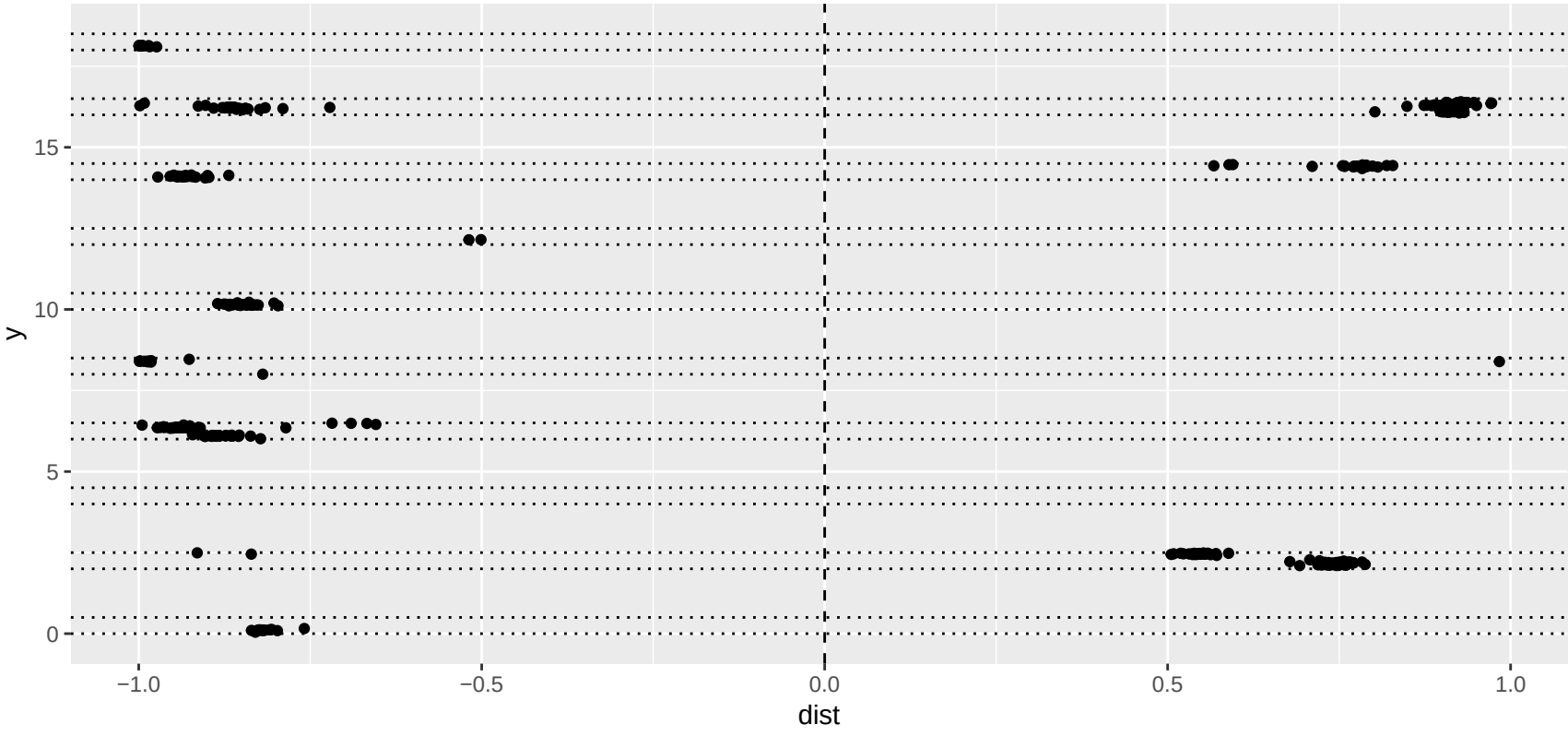quad sampling − individuals