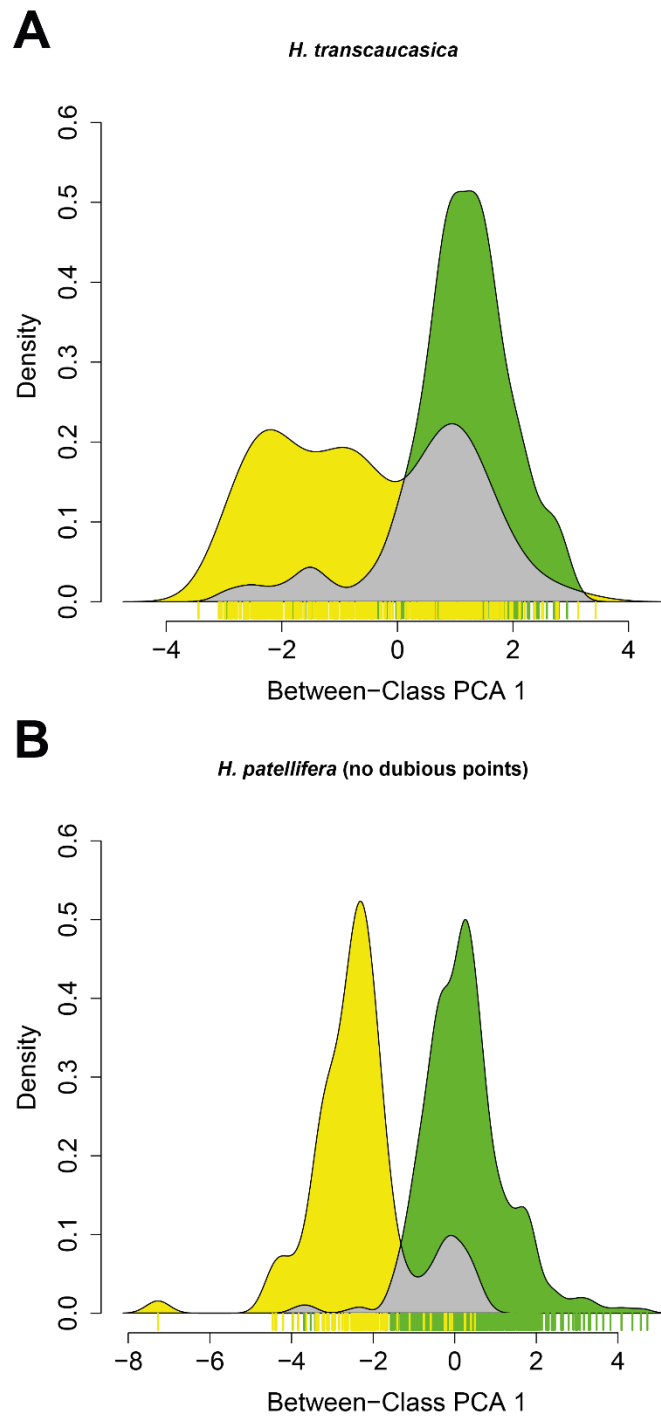
**Supplementary Figure 9.** Presence records used in the analyses for *T. angustipennis* with the trimmed points.



**Supplementary Figure 10.** Presence records used in the analyses for *T. sinensis* with the full dataset.

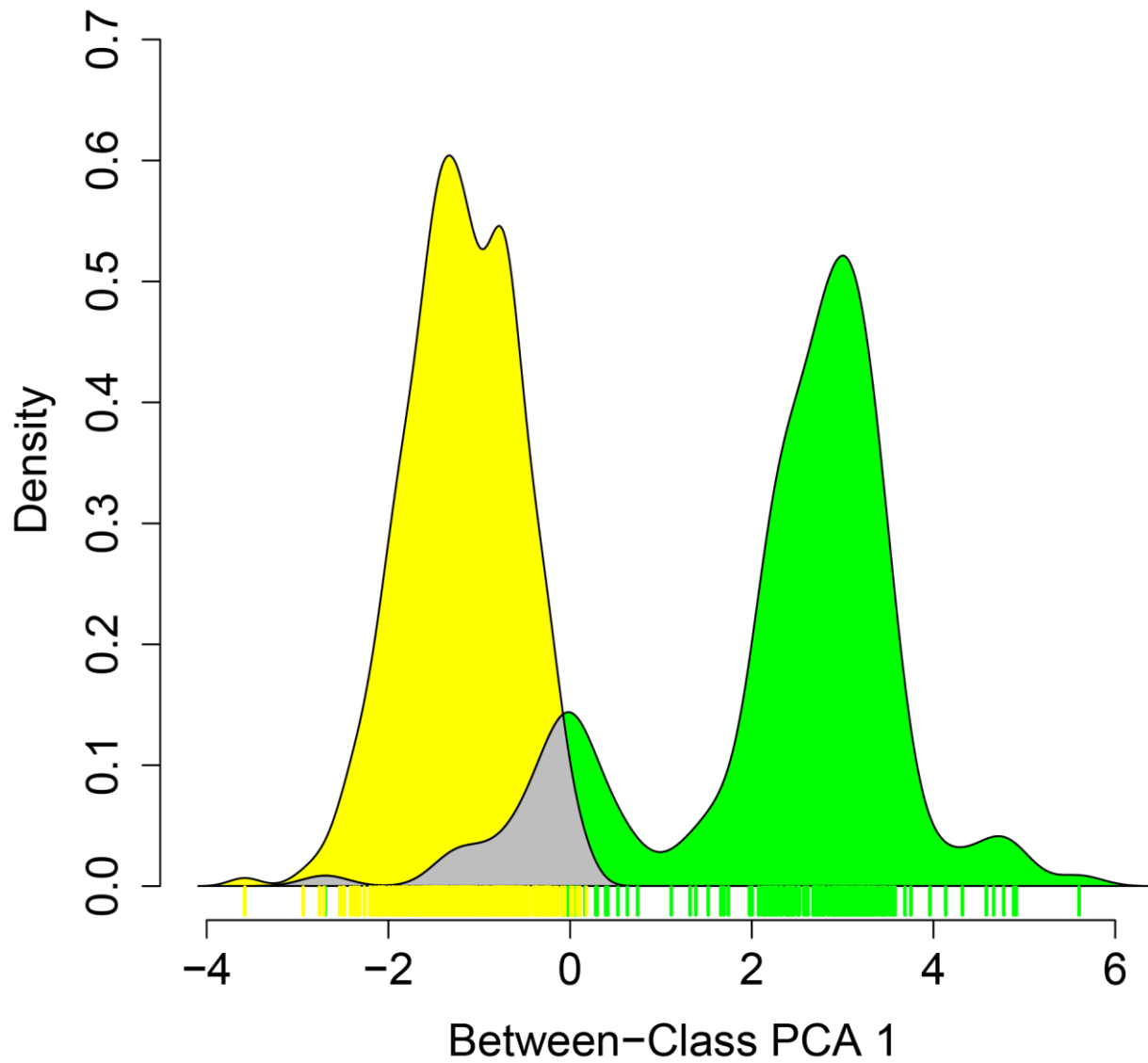


**Supplementary Figure 11.** Presence records used in the analyses for *T. sinensis* with the trimmed points. The single point in California represents Ventura County (see Anderson 2019).



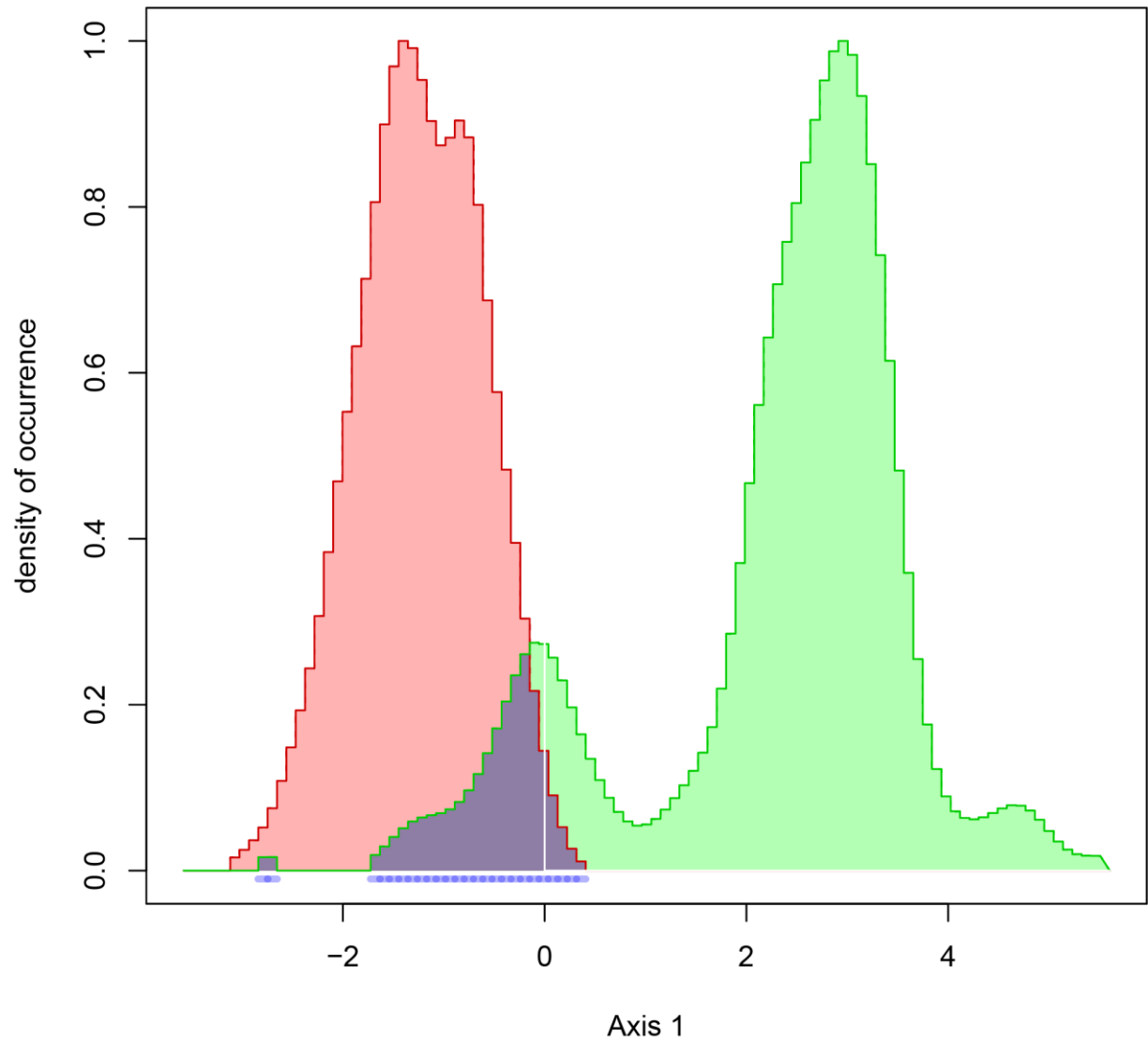
**Supplementary Figure 12.** Intra-species analyses for the niche overlap in *Hierodula* species. A. Results for *H. transcaucasica* sensu stricto; B. Results for *H. patellifera* without dubious points. Yellow: alien niche. Green: native niche. Grey: overlap between native and alien niche. D and p values are in Table 1.

*H. tenuidentata sensu stricto*



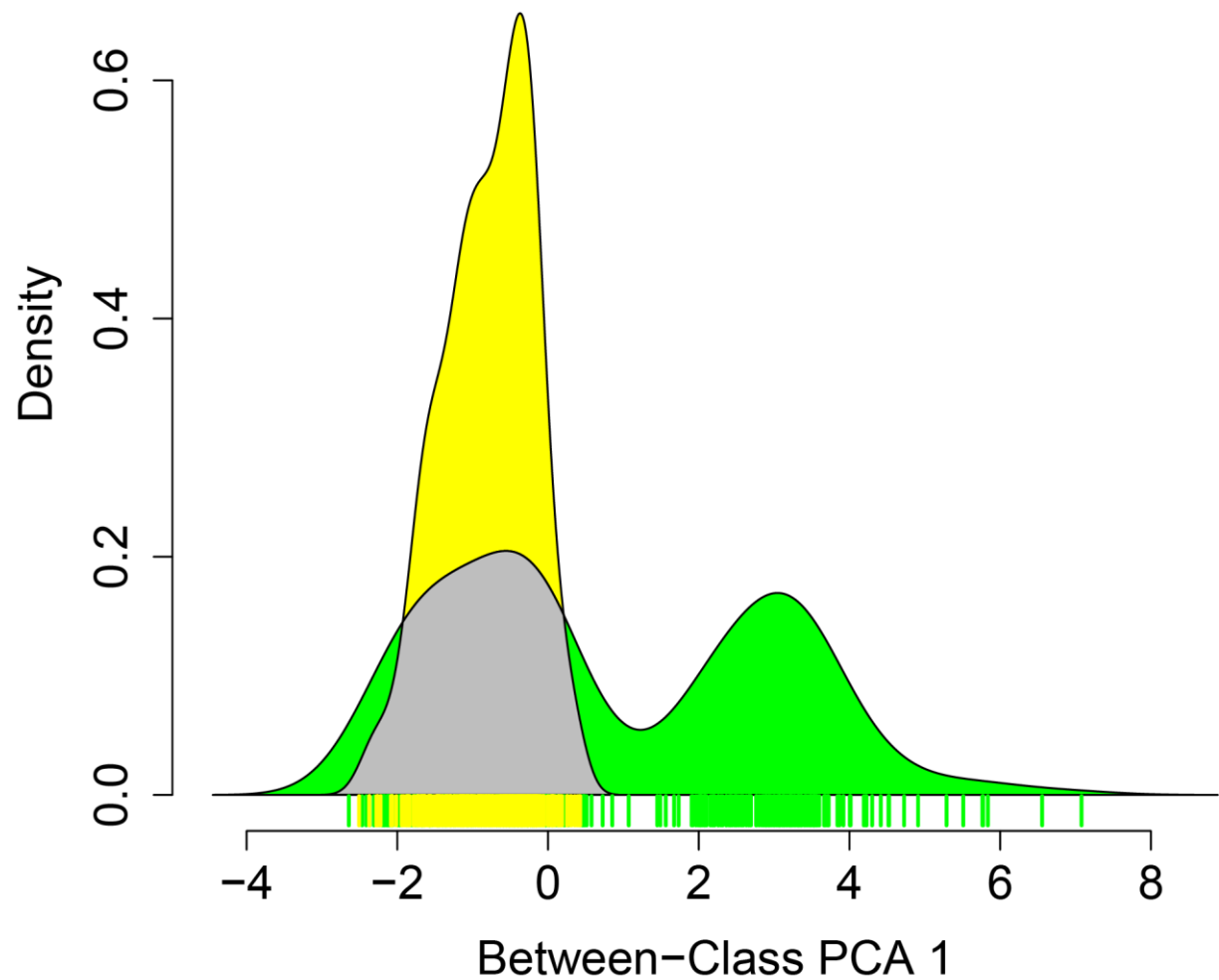
**Supplementary Figure 13.** Intra-species analyses for *H. tenuidentata sensu stricto*. Yellow: alien niche. Green: native niche. Grey: niche overlap. *D* and *p* values are in Table 1.

## *H. tenuidentata sensu stricto*



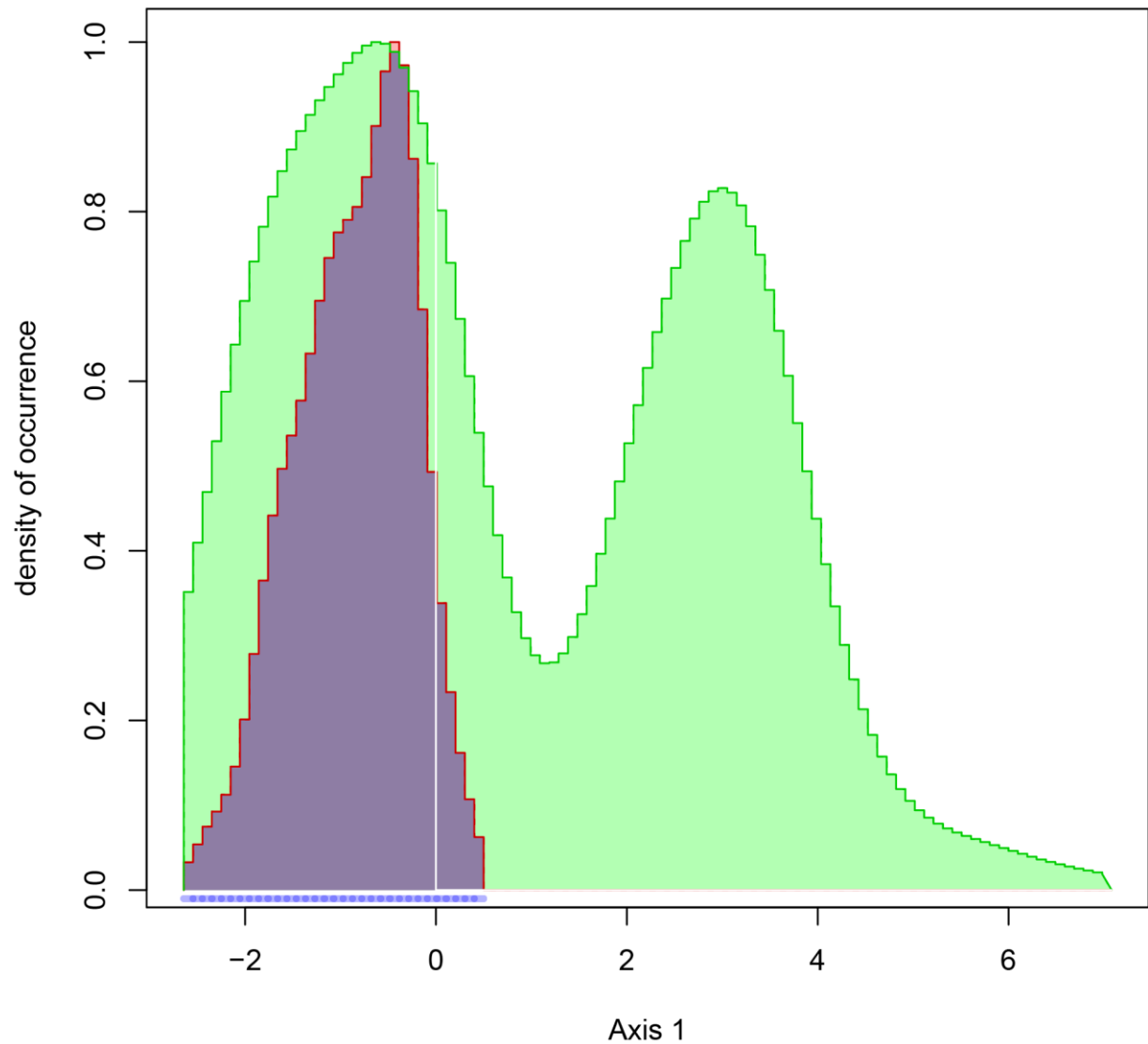
**Supplementary Figure 14.** Intra-species niche dynamics analyses for *H. tenuidentata sensu stricto*. Blue: niche stability. Red: niche expansion. Green: unfilling. *U* and *E* values are in Table 1.

***H. tenuidentata sensu* Battiston et al. (2018)**



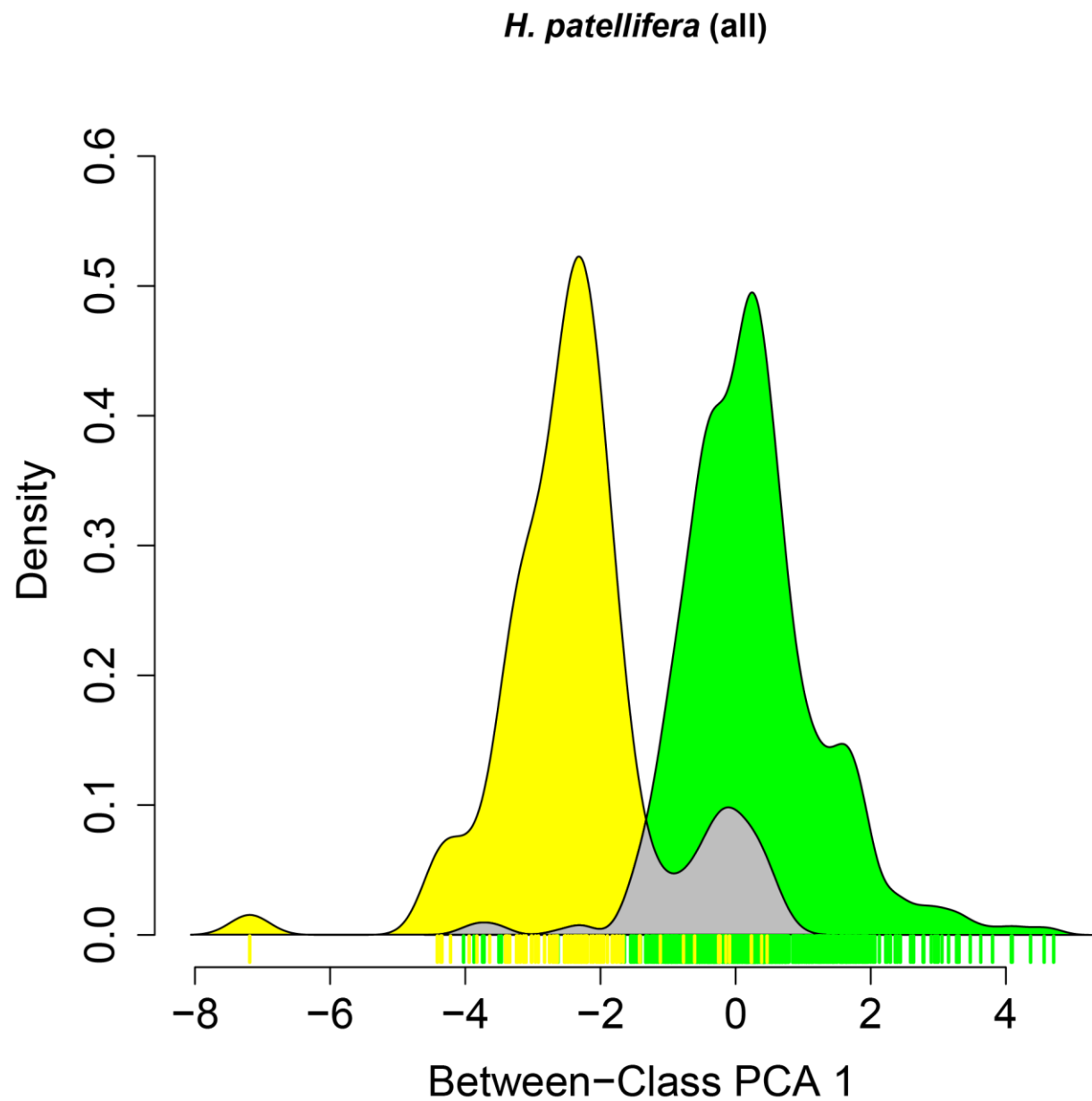
**Supplementary Figure 15.** Intra-species analyses for *H. tenuidentata sensu* Battiston et al. (2018). Yellow: alien niche. Green: native niche. Grey: niche overlap. *D* and *p* values are in Table 1.

## *H. tenuidentata sensu* Battiston et al. (2018)



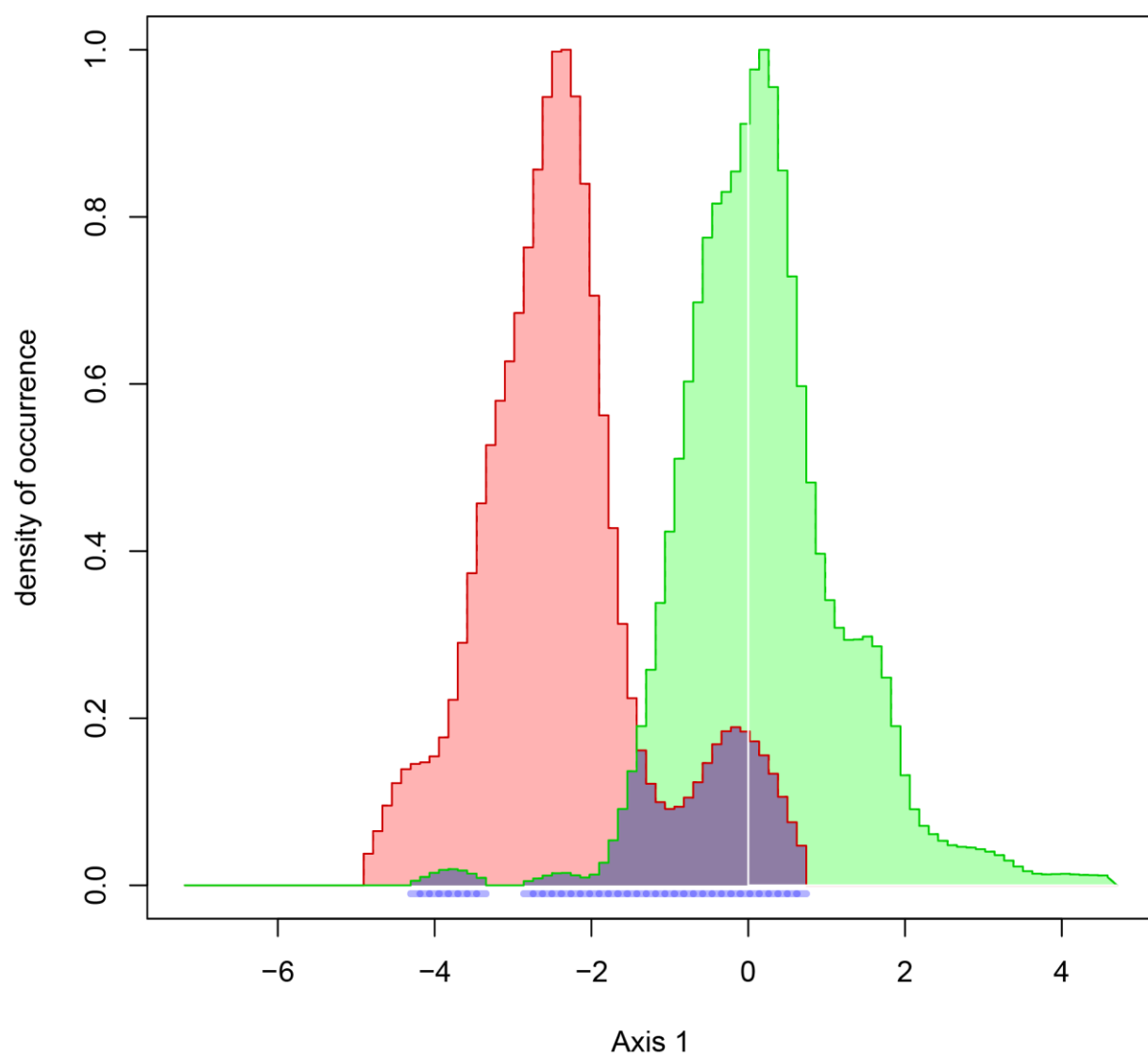
**Supplementary Figure 16.** Intra-species niche dynamics analyses for *H. tenuidentata sensu* Battiston et al. (2018). Blue: niche stability. Red: niche expansion. Green: unfilling. *U* and *E* values are in Table 1.



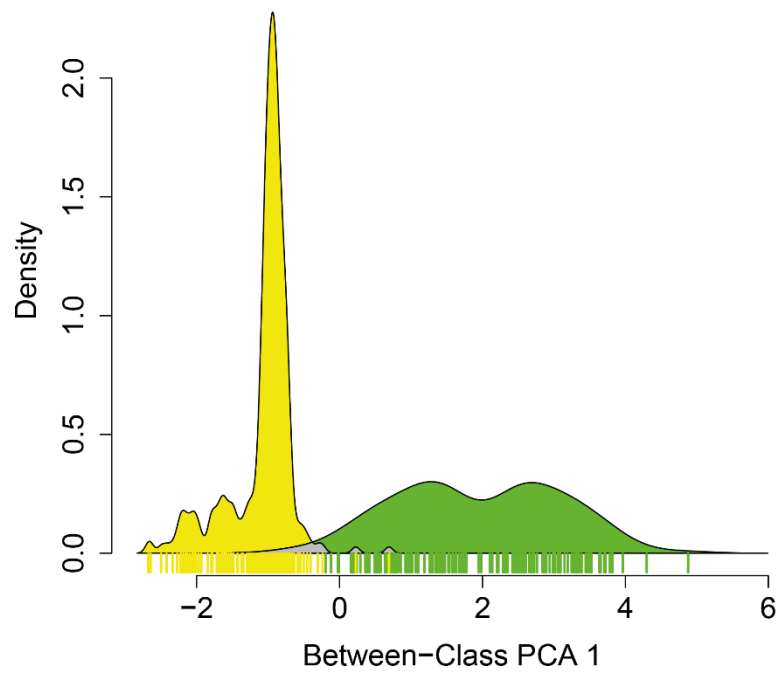
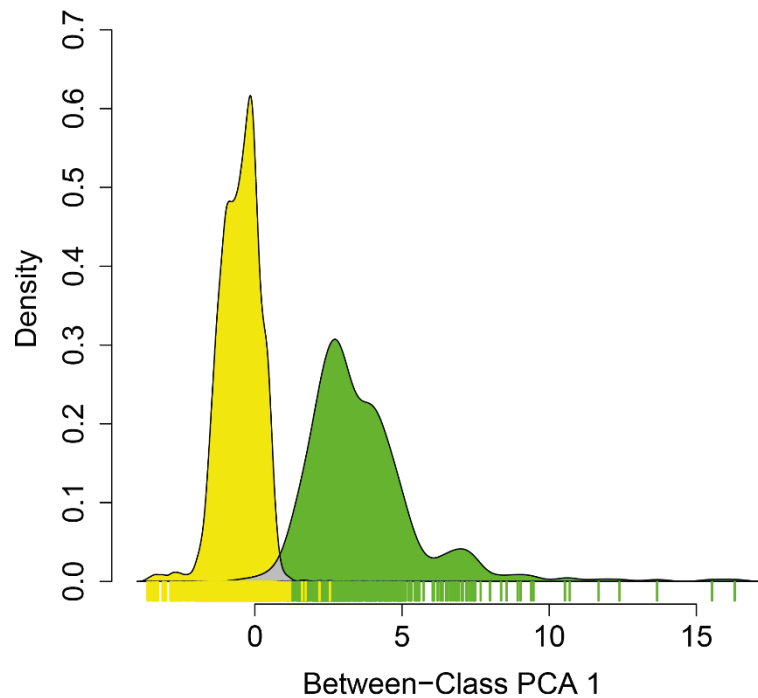


**Supplementary Figure 17.** Intra-species analyses for the full *H. patellifera* dataset. Yellow: alien niche. Green: native niche. Grey: niche overlap. *D* and *p* values are in Table 1.

## *H. patellifera* (all)

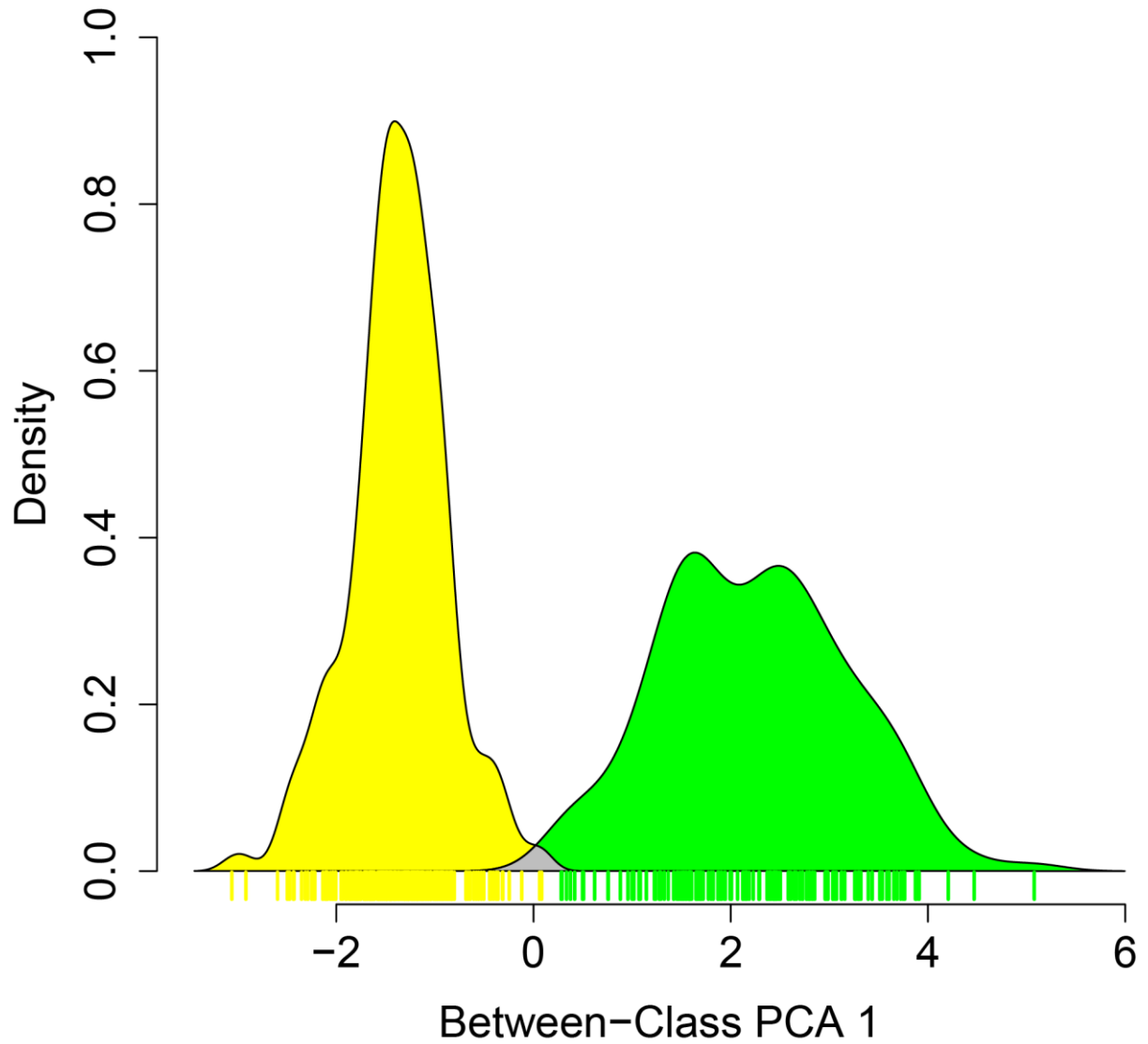


**Supplementary Figure 18.** Intra-species niche dynamics analyses for the *full H. patellifera* dataset. Blue: niche stability. Red: niche expansion. Green: unfilling. *U* and *E* values are in Table 1.

**A***T. angustipennis* (all)**B***T. sinensis* (all)

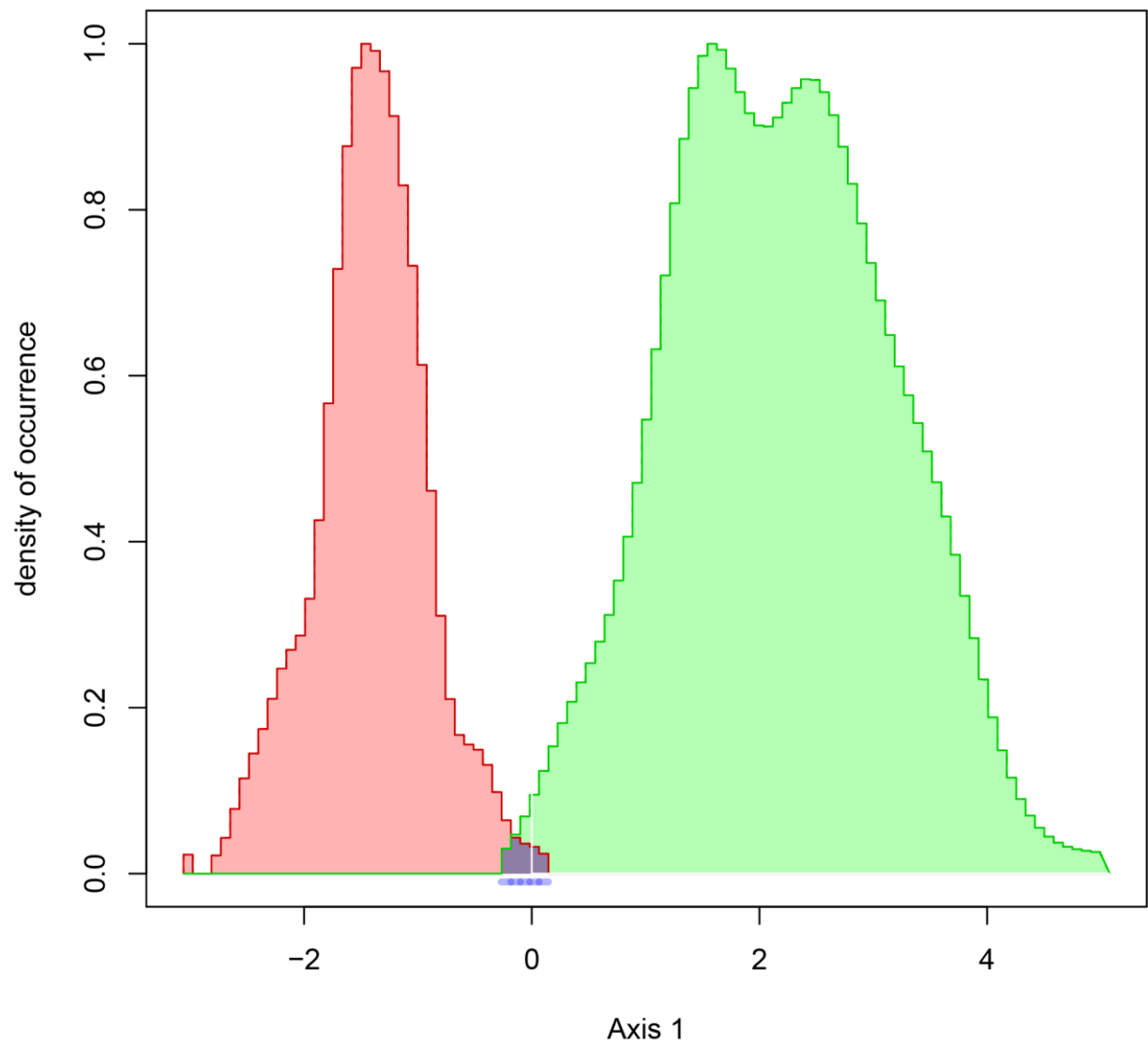
**Supplementary Figure 19.** Intra-species analyses for the niche overlap in *Tenodera* species with the full dataset. A. results for *T. angustipennis*; B. Results for *T. sinensis*. Yellow: alien niche. Green: native niche. Grey: overlap between native and alien niche. D and p values are in Table 1.

*T. angustipennis* (Anderson 2019)



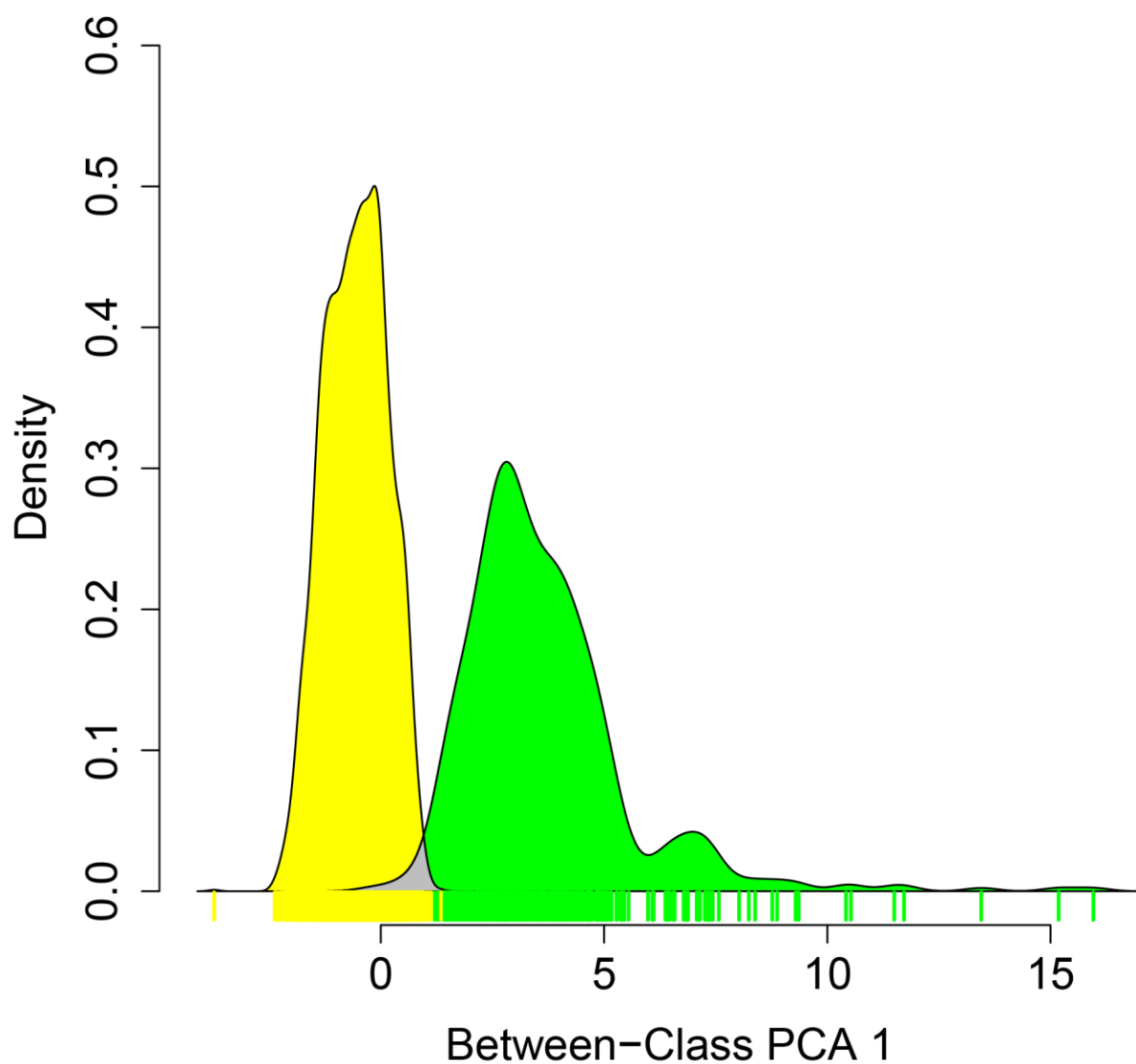
**Supplementary Figure 20.** Intra-species analyses for *T. angustipennis* with the trimmed dataset. Yellow: alien niche. Green: native niche. Grey: niche overlap. *D* and *p* values are in Table 1.

## *T. angustipennis* (Anderson 2019)



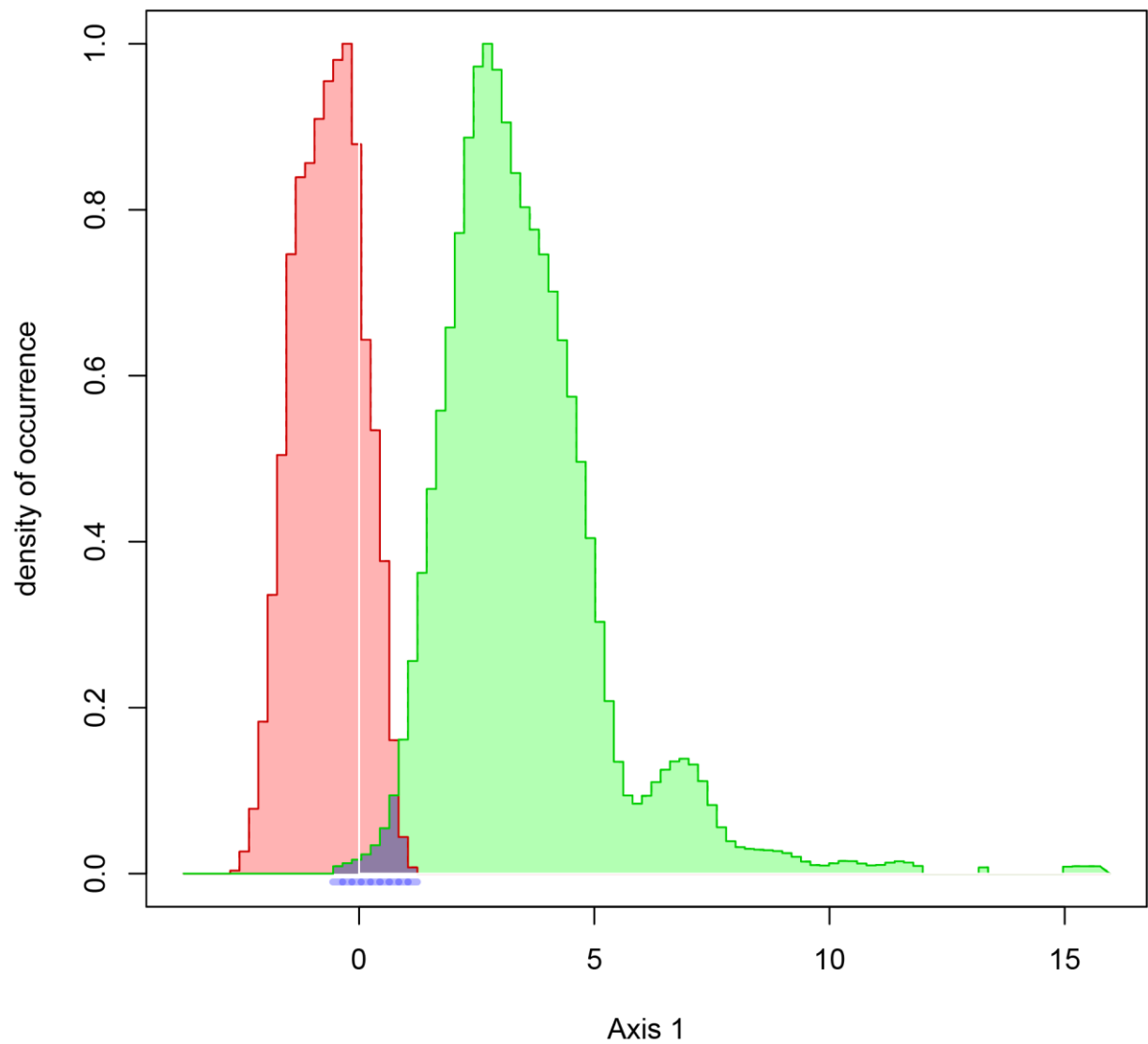
**Supplementary Figure 21.** Intra-species niche dynamics analyses for *T. angustipennis* with the trimmed dataset. Blue: niche stability. Red: niche expansion. Green: unfilling. *U* and *E* values are in Table 1.

***T. sinensis* (Anderson 2019)**

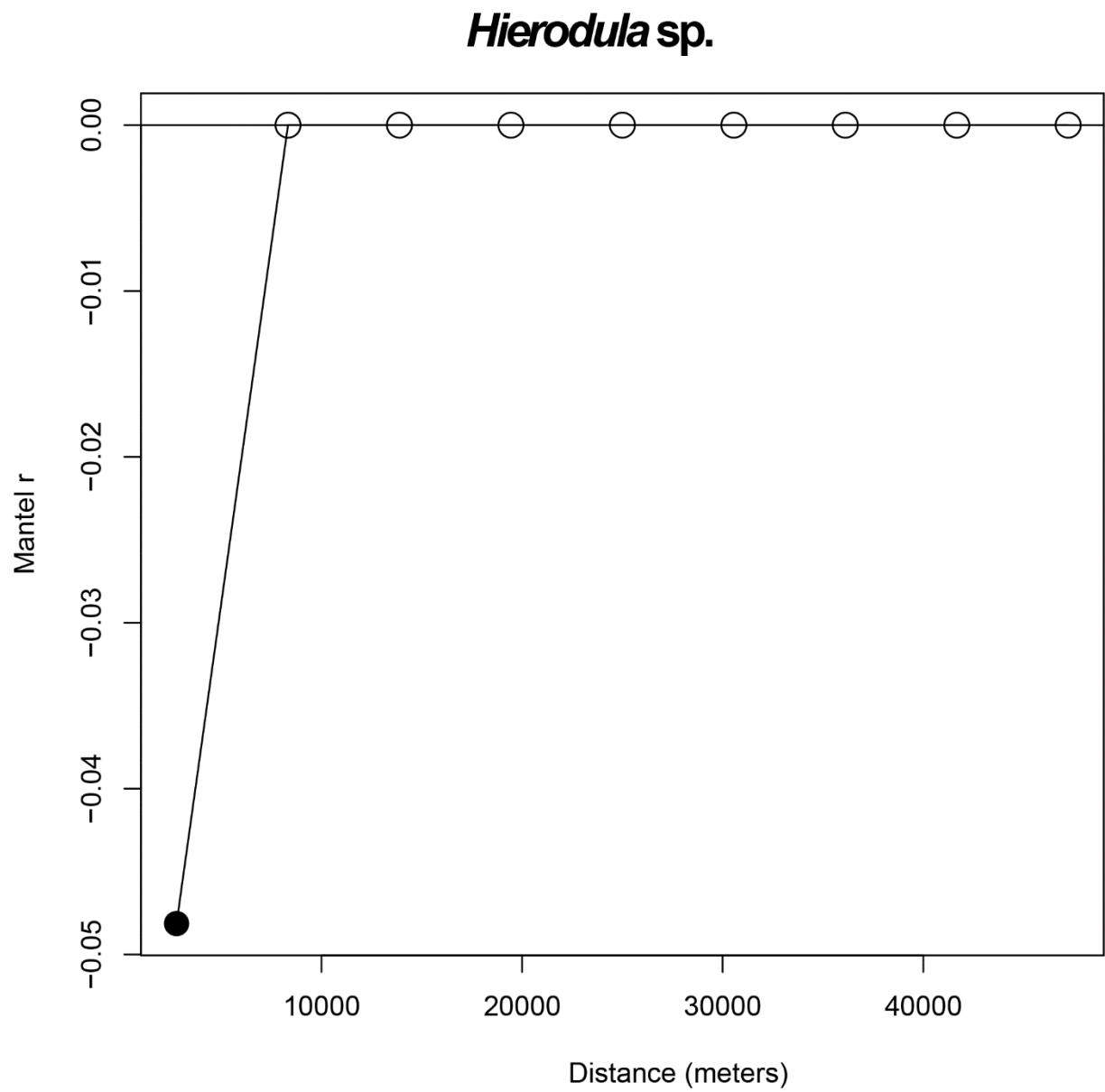


**Supplementary Figure 22.** Intra-species analyses for *T. sinensis* with the trimmed dataset. Yellow: alien niche. Green: native niche. Grey: niche overlap. *D* and *p* values are in Table 1.

## *T. sinensis* (Anderson 2019)

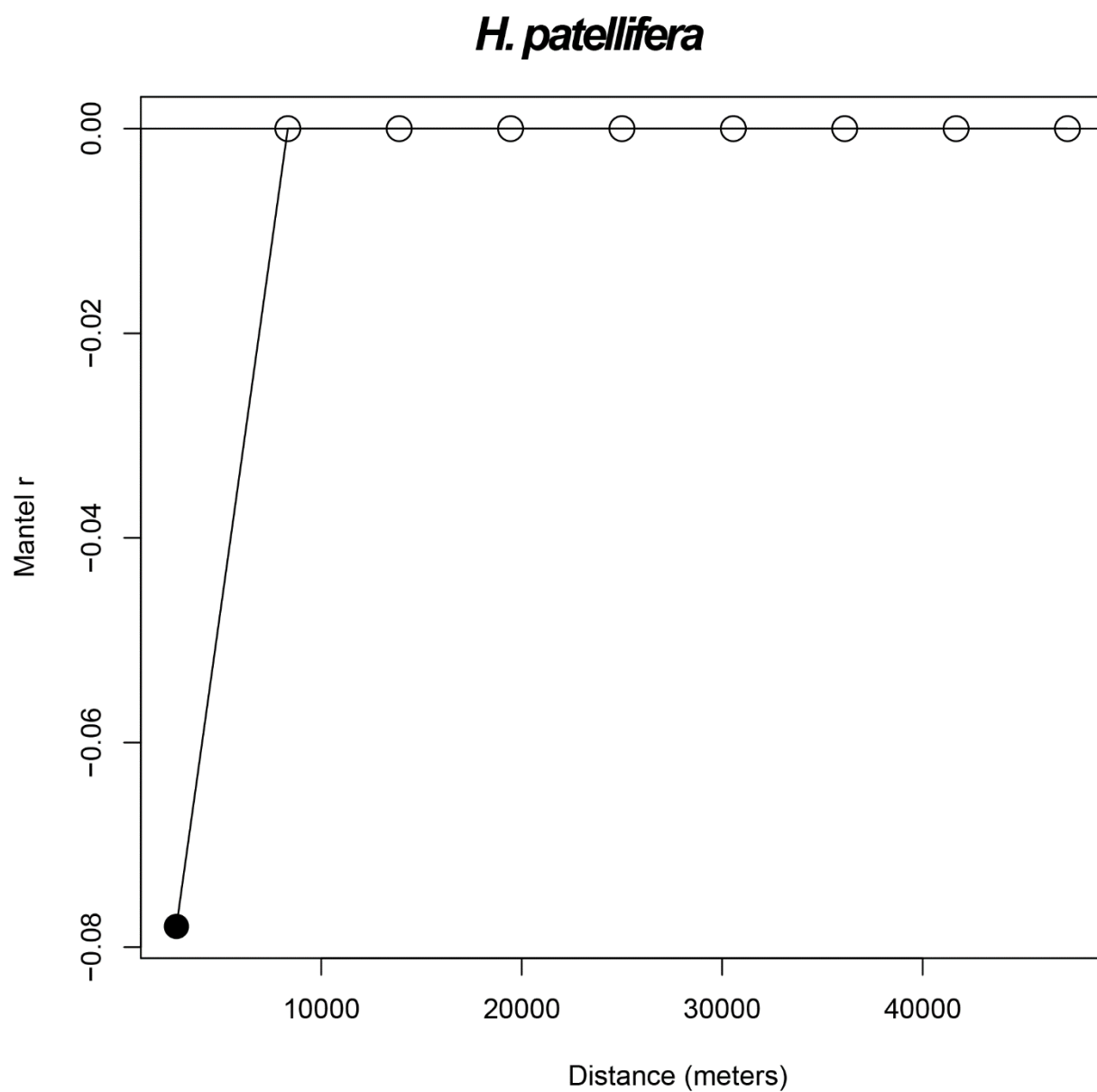


**Supplementary Figure 23.** Intra-species niche dynamics analyses for *T. sinensis* with the trimmed dataset. Blue: niche stability. Red: niche expansion. Green: unfilling. *U* and *E* values are in Table 1.

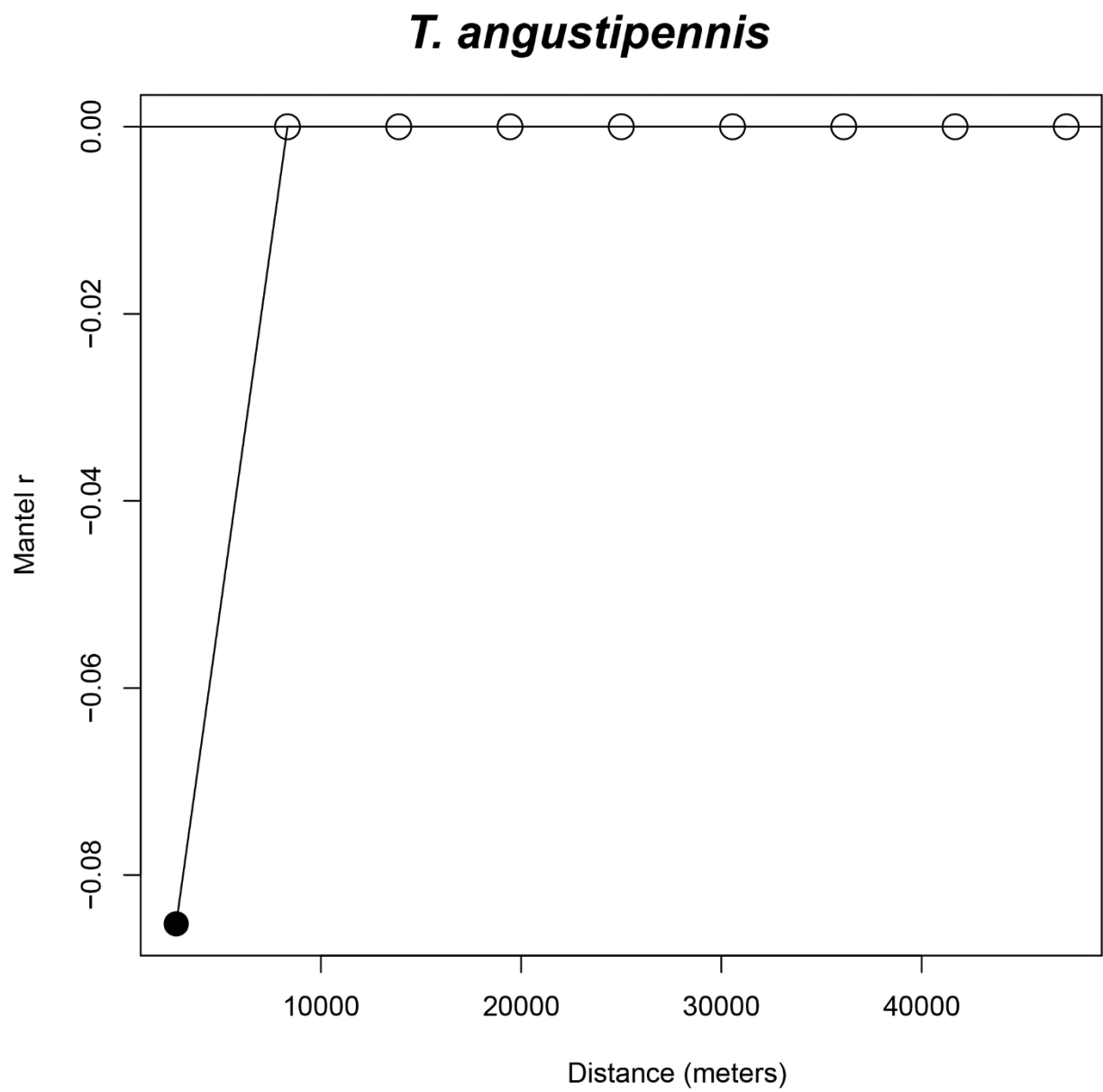


**Supplementary Figure 24.** Mantel correlogram for the controversial *Hierodula* taxon.

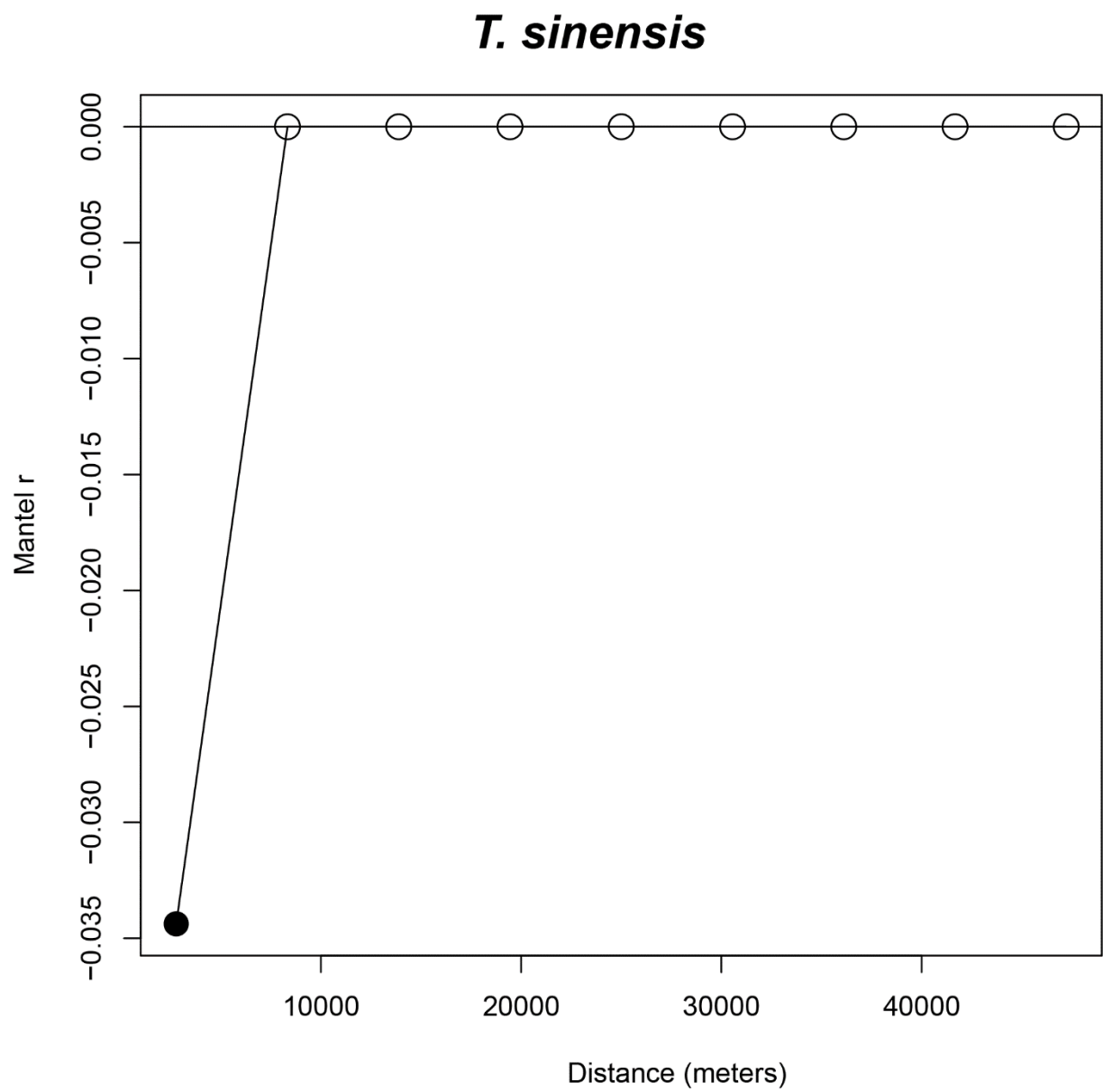




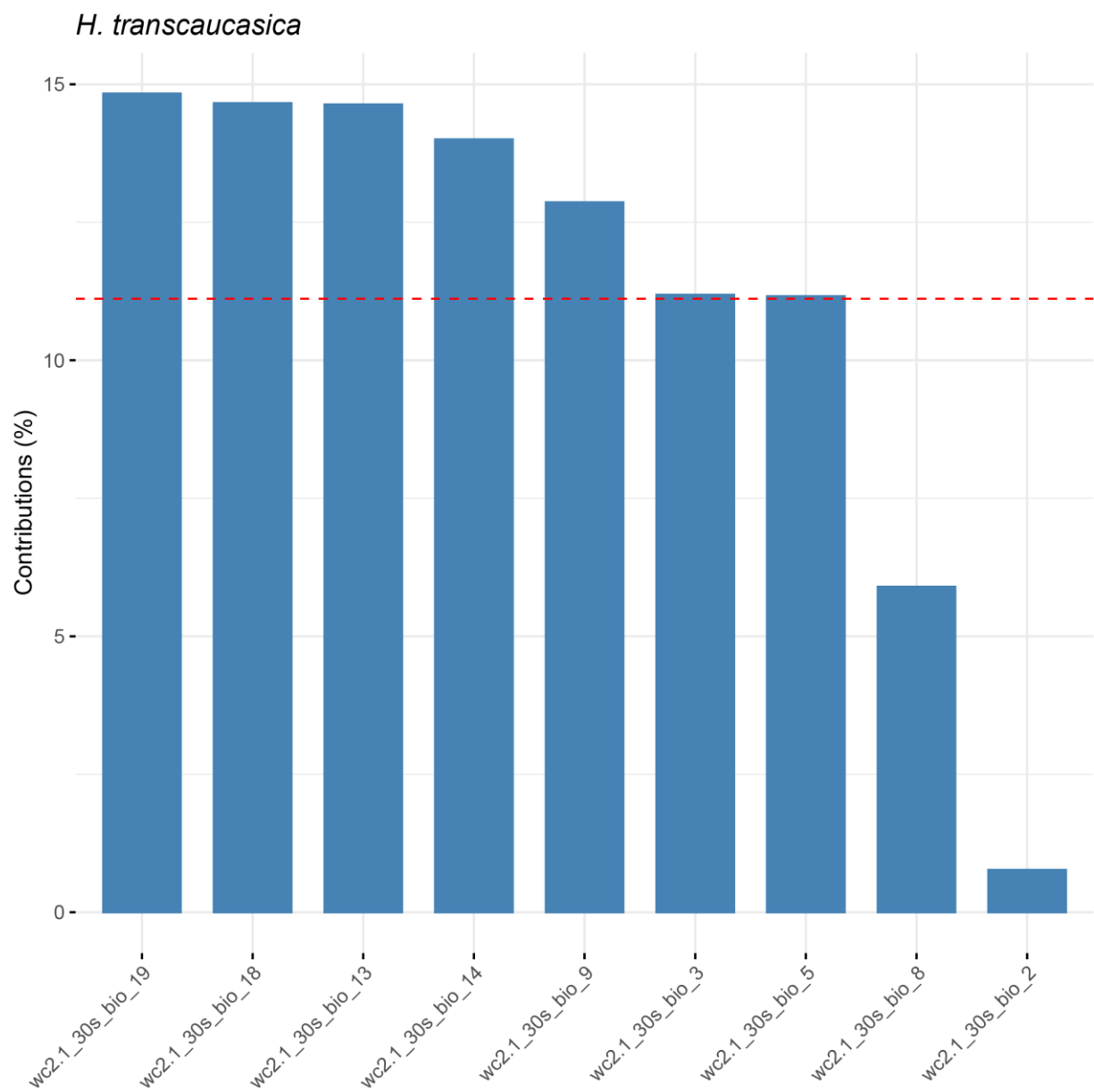
**Supplementary Figure 25.** Mantel correlogram for *H. patellifera*.



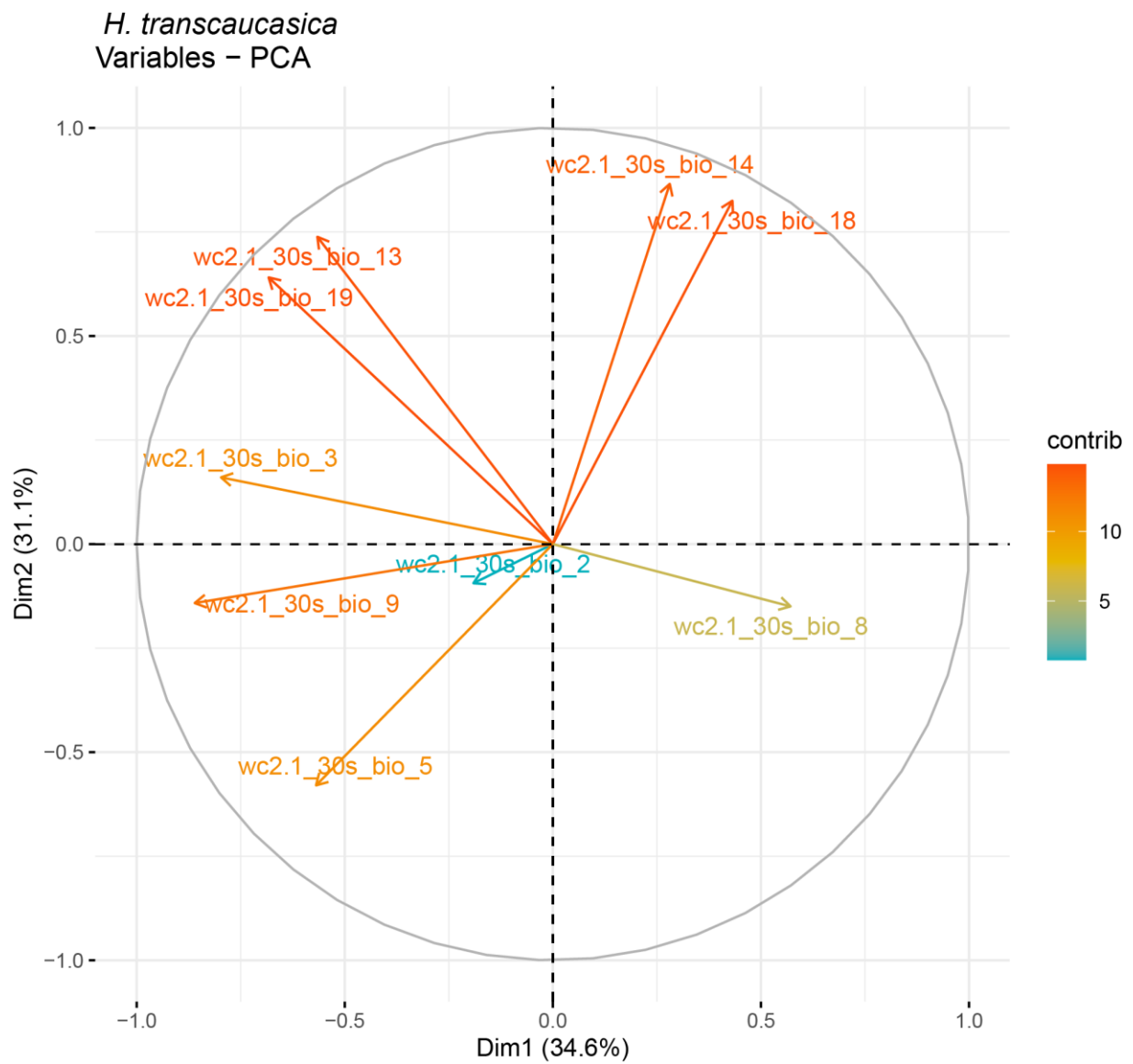
**Supplementary Figure 26.** Mantel correlogram for *T. angustipennis*.



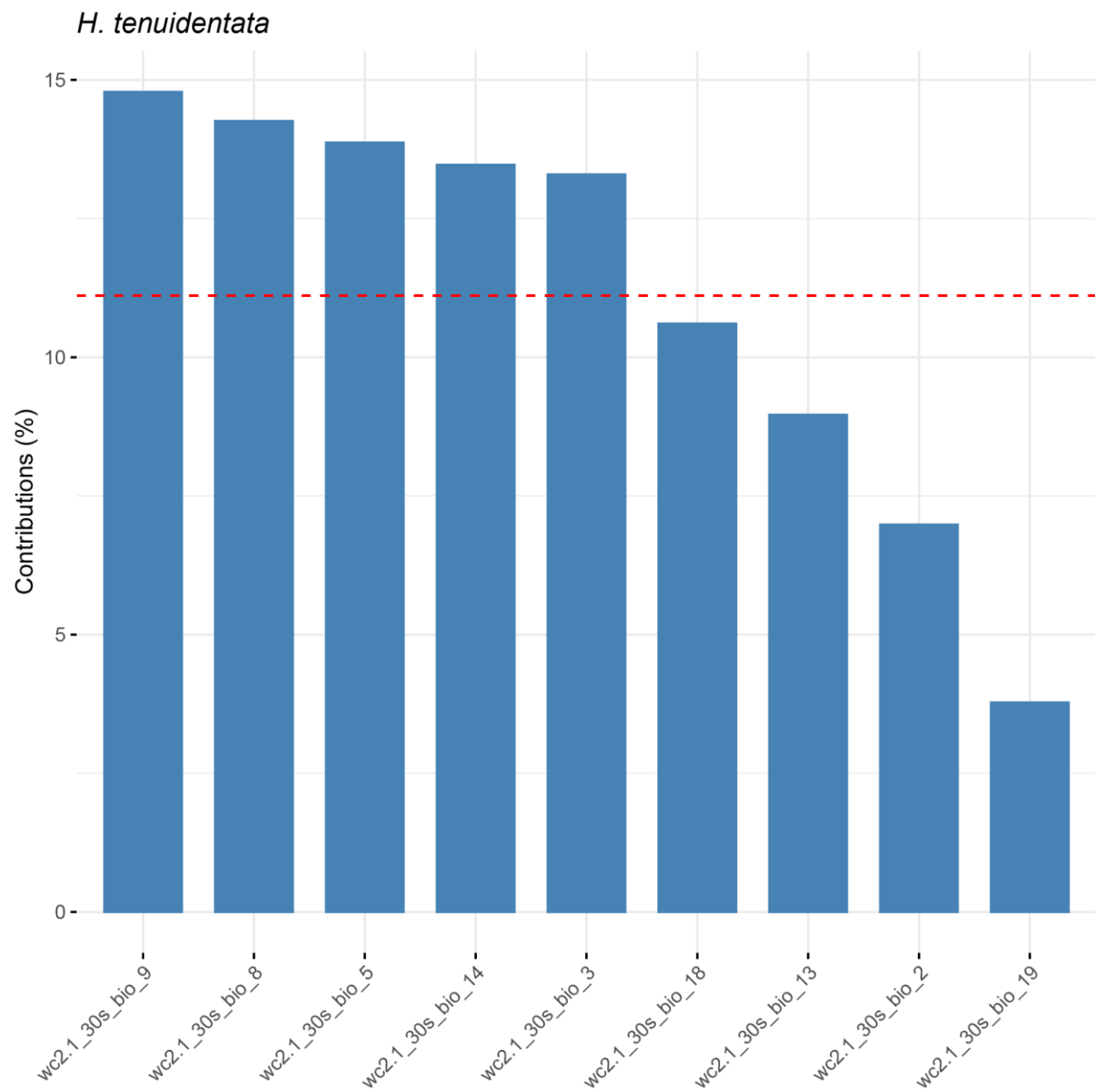
**Supplementary Figure 27.** Mantel correlogram for *T. sinensis*.



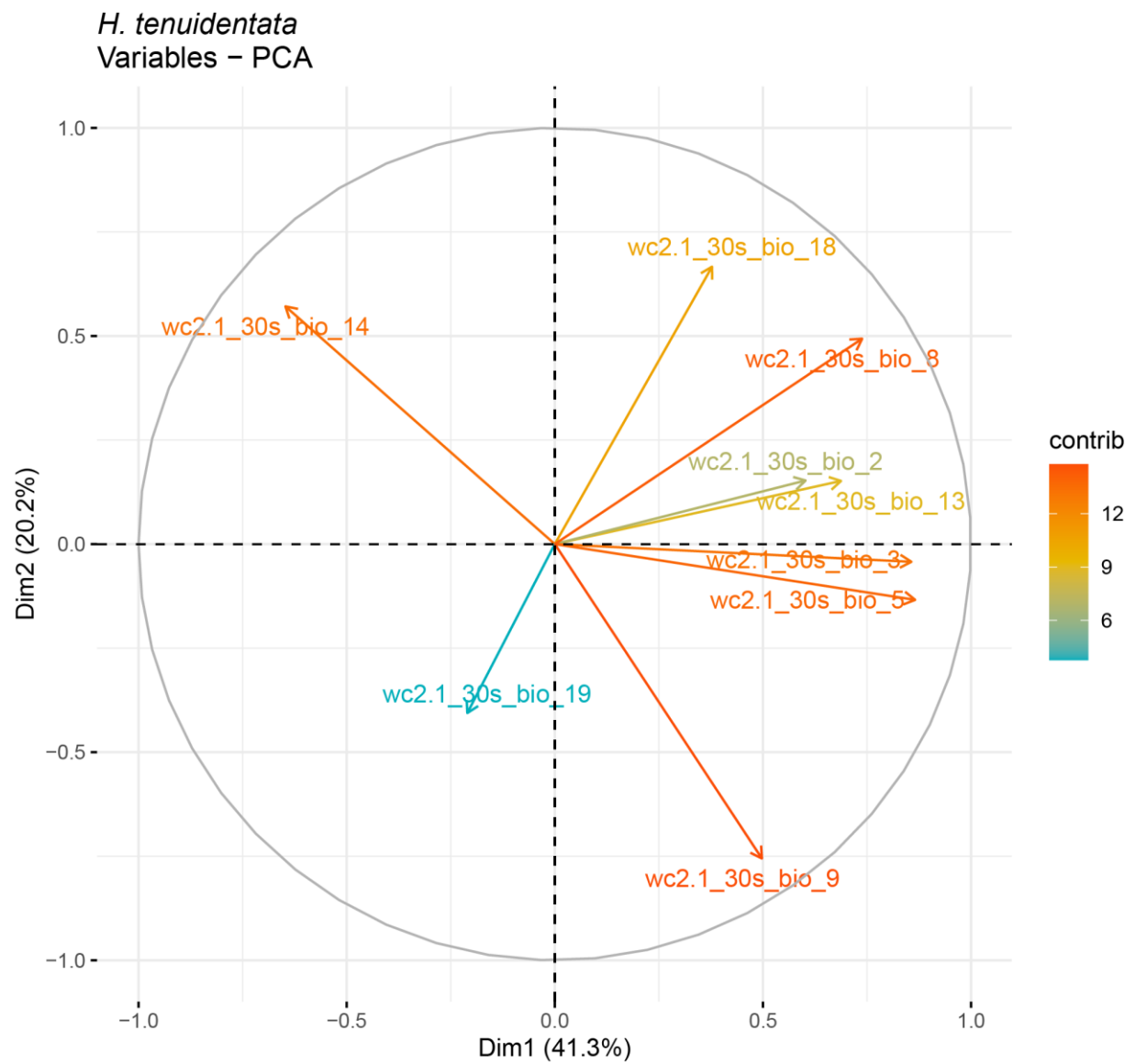
**Supplementary Figure 28.** Metrics' importance for the intra-taxon PCA for *H. transcaucasica*.



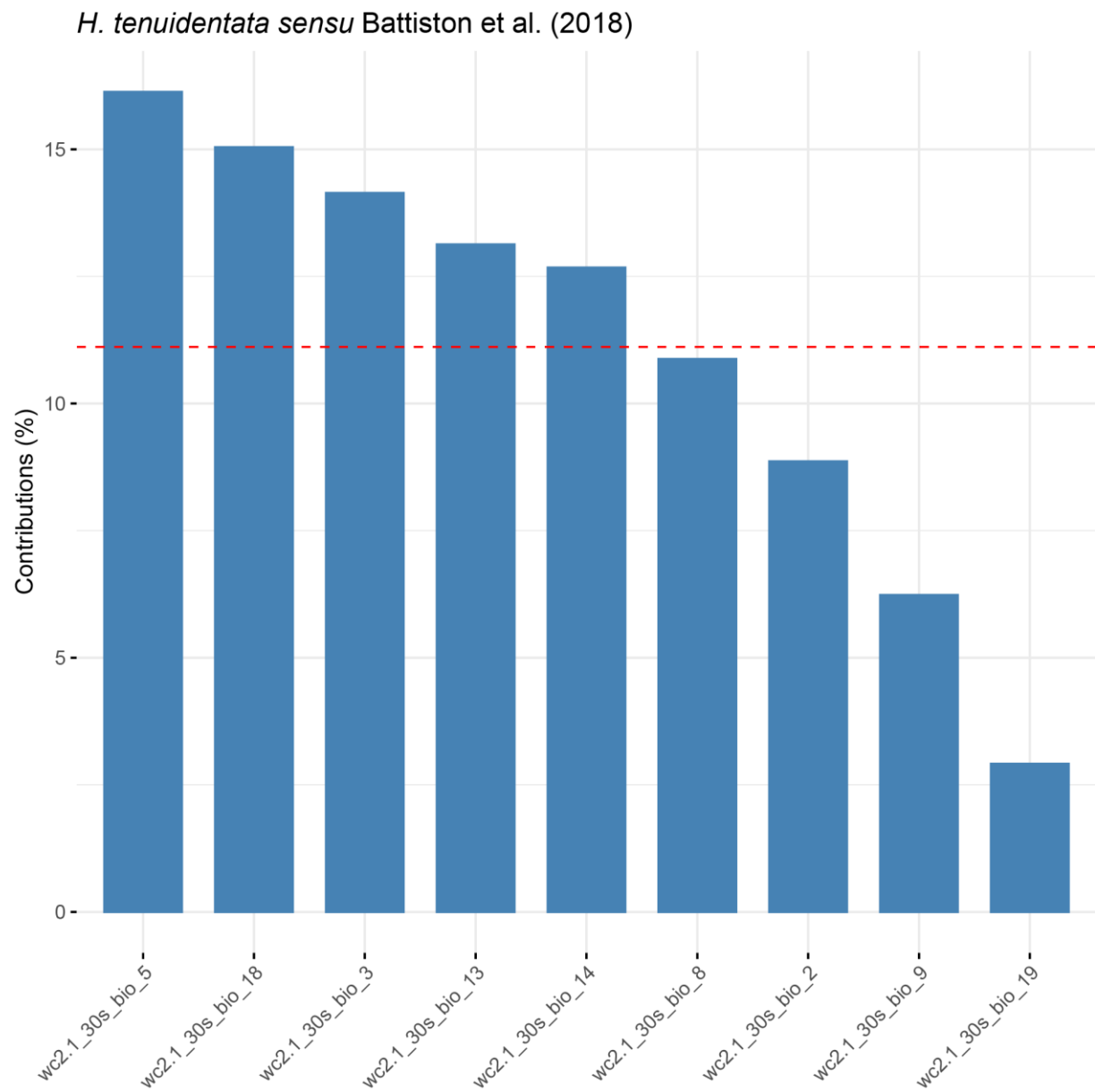
**Supplementary Figure 29.** First two PCs for the intra-taxon PCA for *H. transcaucasica*.



**Supplementary Figure 30.** Metrics' importance for the intra-taxon PCA for *H. tenuidentata sensu stricto*.



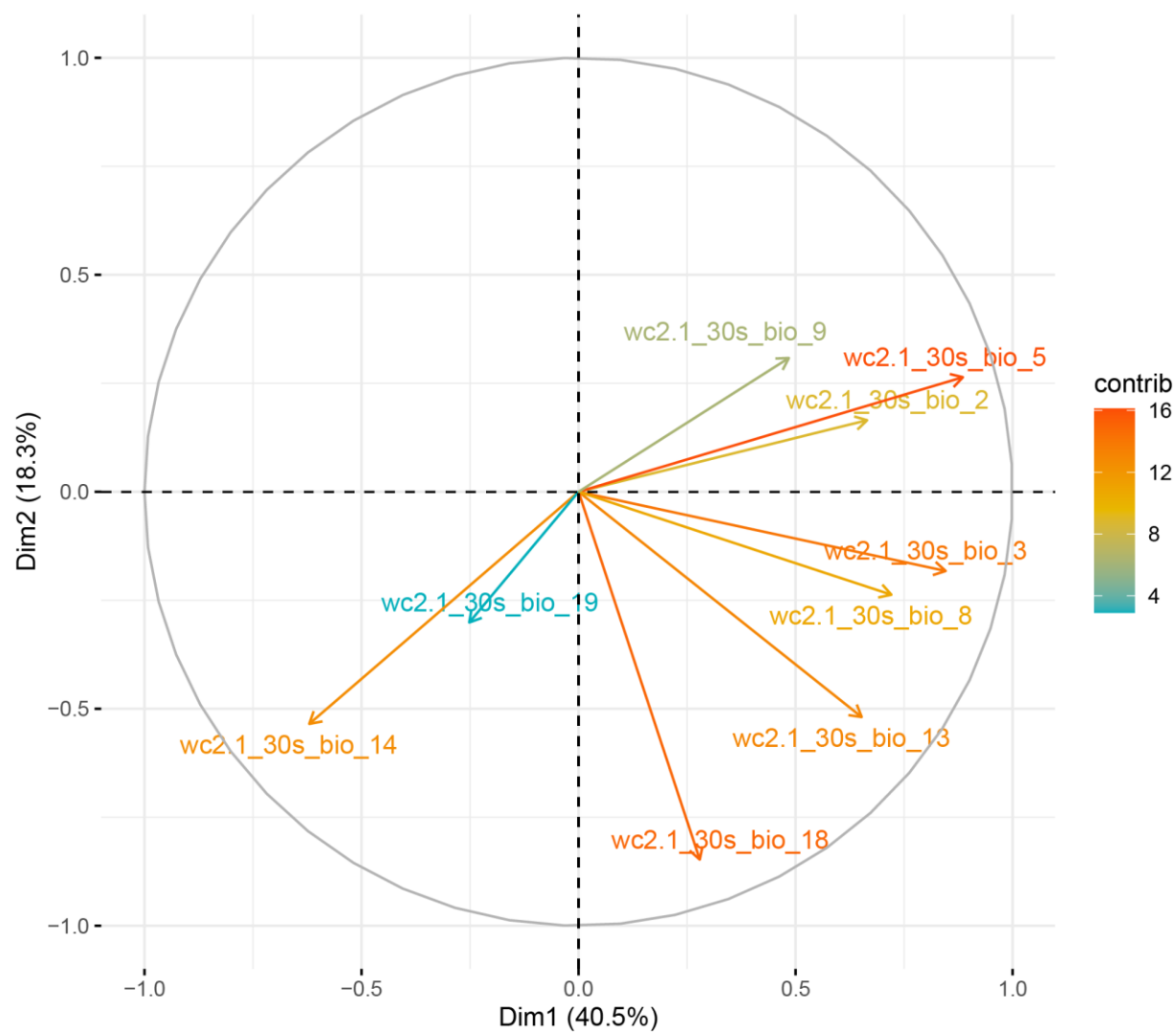
**Supplementary Figure 31.** First two PCs for the intra-taxon PCA for *H. tenuidentata sensu stricto*.



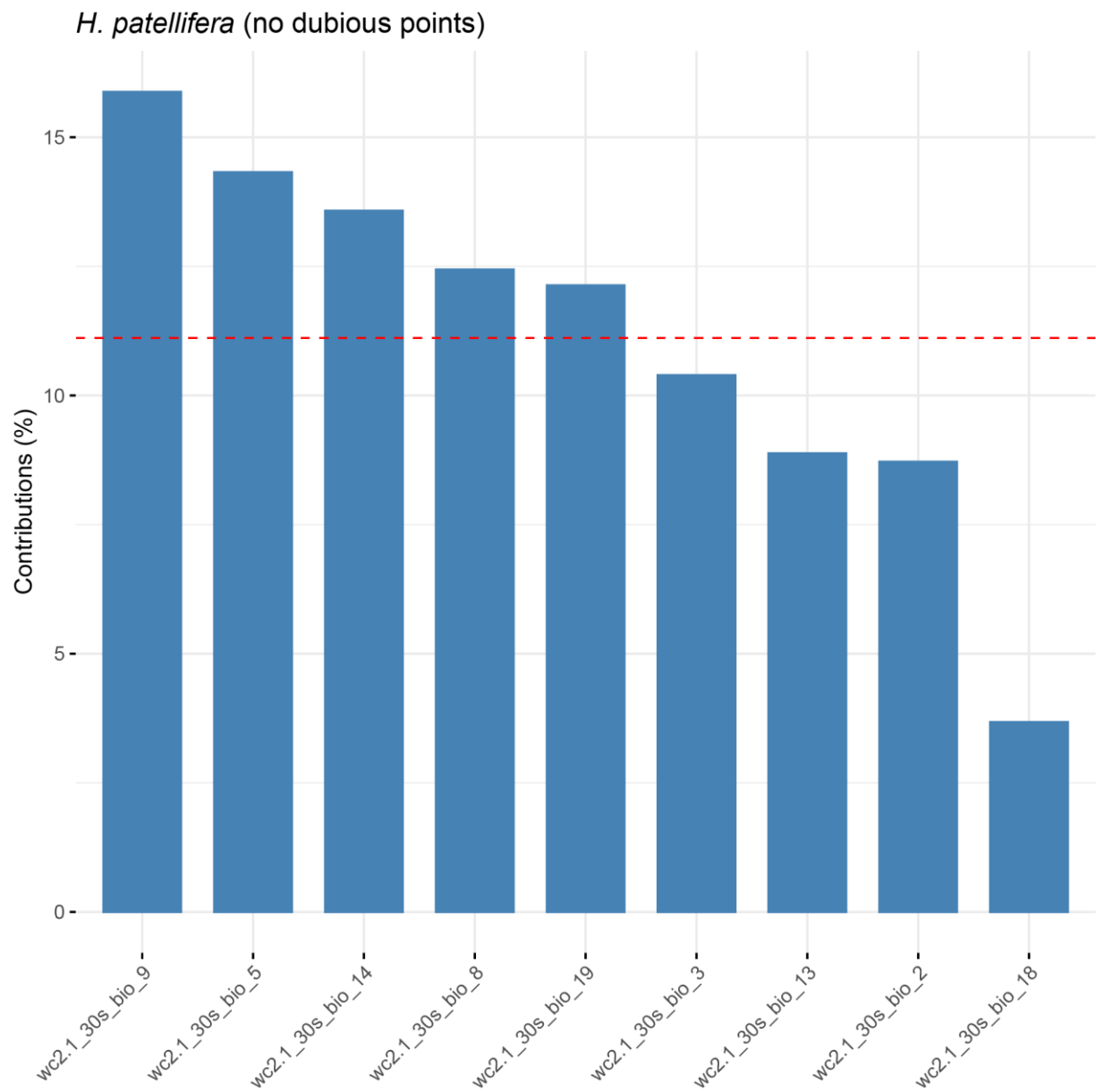
**Supplementary Figure 32.** Metrics' importance for the intra-taxon PCA for *H. tenuidentata sensu* Battiston et al. (2018).



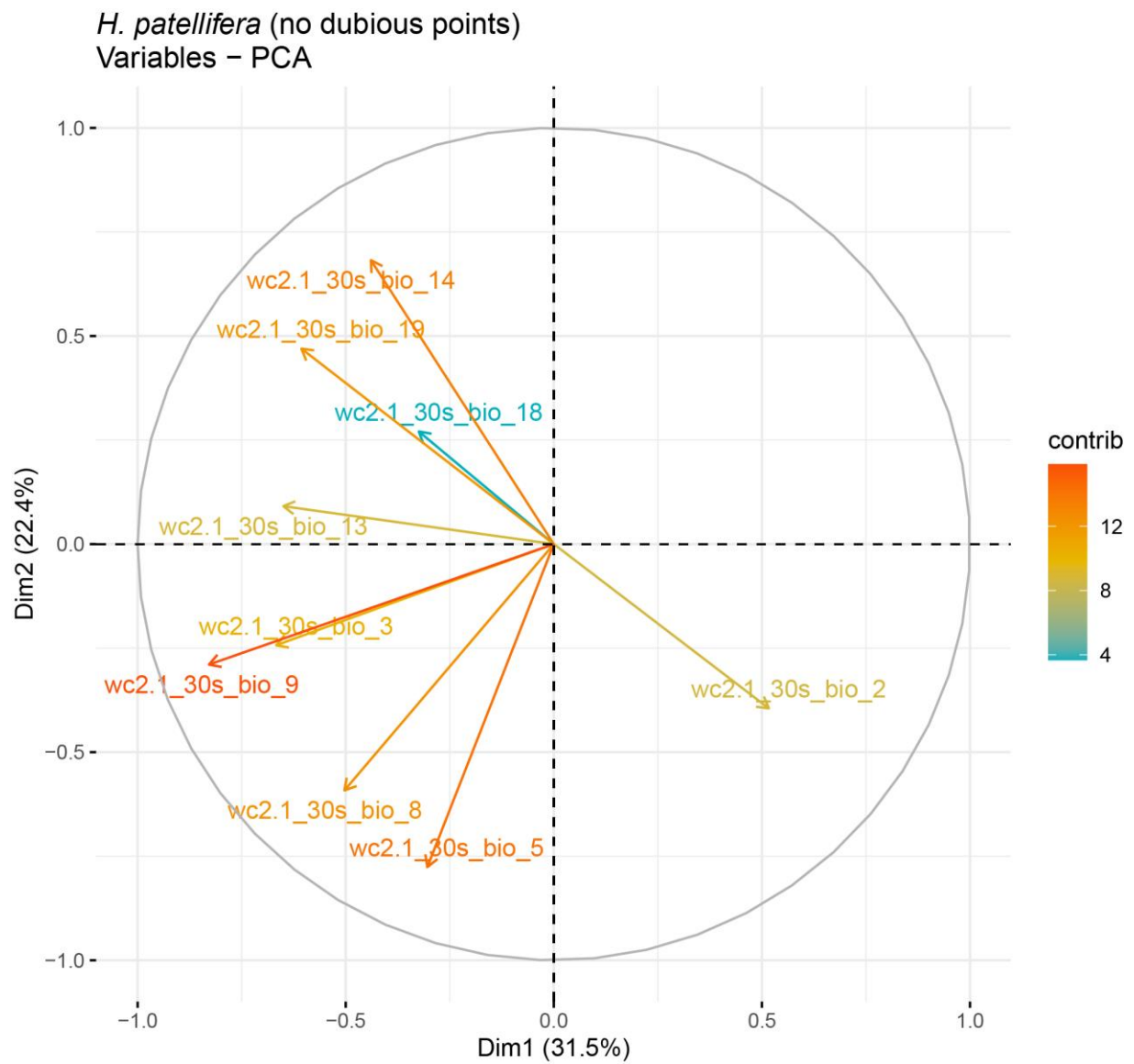
*H. tenuidentata sensu* Battiston et al. (2018)  
Variables – PCA



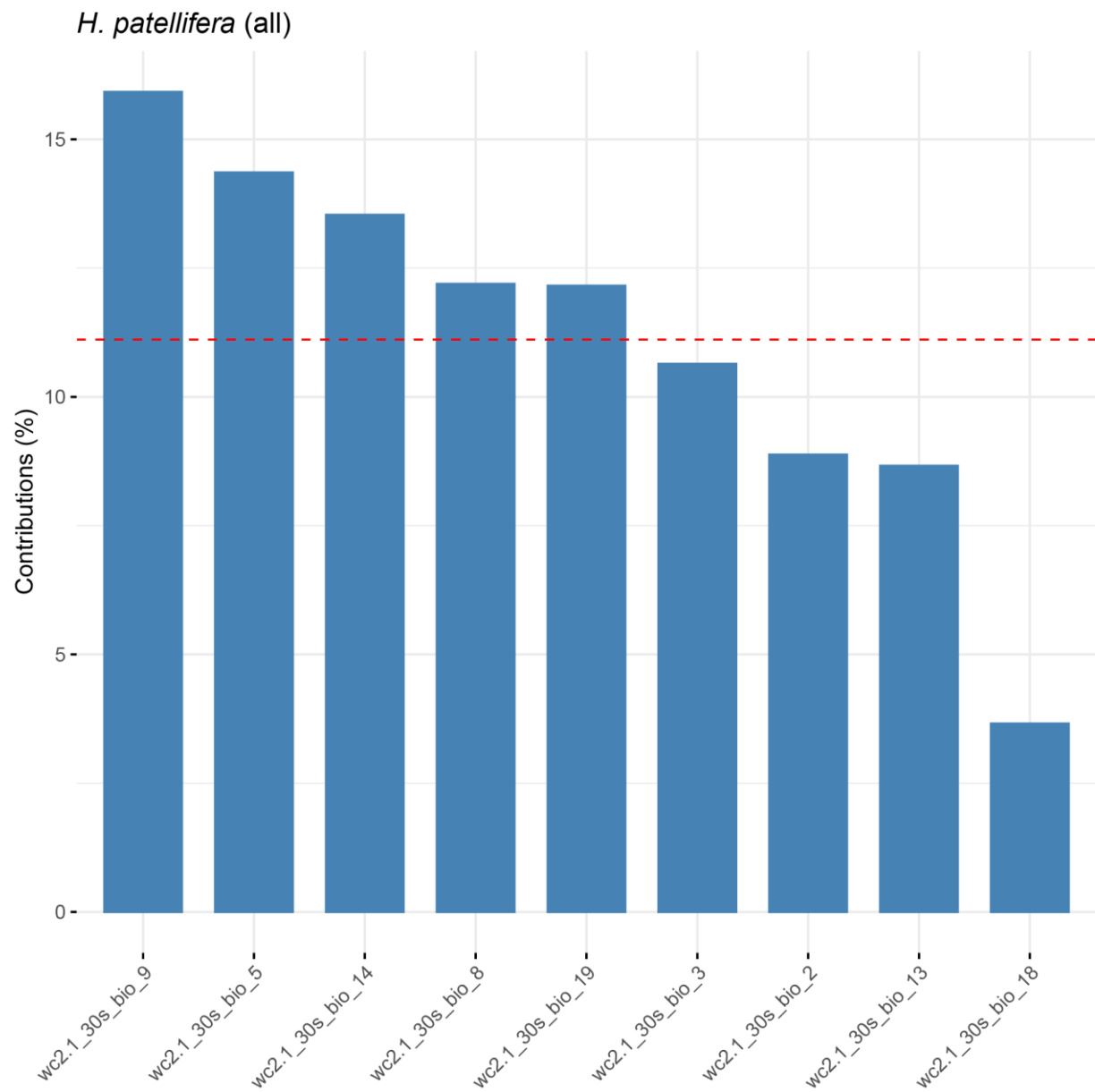
**Supplementary Figure 33.** First two PCs for the intra-taxon PCA for *H. tenuidentata sensu* Battiston et al. (2018).



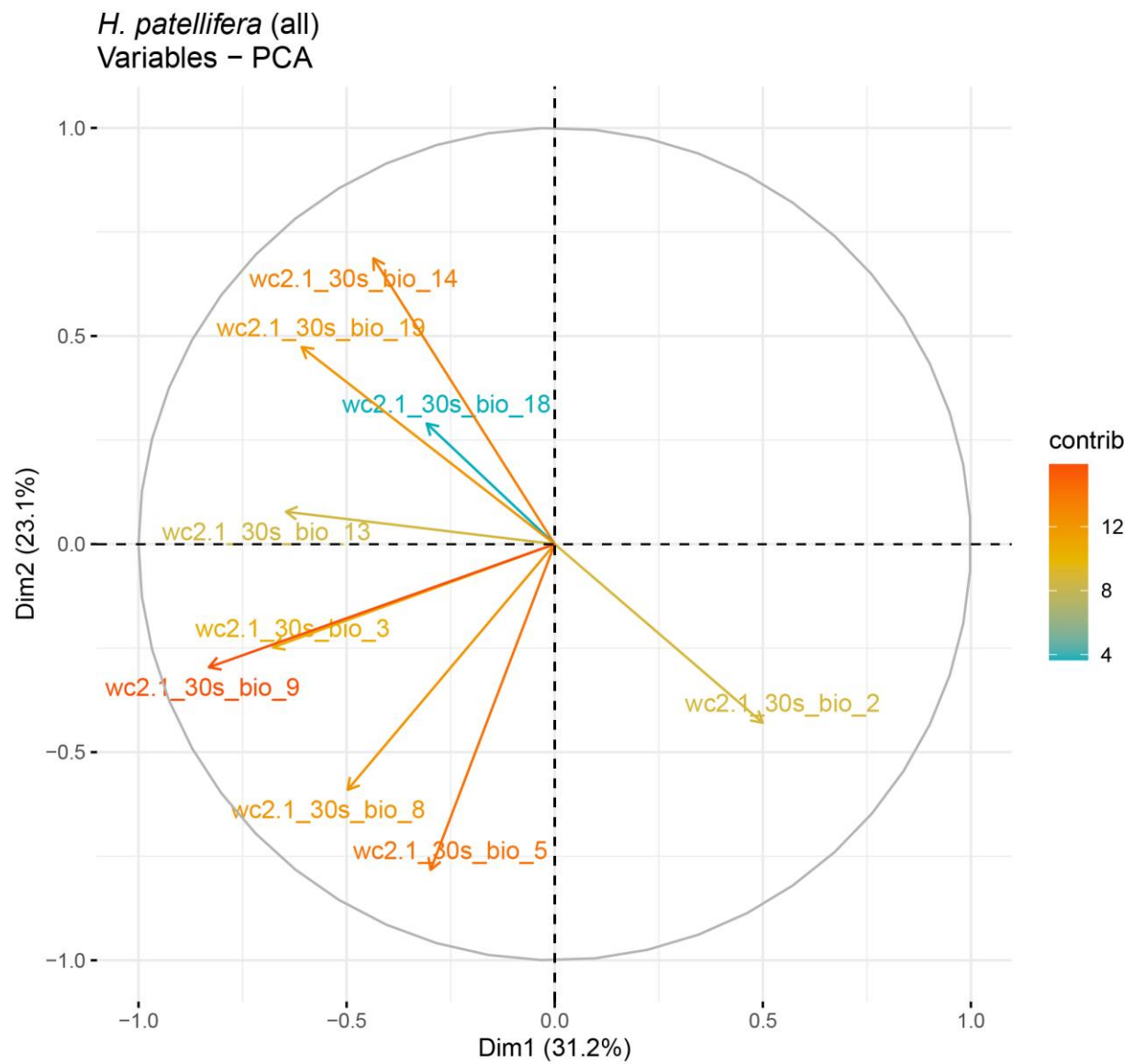
**Supplementary Figure 34.** Metrics' importance for the intra-taxon PCA for *H. patellifera* with no dubious points.



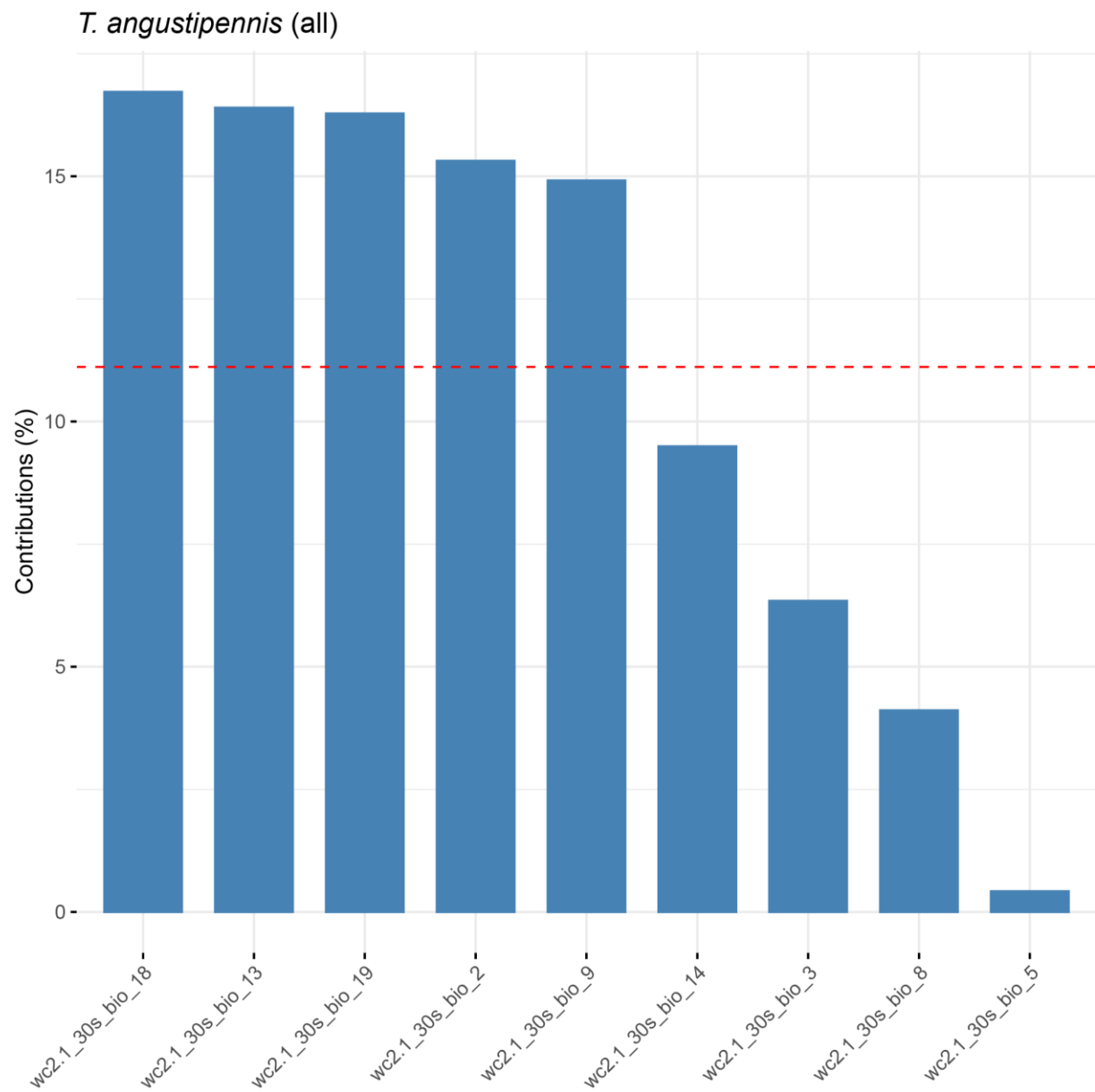
**Supplementary Figure 35.** First two PCs for the intra-taxon PCA for *H. patellifera* with no dubious points.



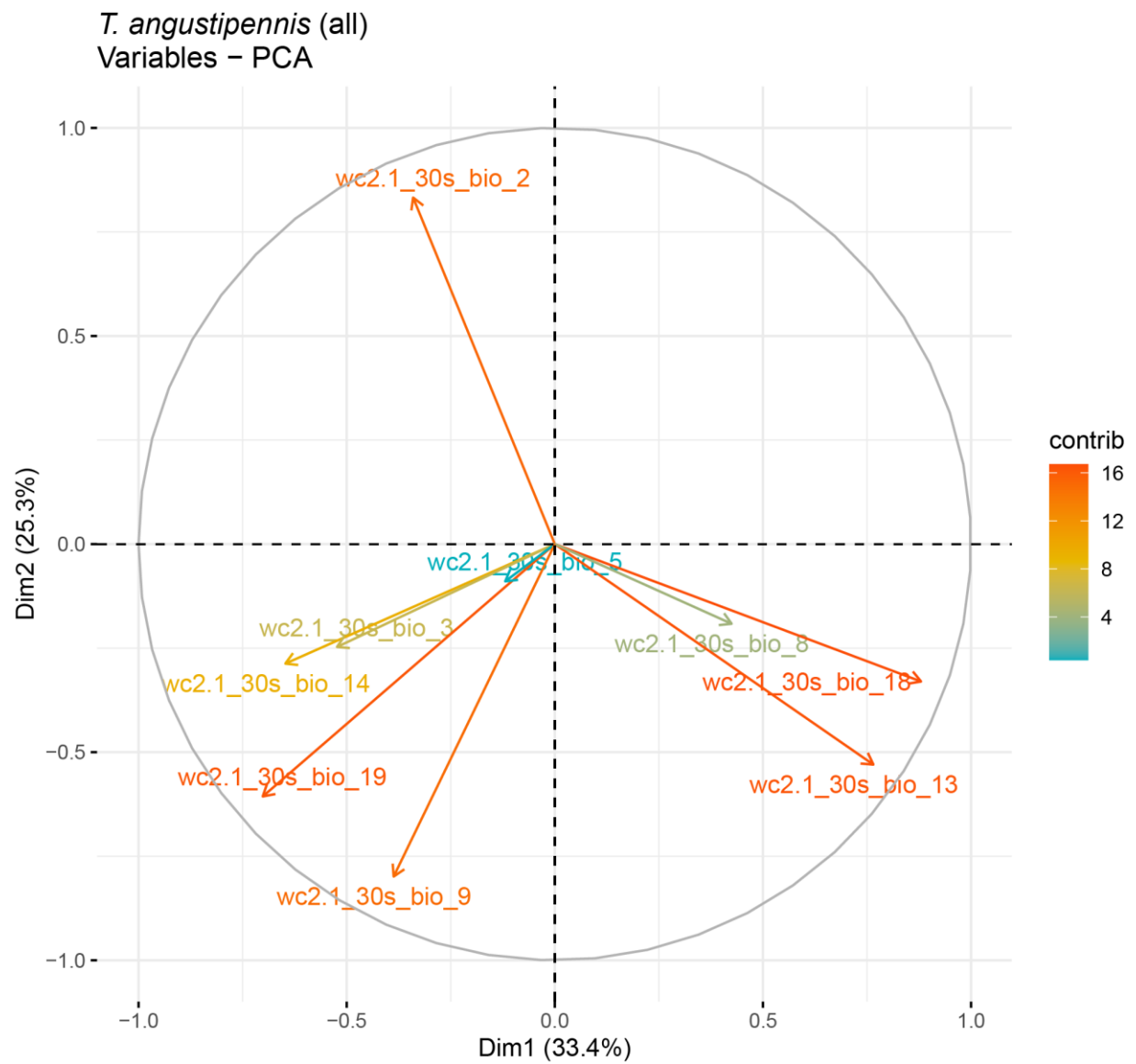
**Supplementary Figure 36.** Metrics' importance for the intra-taxon PCA for *H. patellifera* with the full dataset.



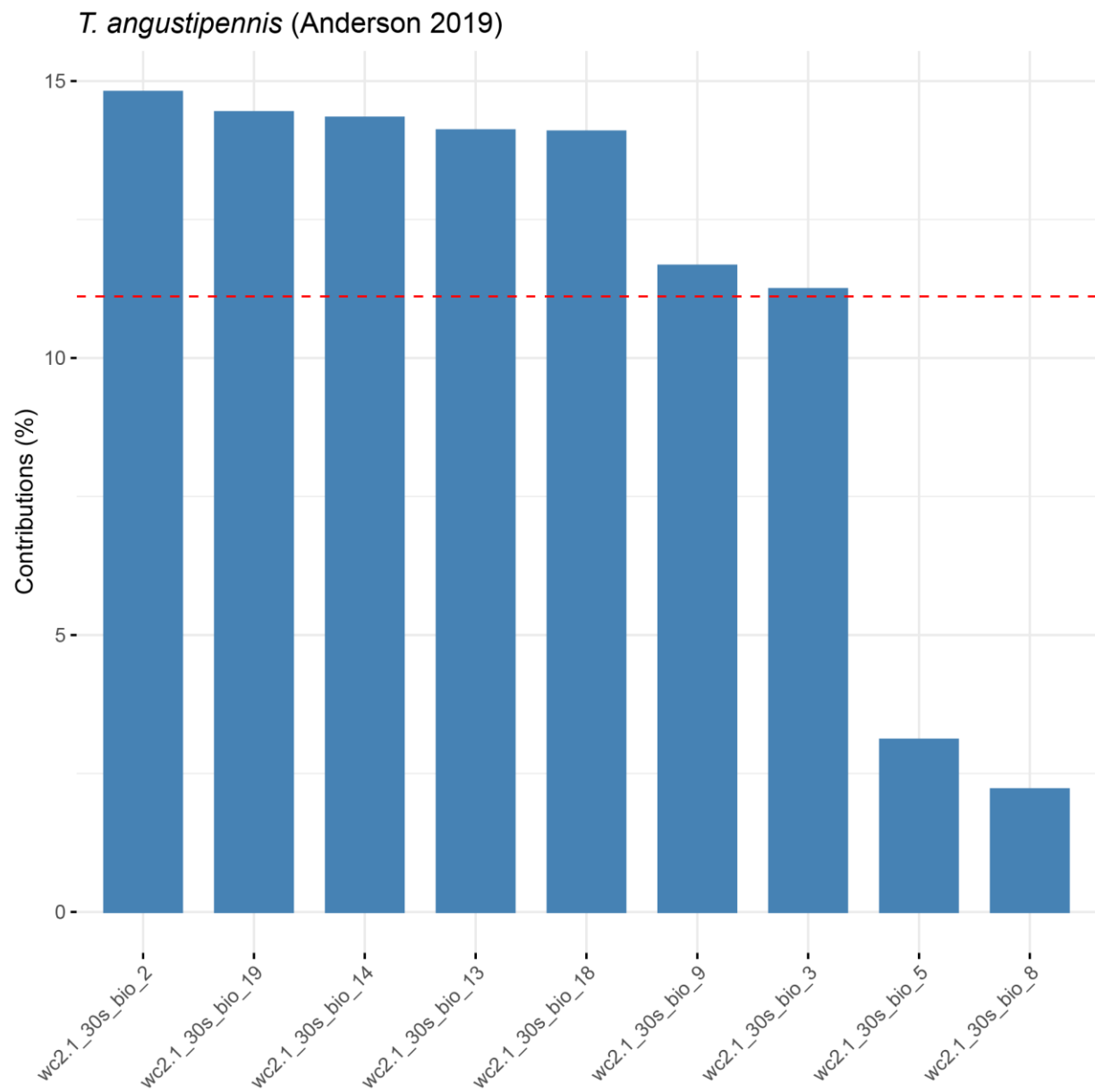
**Supplementary Figure 37.** First two PCs for the intra-taxon PCA for *H. patellifera* with the full dataset.



**Supplementary Figure 38.** Metrics' importance for the intra-taxon PCA for *T. angustipennis* with the full dataset.



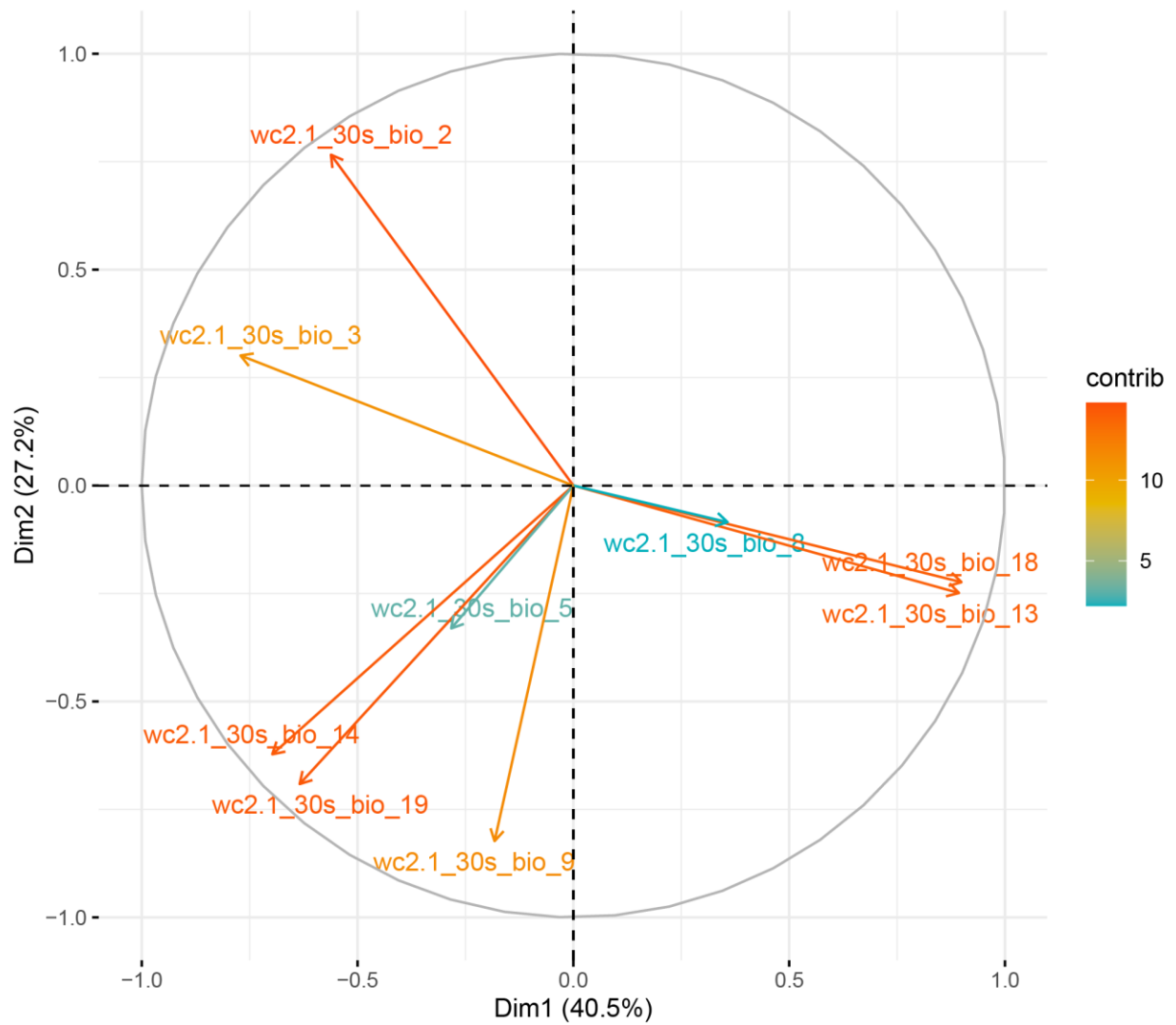
**Supplementary Figure 39.** First two PCs for the intra-taxon PCA for *T. angustipennis* with the full dataset.



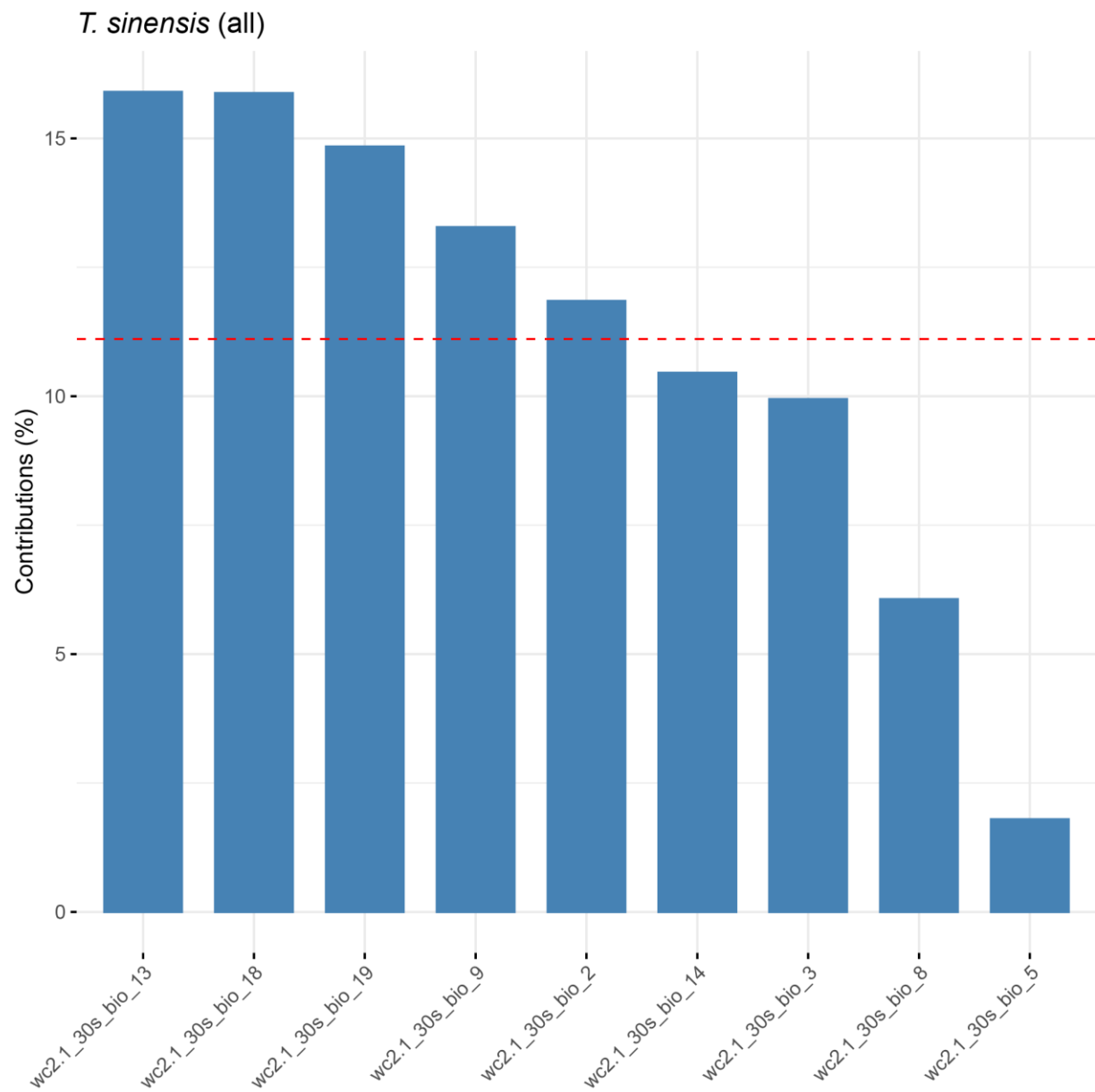
**Supplementary Figure 40.** Metrics' importance for the intra-taxon PCA for *T. angustipennis* with the trimmed dataset.



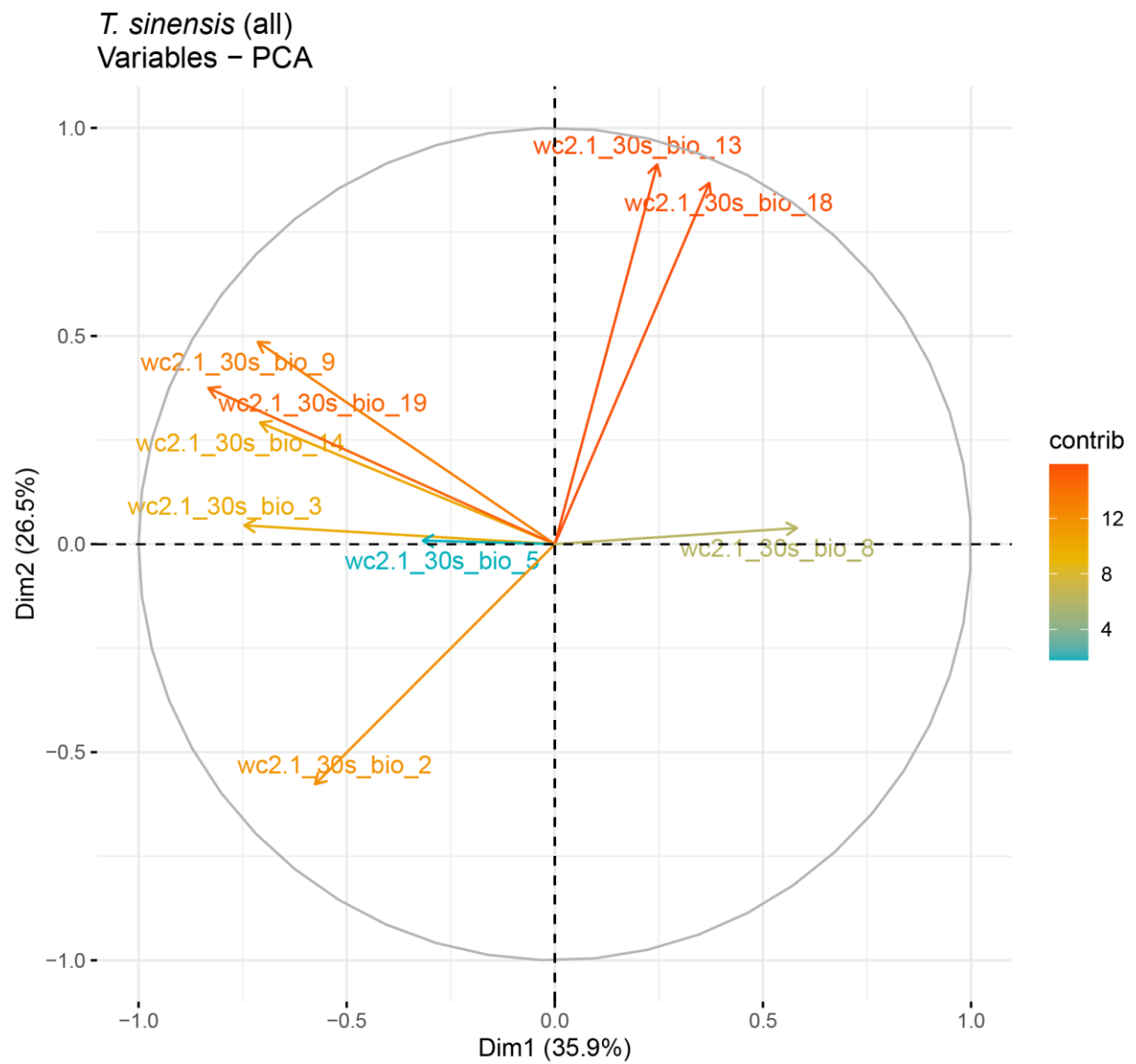
*T. angustipennis* (Anderson 2019)  
Variables – PCA



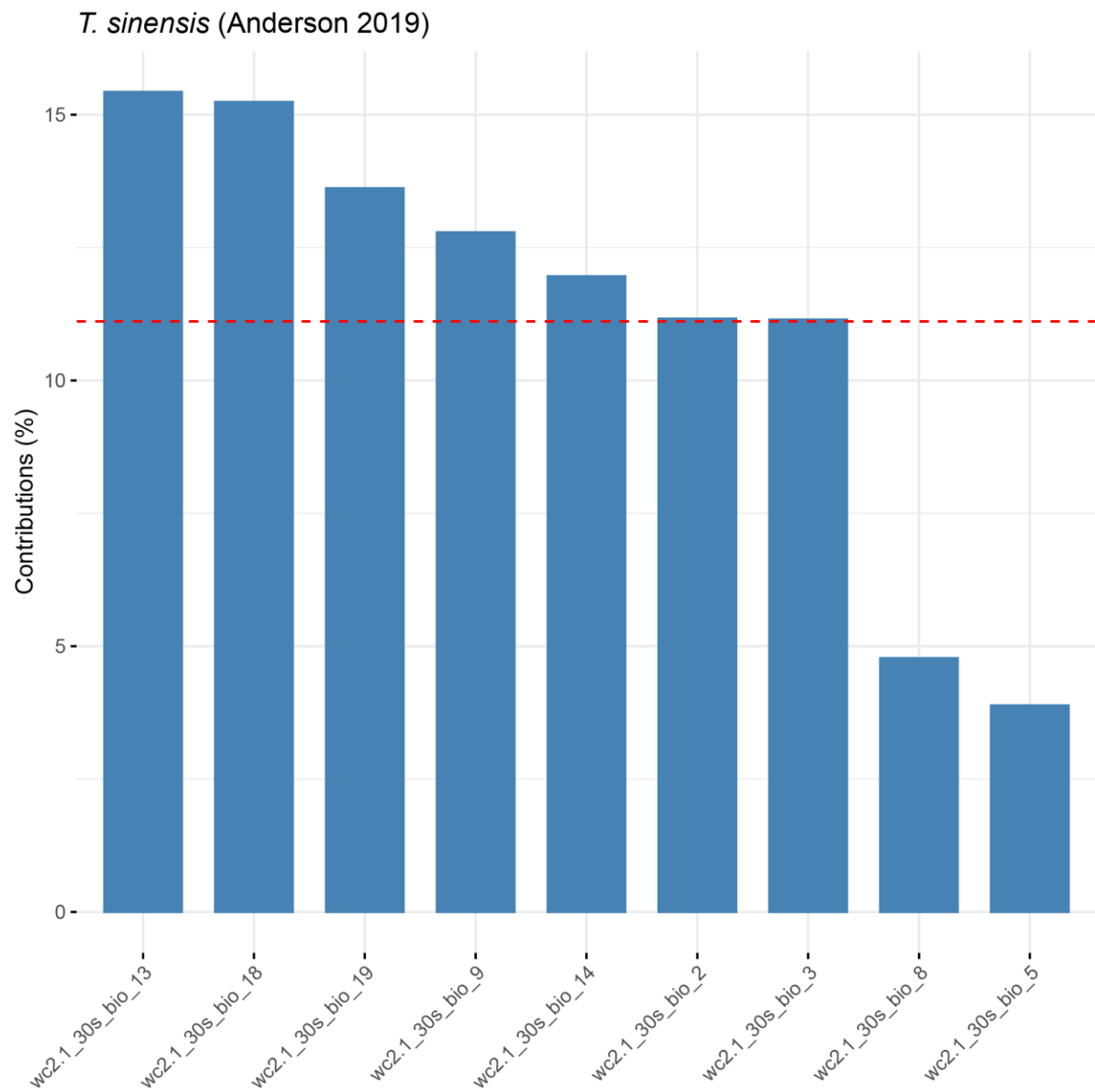
**Supplementary Figure 41.** First two PCs for the intra-taxon PCA for *T. angustipennis* with the trimmed dataset.



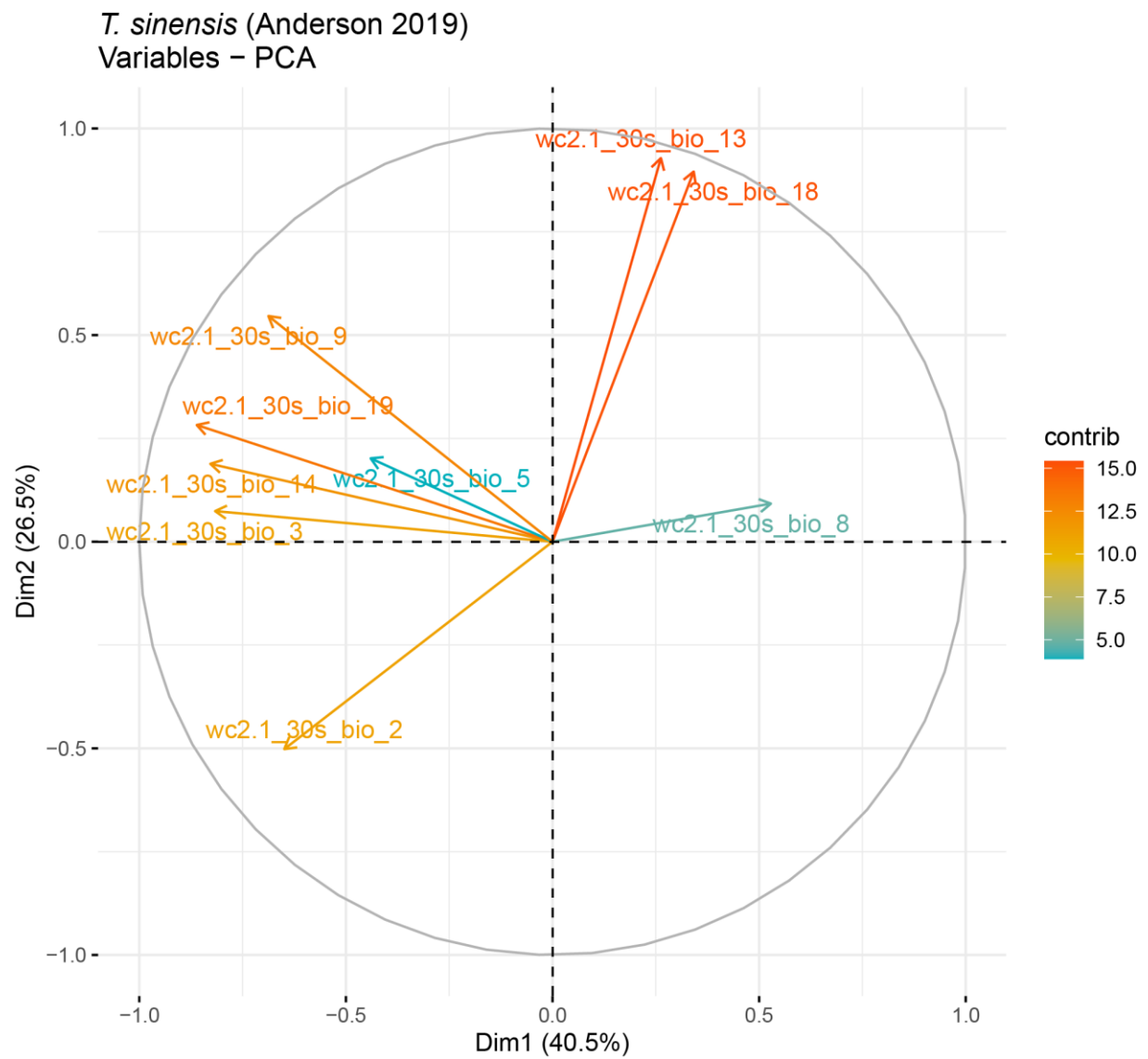
**Supplementary Figure 42.** Metrics' importance for the intra-taxon PCA for *T. sinensis* with the full dataset.



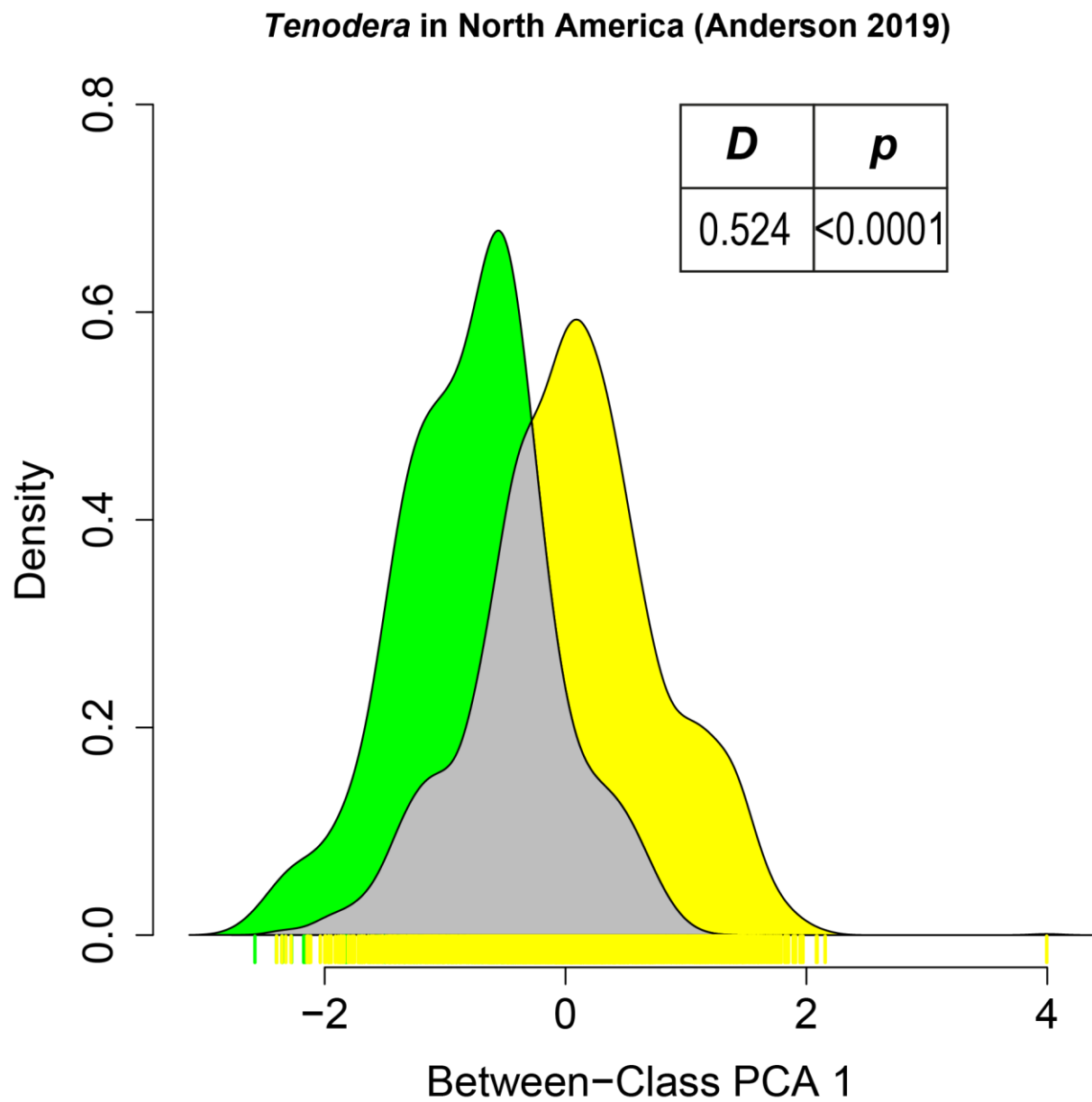
**Supplementary Figure 43.** First two PCs for the intra-taxon PCA for *T. sinensis* with the full dataset.



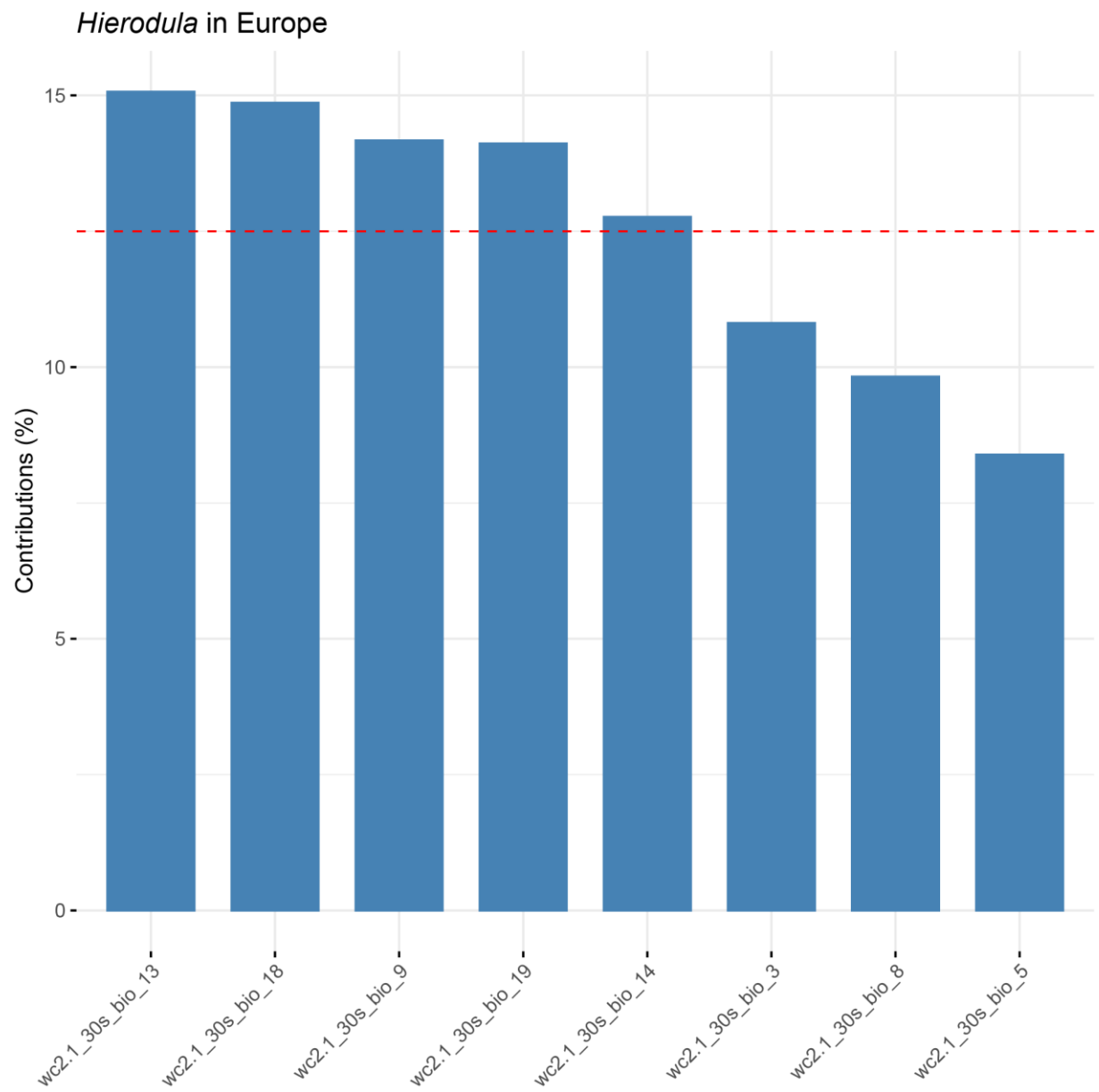
**Supplementary Figure 44.** Metrics' importance for the intra-taxon PCA for *T. sinensis* with the trimmed dataset.



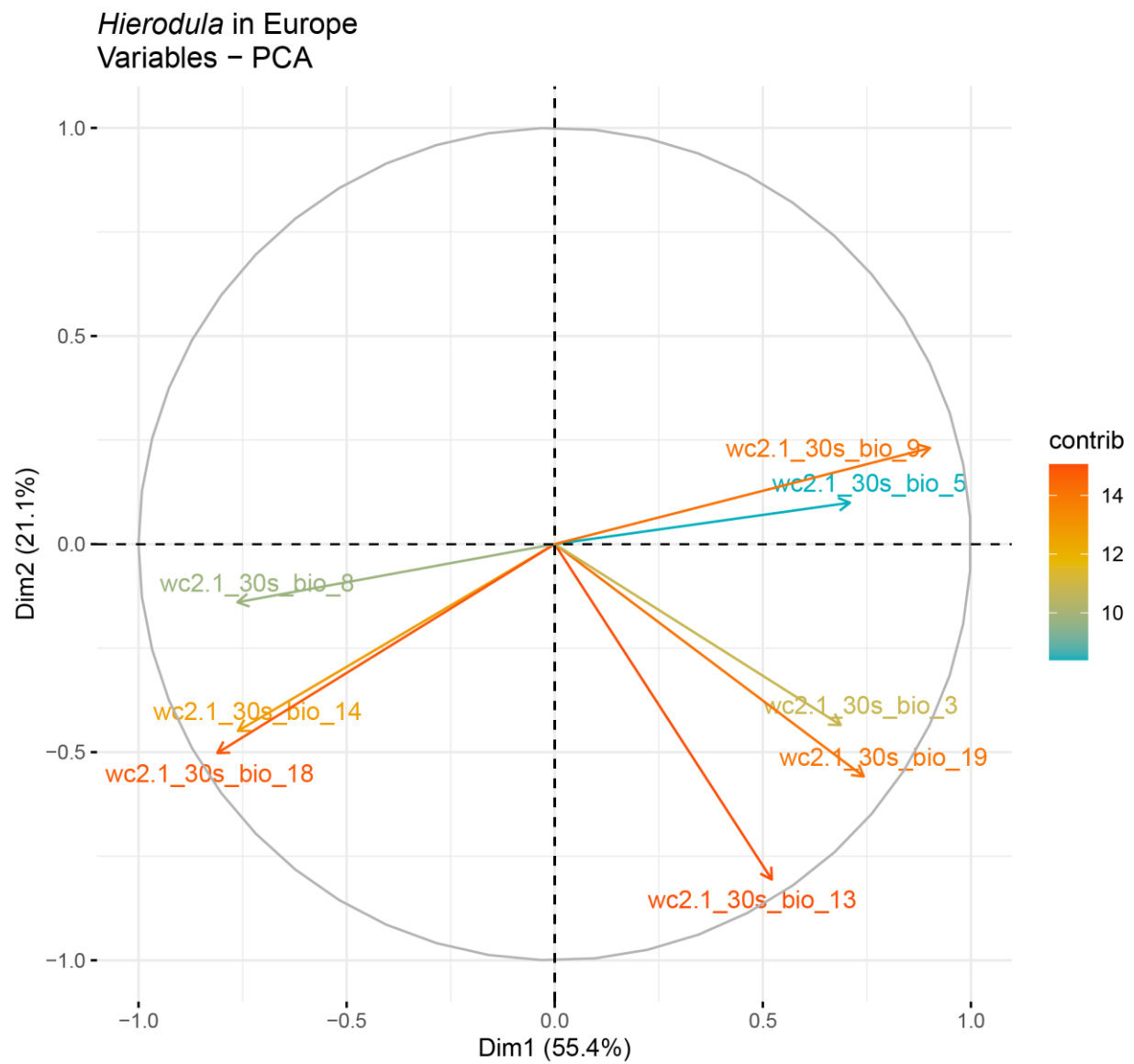
**Supplementary Figure 45.** First two PCs for the intra-taxon PCA for *T. sinensis* with the trimmed dataset.



**Supplementary Figure 46.** Inter-species analyses for *Tenodera* species with the trimmed dataset. Green: *T. angustipennis*. Yellow: *T. sinensis*. Grey: niche overlap.

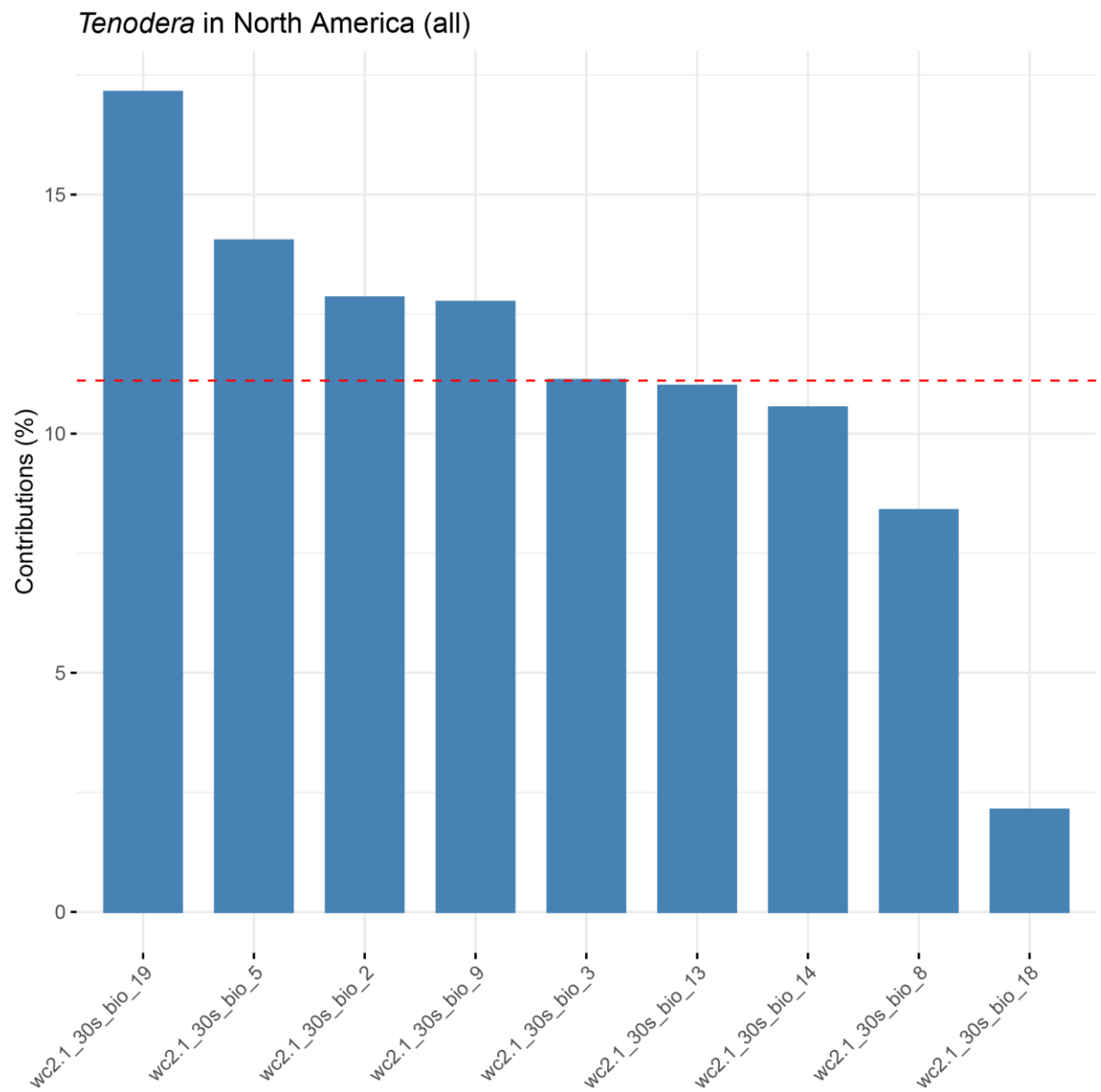


**Supplementary Figure 47.** Metrics' importance for the inter-taxa PCA for the *Hierodula* species in Europe.

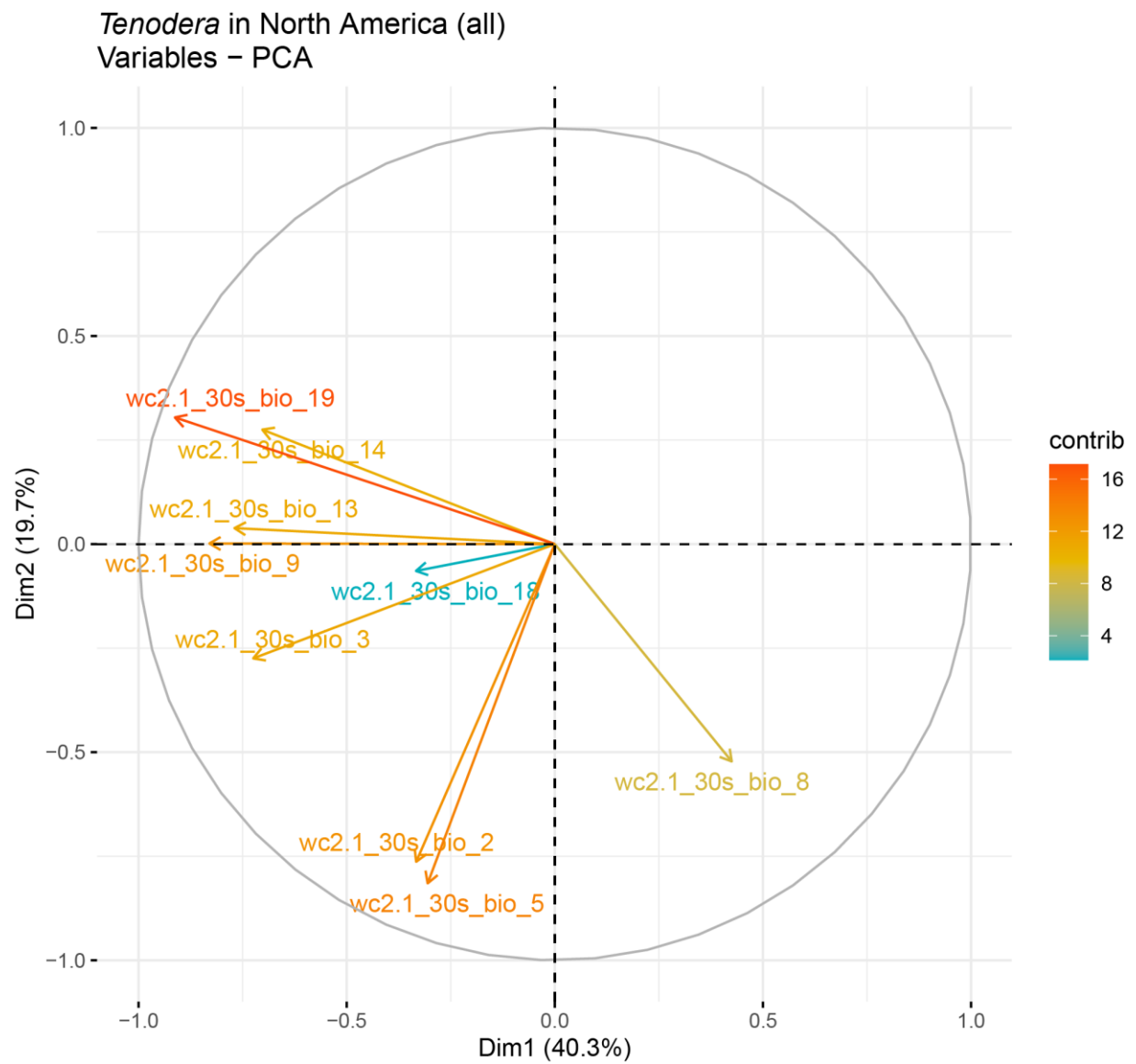


**Supplementary Figure 48.** First two PCs for the inter-taxa PCA for the *Hierodula* species in Europe.

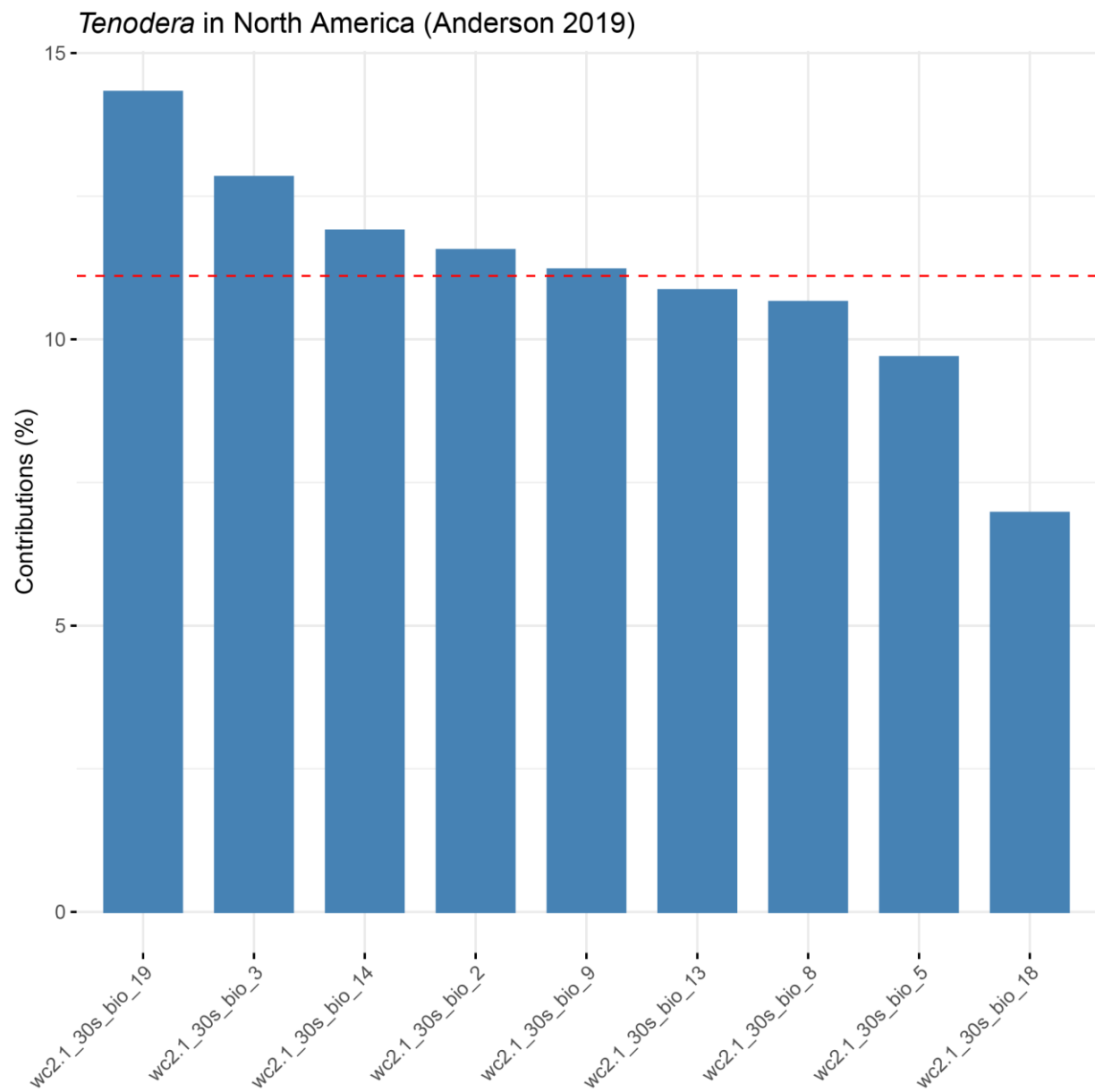




**Supplementary Figure 49.** Metrics' importance for the inter-taxa PCA for the *Tenodera* species in North America with the full dataset.

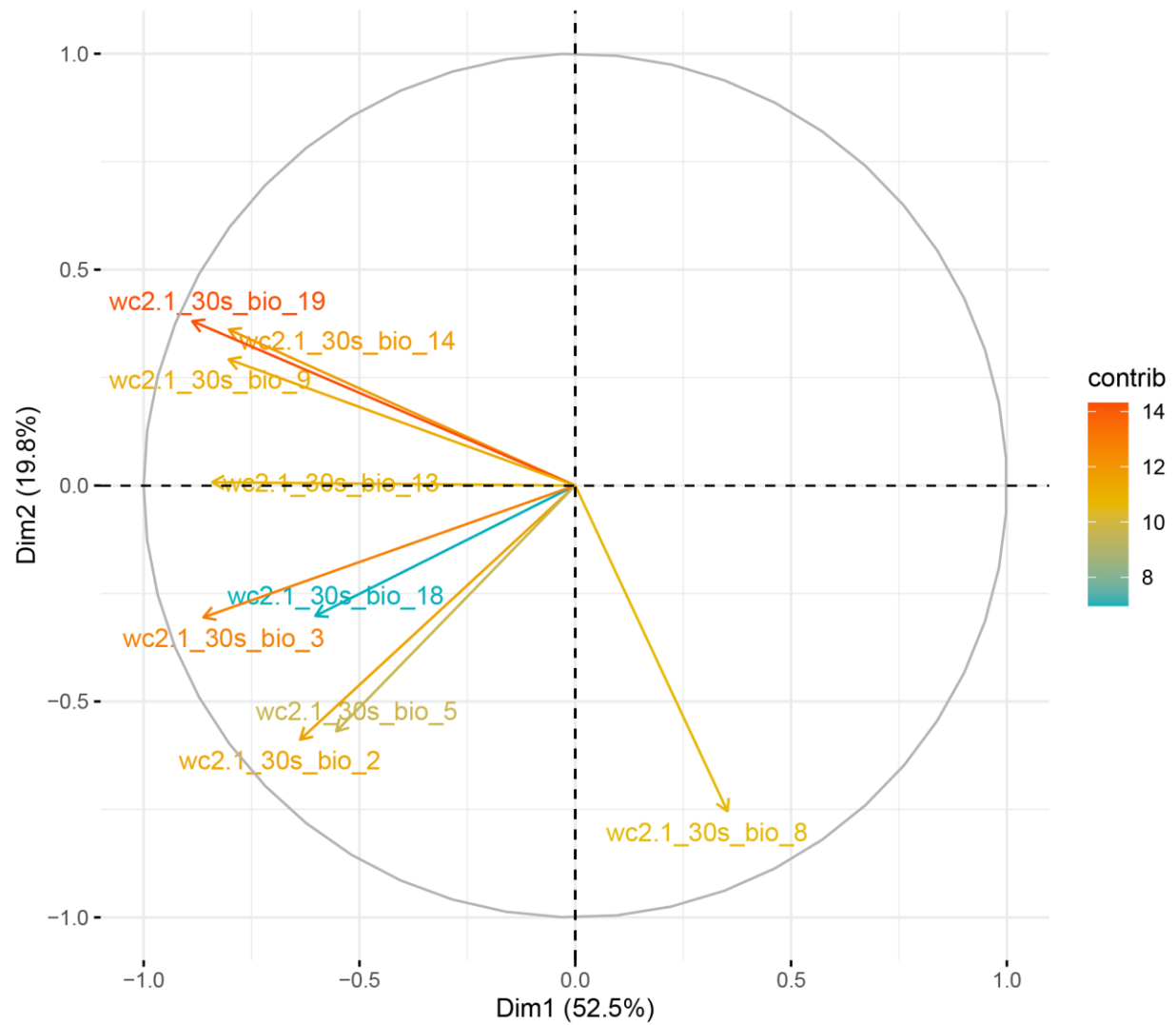


**Supplementary Figure 50.** First two PCs for the inter-taxa PCA for the *Tenodera* species in North America with the full dataset.



**Supplementary Figure 51.** Metrics' importance for the inter-taxa PCA for the *Tenodera* species in North America with the trimmed dataset.

*Tenodera* in North America (Anderson 2019)  
Variables – PCA



**Supplementary Figure 52.** First two PCs for the inter-taxa PCA for the *Tenodera* species in North America with the trimmed dataset.