In **Google Earth**, *Open* the csv file, and in the "Data import wizard" (the window may be quite broad) select :

Choose *Field type* "Delimited"

Select *Delimiter* "Other" and type ";" (semicolon)

and **untick** " Treat consecutive delimiters as one" and click *Finish*

Click "Import all" (ignore the message saying that more than 2500 features will cause performance degradation),To *Do you want to apply a style template to the features you ingested* ? tick *Yes* and *Create new template*

Then, in *Style template settings*, in *Name*, select field *'name'* to display the name of the site. You can choose to display by color or icon style (*Set color from field* or *Set icon from field*) the sites that contain any rhino genus, by choosing the relevant column (from column "Aceratherium" to column "Victoriaceros"). Click OK, and save the template if you wish so.

To display the points, do not forget to tick the name of the file in window "Places"

Display options are far richer in **QGIS** (tested in version 3.10) https://qgis.org

Upon a map of the Old World choose :

Layer

Add layer

Add delimited text layer

Enter file name (e.g., "rhino_map.csv"), select "*Custom delimiters*" and tick "Semicolon", "First record has field names", "Detect field types", "Point coordinates", leave (default) X field "lon", Y field "lat", and leave default for Geometry CRS ("EPSG 4326 – WGS 84" for a lat/lon map), click "Add" – all points will be displayed

In the folder containing your data, create a new folder, e.g., "stratigraphy"

in menu *Vector*

Data management tools

Split vector layer

in *Parameters*, enter the name of the point layer (e.g., "rhino_map") and, in *Unique ID field*, enter the name of the column containing the ages, "Age", and in *Output directory*, choose "Save to Directory", and select the (name of the) folder that you just created, "stratigraphy", and click *Run*

This will create a series of point layers in folder "Stratigraphy"

To display them:

Layer

Add layer

Add vector layer

In *Source*, select any (or several) file(s) with extension .gpkg in folder "Stratigraphy", and click "Add"; the various periods will be displayed with different colors.

We can now choose to hide/display any layer, including the complete rhino_map layer.

Suppose we want to display the late Miocene distribution of *Aceratherium*, *Dihoplus*, and *Chilotherium*. Untick all other layers except "Stratigraphy_Late Miocene". Right-click layer *Age_Late Miocene*, and choose *Duplicate layer* twice (you need as many layers as genera you want do display). Rename (right click) the three layers "Late Miocene Aceratherium", "Late Miocene Dihoplus", and "Late Miocene Chilotherium". Right-click "Late Miocene Chilotherium", *Properties*, then *Symbology*. At the top of the window, instead of "Single symbol", choose "Categorized". For *Value* choose "123 Chilotherium" (this is the column with the number of species of *Chilotherium* in each site) and click (bottom left) *Classify*. Untick the lines for *Value* "0" and "all others". You can then change the symbols for other lines (with 1, 2, or 3 species of *Chilotherium*) by double-clicking them. It is certainly clearer to use the same symbol and color for all *Chilotherium*, and change only the size of the symbol (e.g., 1, 2, 3 map units). Repeat the operation for *Dihoplus* and *Aceratherium*.

You can also choose to display the Aceratheriini (*Aceratherium* + *Acerorhinus* + Alicornops + *Chilotherium* + *Hoploaceratherium* + *Mesaceratherium* + *Plesiaceratherium* + *Protaceratherium* + *Shansirhinus* + *Pleuroceros* + *Subchilotherium*), the Rhinocerotini (*Diceros* + *Ceratotherium* + *Dicerorhinus* + *Rhinoceros* + *Stephanorhinus* + *Coelodonta* + *Paradiceros* + *Rusingaceros* + *Lartetotherium* + *Dihoplus* + *Gaindatherium*), the brachypotheres (*Brachypotherium* + *Prosantorhinus* + *Diaceratherium*), the Rhinocerotini + brachypotheres, the Rhinocerotinae (Aceratheriini + Rhinocerotini + brachypotheres), the Elasmotheriinae (*Begertherium* + *Beliajevina* + *Bugtirhinus* + *Caementodon* + *Elasmotherium* + *Hispanotherium* + *Huaqingtherium* + *Iranotherium* + *Kenyatherium* + *Ningxiatherium* + *Ougandatherium* + *Parelasmotherium* + *Shennongtherium* + *Sinotherium* + *Tesselodon* + *Turkanatherium* + *Chilotheridium* + *Victoriaceros*), or the stem taxa (all others) (*of course not everyone will agree on these subdivisions !*).

GPlates (www.gplates.org) allows you to visualize the geographic locations of the fossil sites in the past. Some example files are provided in the archive "RhinosRRCforGPlates.zip"

Start GPlates and open project "rhinosRRC.gproj". By changing the "Time", you can visualize the distribution of the various taxa (by default, they are all visible) at different periods. By editing the text file "RhinosRRC.sym" and loading it, you can change the symbols. You can also change the colours in Features – Manage colouring

You can also overlay the rhino distribution on the paleogeographic maps provided by :

Scotese, C.R., 2016. PALEOMAP PaleoAtlas for GPlates and the PaleoData Plotter Program, PALEOMAP Project, http://www.earthbyte.org/paleomap-paleoatlas-for-gplates/

Download the Cenozoic files (but you may use the file included here for the present-day, because its political boundaries have been [roughly] updated). In GPlates, File – Import, choose Import Time-dependent raster and Add all jpg files, click Next, Next, Next, and Finish.