

atlas-utils之使用SINTAX/RDP结果注释(Z)OTU表: annotation

一、atlas-utils annotation介绍

功能描述:

`atlas-utils annotation` 使用SINTAX/RDP结果注释 (Z)OTU 表。

命令行接口:

```
1 $ atlas-utils annotation
2
3 Usage: atlas-utils annotation <annotation> <otutab>
```

二、使用场景实例及其用法

使用场景经典案例:

1. 扩增子数据分析, 对 `ZOTU` 进行注释;

示例演示:

文件: `classify.txt`, `zotu_table.txt`

```
1 $ cat classify.txt | head -n 5
```

```

1 ZOTU_19 d: Bacteria(1.0000), p: "Bacteroidetes"
      (1.0000), c: Sphingobacteriia(1.0000), o: "Sphingobacteriales"
      (1.0000), f: Chitinophagaceae(1.0000), g: Parafilimonas(0.9400), s: Parafilimonas_t
      errae(0.8836) +
      d: Bacteria, p: "Bacteroidetes", c: Sphingobacteriia, o: "Sphingobacteriales", f: Chit
      inophagaceae, g: Parafilimonas, s: Parafilimonas_terrae
2 ZOTU_5 d: Bacteria(1.0000), p: "Bacteroidetes"(1.0000), c: "Bacteroidia"
      (0.7800), o: "Bacteroidales"
      (0.6084), f: Prolixibacteraceae(0.3650), g: Mariniphaga(0.0621), s: Mariniphaga_ana
      erophila(0.0105) +
      d: Bacteria, p: "Bacteroidetes"
3 ZOTU_9 d: Bacteria(1.0000), p: "Bacteroidetes"
      (1.0000), c: Flavobacteriia(1.0000), o: "Flavobacteriales"
      (1.0000), f: Flavobacteriaceae(1.0000), g: Flavobacterium(1.0000) +
      d: Bacteria, p: "Bacteroidetes", c: Flavobacteriia, o: "Flavobacteriales", f: Flavobac
      teriaceae, g: Flavobacterium
4 ZOTU_12 d: Bacteria(1.0000), p: "Bacteroidetes"(1.0000), c: "Bacteroidia"
      (1.0000), o: "Bacteroidales"(1.0000), f: "Porphyromonadaceae"
      (1.0000), g: Petrimonas(1.0000), s: Petrimonas_sulfuriphila(1.0000) +
      d: Bacteria, p: "Bacteroidetes", c: "Bacteroidia", o: "Bacteroidales", f: "Porphyromon
      adaceae", g: Petrimonas, s: Petrimonas_sulfuriphila
5 ZOTU_7 d: Bacteria(1.0000), p: "Bacteroidetes"(1.0000), c: "Bacteroidia"
      (1.0000), o: "Bacteroidales"(1.0000), f: "Porphyromonadaceae"
      (1.0000), g: Macellibacteroides(0.5700), s: Macellibacteroides_fermentans(0.3249)
      +
      d: Bacteria, p: "Bacteroidetes", c: "Bacteroidia", o: "Bacteroidales", f: "Porphyromon
      adaceae"

```

```
1 $ cat zotu_table.txt | head
```

#OTU	ID	A-1	A-2	B-1	B-2	C-1	C-2
ZOTU_1	0	0	87	278	1829	3608	
ZOTU_2	223	447	1268	1583	52	69	
ZOTU_3	0	0	162	159	1116	2021	
ZOTU_4	0	0	99	50	1250	2172	
ZOTU_5	0	0	1	8	1216	2143	
ZOTU_6	1	2	9	16	1155	1938	
ZOTU_7	0	0	73	41	1044	1883	
ZOTU_8	0	0	1353	1231	2	1	
ZOTU_9	0	0	1172	1022	1	2	

运行命令：

使用对应的物种注释注释对应OTU表。

```
1 $ cut -f1,4 classify.txt | atlas-utils annotation - zotu_table.txt | head
```

1	#OTU	ID	A-1	A-2	B-1	B-2	C-1	C-2	taxonomy
2	ZOTU_1	0	0	0	87	278	1829	3608	d:Bacteria,p:"Proteobacteria",c:Epsilonproteobacteria,o:Campylobacterales,f:Campylobacteraceae,g:Arcobacter
3	ZOTU_2	223	447	1268	1583	52	69		d:Bacteria,p:"Proteobacteria",c:Gammaproteobacteria,o:Oceanospirillales,f:Halomonadaceae,g:Halomonas
4	ZOTU_3	0	0	162	159	1116	2021		d:Bacteria,p:"Proteobacteria",c:Alphaproteobacteria,o:Rhodospirillales,f:Acetobacteraceae,g:Roseomonas
5	ZOTU_4	0	0	99	50	1250	2172		d:Bacteria,p:"Bacteroidetes",c:"Bacteroidia",o:"Bacteroidales",f:"Porphyromonadaceae"
6	ZOTU_5	0	0	1	8	1216	2143		d:Bacteria,p:"Bacteroidetes"
7	ZOTU_6	1	2	9	16	1155	1938		d:Bacteria,p:"Proteobacteria",c:Alphaproteobacteria,o:Rhizobiales,f:Rhizobiaceae
8	ZOTU_7	0	0	73	41	1044	1883		d:Bacteria,p:"Bacteroidetes",c:"Bacteroidia",o:"Bacteroidales",f:"Porphyromonadaceae"
9	ZOTU_8	0	0	1353	1231	2	1		d:Bacteria,p:"Proteobacteria",c:Gammaproteobacteria,o:Alteromonadales,f:Alteromonadaceae,g:Alishewanella
10	ZOTU_9	0	0	1172	1022	1	2		d:Bacteria,p:"Bacteroidetes",c:Flavobacteriia,o:"Flavobacteriales",f:Flavobacteriaceae,g:Flavobacterium

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