

# Distance Matrix

Using the *Alignment Editor* you can also create a distance matrix of a multiple sequence alignment.

To create a distance matrix, use the *Statistics Generate distance matrix* item in the *Actions* main menu or in the context menu.

The dialog will appear:

**Generate Distance Matrix**

Distance algorithm: Hamming dissimilarity

Profile mode

- ☒ Count
- ☐ Percentage
- ☒ Exclude gaps
- ☐ Show group statistics of multiple alignment

☐ Save profile to file

File: ENE\_Data/COI\_distance\_matrix\_1.html

- ☒ Hypertext (.HTML)
- ☐ Comma separated (.CSV)

Buttons: Help, Cancel, Generate

The following parameters are available:

*Distance algorithm* - there are two distance algorithms: "Hamming distance" for dissimilarity and "Simple similarity" for similarity.

*Profile mode: Counts/Percents* — select the *Percents* to have scores shown as percents in the report. Also, you can *Exclude gaps*.

*Show group statistics of multiple alignment* - shows group statistics when the collapsing is switched on.

*Save profile to file* — allows saving the profile to a file in the HTML or CSV format. The CSV format is convenient for further processing in worksheets editors like Excel.

The resulting profile in the HTML mode:

Table content: Hamming dissimilarity

	Phaneroptera_falcata	Isophya_altaica_EF540820	Bicolorana_bicolor_EF540830	Roeseliana_1
Phaneroptera_falcata	0	106	118	115
Isophya_altaica_EF540820	106	0	115	119
Bicolorana_bicolor_EF540830	118	115	0	54
Roeseliana_roeseli	115	119	54	0
Montana_montana	116	118	85	75
Metrioptera_japonica_EF540831	113	115	84	72
Gampsocleis_sedakovii_EF540828	128	125	101	97
Deracantha_deracantoides_EF540	110	109	91	92
Zychia_baranovi	100	114	109	112
Tettigonia_viridissima	114	110	104	99
Conocephalus_discolor	123	115	110	116
Conocephalus_sp.	122	114	110	114
Conocephalus_percaudata	130	121	123	120
Mecopoda_elongata_Ishigaki_J	103	100	107	100
Mecopoda_elongata_Sumatra	103	100	107	100
Mecopoda_sp._Malaysia	102	101	102	98
Podisma_sapporensis	116	128	120	116
Hetrodes_pupus_EF540832	152	162	154	146

Legend: 10% 25% 50% 70% 90%