

les4-\_w23

Fri Jun 01 16:28:50 2018

1

% this is ../../crops/18r/planning/current\_pedigrees/primary\_dominants/les4-\_w23

% generated Friday, June 01, 2018 at 21:28:50 UTC (=1527888530.808083) by compute\_pedigrees/1.

% Horizontal pedigrees, generations at same indentation. S: Mo20W; W: W23; M: M14

% !!! => cross was not by Toni; references to image locations on right.

% W23/Les4-

06R0021:0000000 x 06R0021:0000000  
06R0021:0002107 x 06R0021:0002106  
09R201:S0040209 x 09R1345:0017802 09R1345:0017802: [09r/aleph/21.8-[11]]  
09R201:S0042606 x 09R1345:0017802 09R1345:0017802: [09r/aleph/21.8-[11]]  
09R201:S0042610 x 09R1345:0017809 09R1345:0017809: [09r/aleph/21.8-[13]]  
10R205:S0000807 x 10R3004:0019805 10R3004:0019805: [10r/gimmel/9.8-[112]]  
10R205:S0001111 x 10R3004:0019804 10R3004:0019804: [10r/gimmel/9.8-[111]]  
11R205:S0052007 x 11R3305:0018210 11R3305:0018210: [11r/aleph/18.8-[1028]]  
11N205:S0037811 x 11N3420:0010807  
12R205:S0002807 x 12R3591:0023606 12R3591:0023606: [12r/bet/6.8-[83],12r/bet/8.8  
-[165]]  
12R205:S0010608 x 12R3591:0023604 12R3591:0023604: [12r/bet/6.8-[82],12r/bet/8.8  
-[164]]  
12N3952:0018503 x 12N3952:0018503 12N3952:0018503: [12n/bet/13.1-[853]]  
12N3952:0018503: [12n/bet/13.1-[853]]  
12N3952:0018504 x 12N3952:0018504 12N3952:0018504: [12n/bet/13.1-[854]]  
12N3952:0018504: [12n/bet/13.1-[854]]  
12N3952:0018508 x 12N3952:0018503 12N3952:0018503: [12n/bet/13.1-[853]]  
12N3952:0018509 x 12N3952:0018503 12N3952:0018503: [12n/bet/13.1-[853]]  
12N3952:0018512 x 12N3952:0018503 12N3952:0018503: [12n/bet/13.1-[853]]  
12N3952:0018601 x 12N3952:0018504 12N3952:0018504: [12n/bet/13.1-[854]]  
12N3952:0018603 x 12N3952:0018504 12N3952:0018504: [12n/bet/13.1-[854]]  
12N3952:0018605 x 12N3952:0018604 12N3952:0018604: [12n/bet/13.1-[858]]  
12N504:B0039703 x 12N3952:0018712 12N3952:0018712: [12n/bet/13.1-[866]]  
12N504:B0039704 x 12N3952:0018604 12N3952:0018604: [12n/bet/13.1-[858]]  
12N504:B0039707 x 12N3952:0018706 12N3952:0018706: [12n/bet/13.1-[862]]  
12N504:B0039712 x 12N3952:0018707 12N3952:0018707: [12n/bet/13.1-[863]]  
12N504:B0039802 x 12N3952:0018708 12N3952:0018708: [12n/bet/13.1-[864]]  
12N504:B0040610 x 12N3952:0018504 12N3952:0018504: [12n/bet/13.1-[854]]  
12N504:B0040712 x 12N3952:0018503 12N3952:0018503: [12n/bet/13.1-[853]]  
12N504:B0040713 x 12N3952:0018501 12N3952:0018501: [12n/bet/13.1-[852]]  
12R3591:0023604 x 12R3591:0023604 12R3591:0023604: [12r/bet/6.8-[82],12r/bet/8.8  
-[164]] 12R3591:0023604: [12r/bet/6.8-[82],12r/bet/8.8-[164]]  
12N205:S0037610 x 12N3953:0018803 12N3953:0018803: [12n/bet/13.1-[868]]  
13R4195:0006402 x 13R4195:0006402 13R4195:0006402: [13r/bet/1.8-[1714]]  
,13r/bet/21.7-[1423],13r/bet/25.7-[1575]] 13R4195:0006402: [13r/bet/1.8-[1714],13r/bet/21.7-[1423],13r/bet/25.7-[1575]]  
13R4195:0006403 x 13R4195:0006402 13R4195:0006402: [13r/bet/1.8-[1714]]  
,13r/bet/21.7-[1423],13r/bet/25.7-[1575]]  
13R4195:0006404 x 13R4195:0006404 13R4195:0006404: [13r/bet/21.7-[1424]

K2106

125  
125

16

[,13r/bet/25.7-[1576]] 13R4195:0006404: [13r/bet/21.7-[1424],13r/bet/25.7-[1576]]  
13R4195:0006407 x 13R4195:0006402 13R4195:0006402: [13r/bet/1.8-[1714]]  
[,13r/bet/21.7-[1423],13r/bet/25.7-[1575]]  
13R4195:0006411 x 13R4195:0006402 13R4195:0006402: [13r/bet/1.8-[1714]]  
[,13r/bet/21.7-[1423],13r/bet/25.7-[1575]]  
13R4195:0006412 x 13R4195:0006404 13R4195:0006404: [13r/bet/21.7-[1424]]  
[,13r/bet/25.7-[1576]]  
13R4195:0006416 x 13R4195:0006404 13R4195:0006404: [13r/bet/21.7-[1424]]  
[,13r/bet/25.7-[1576]]  
13R4195:0006418 x 13R4195:0006404 13R4195:0006404: [13r/bet/21.7-[1424]]  
[,13r/bet/25.7-[1576]]  
13R504:B0002701 x 13R4195:0006404 13R4195:0006404: [13r/bet/21.7-[1424]]  
[,13r/bet/25.7-[1576]]  
13R504:B0002703 x 13R4195:0006402 13R4195:0006402: [13r/bet/1.8-[1714]]  
[,13r/bet/21.7-[1423],13r/bet/25.7-[1575]]  
13R504:B0003318 x 13R4195:0006404 13R4195:0006404: [13r/bet/21.7-[1424]]  
[,13r/bet/25.7-[1576]]  
14R4195:0010302 x 14R4195:0010306 14R4195:0010306: [14r/bet/18.8-[2212]]  
]]  
14R4195:0010304 x 14R4195:0010306 14R4195:0010306: [14r/bet/18.8-[2212]]  
]]  
14R4195:0010307 x 14R4195:0010306 14R4195:0010306: [14r/bet/18.8-[2212]]  
]]  
14R4195:0010309 x 14R4195:0010306 14R4195:0010306: [14r/bet/18.8-[2212]]  
]]  
14R4195:0010310 x 14R4195:0010306 14R4195:0010306: [14r/bet/18.8-[2212]]  
]]  
14R4195:0010312 x 14R4195:0010306 14R4195:0010306: [14r/bet/18.8-[2212]]  
]]  
14R4195:0010317 x 14R4195:0010306 14R4195:0010306: [14r/bet/18.8-[2212]]  
]]  
12N3953:0018802 x 12N3953:0018804 12N3953:0018804: [12n/bet/13.1-[869]]  
12R3591:0023606 x 12R3591:0023606 12R3591:0023606: [12r/bet/6.8-[83],12r/bet/8.8  
-[165]] 12R3591:0023606: [12r/bet/6.8-[83],12r/bet/8.8-[165]]  
12R3591:0023612 x 12R3591:0023612 12R3591:0023612: [12r/bet/6.8-[84],12r/bet/8.8  
-[166]] 12R3591:0023612: [12r/bet/6.8-[84],12r/bet/8.8-[166]]  
12R503:B0011909 x 12R3591:0023604 12R3591:0023604: [12r/bet/6.8-[82],12r/bet/8.8  
-[164]]  
12R503:B0012501 x 12R3591:0023606 12R3591:0023606: [12r/bet/6.8-[83],12r/bet/8.8  
-[165]]  
11N205:S0037903 x 11N3420:0010804  
11N205:S0037904 x 11N3420:0010801  
10R305:W0010519 x 10R3004:0019804 10R3004:0019804: [10r/gimmel/9.8-[111]]  
11R305:W0050404 x 11R3306:0018310 11R3306:0018310: [11r/aleph/18.8-[1030]]  
11R305:W0050414 x 11R3306:0018307  
11R305:W0051910 x 11R3306:0018310 11R3306:0018310: [11r/aleph/18.8-[1030]]  
11R305:W0051913 x 11R3306:0018306 11R3306:0018306: [11r/aleph/18.8-[1029]]

11N305:W0034711 x 11N3421:0010904  
12R305:W0000503 x 12R3592:0023701 12R3592:0023701: [12r/aleph/9.8-[1993]]  
14R305:W0000803 x 14R3958:0010412 14R3958:0010412: [14r/bet/18.8-[2203]]  
14R305:W0001001 x 14R3958:0010412 14R3958:0010412: [14r/bet/18.8-[2203]]  
15R305:W0000708 x 15R4352:0010903 15R4352:0010903: [15r/bet/11.8-[2628]]  
]]  
15R305:W0000711 x 15R4352:0010904  
16R4491:0008009 x 16R4491:0008006 16R4491:0008006: [16r/gimmel/30  
.7-[275]]  
16R505:B0002519 x 16R4491:0008008 16R4491:0008008: [16r/gimmel/26  
.7-[129]]  
17R4491:0007603 x 17R4491:0007610 17R4491:0007610: [17r/gimmel/1.  
8-[300]]  
17R4491:0007606 x 17R4491:0007611 17R4491:0007611: [17r/gimmel/1.  
8-[299]]  
17R4491:0007607 x 17R4491:0007610 17R4491:0007610: [17r/gimmel/1.  
8-[300]]  
17R4491:0007608 x 17R4491:0007610 17R4491:0007610: [17r/gimmel/1.  
8-[300]]  
17R4491:0007610 x 17R4491:0007610 17R4491:0007610: [17r/gimmel/1.  
8-[300]] 17R4491:0007610: [17r/gimmel/1.8-[300]]  
17R4491:0007611 x 17R4491:0007611 17R4491:0007611: [17r/gimmel/1.  
8-[299]] 17R4491:0007611: [17r/gimmel/1.8-[299]]  
17R4491:0007612 x 17R4491:0007611 17R4491:0007611: [17r/gimmel/1.  
8-[299]]  
17R4491:0007613 x 17R4491:0007610 17R4491:0007610: [17r/gimmel/1.  
8-[300]]  
17R4491:0007619 x 17R4491:0007610 17R4491:0007610: [17r/gimmel/1.  
8-[300]]  
17R505:B0003012 x 17R4491:0007610 17R4491:0007610: [17r/gimmel/1.  
8-[300]]  
15R305:W0000713 x 15R4352:0010904  
15R305:W0000903 x 15R4352:0010908 15R4352:0010908: [15r/bet/11.8-[2635]]  
]]  
15R305:W0000904 x 15R4352:0010908 15R4352:0010908: [15r/bet/11.8-[2635]]  
]]  
12R305:W0000504 x 12R3592:0023708 12R3592:0023708: [12r/aleph/9.8-[2004]]  
12R305:W0000510 x 12R3592:0023712  
11N305:W0035001 x 11N3421:0010902  
11N305:W0035302 x 11N3421:0010901  
10R405:M0001008 x 10R3004:0019804 10R3004:0019804: [10r/gimmel/9.8-[111]]  
11R405:M0051301 x 11R3307:0018406 11R3307:0018406: [11r/aleph/18.8-[1089,1092,1094]]  
11R405:M0051310 x 11R3307:0018406 11R3307:0018406: [11r/aleph/18.8-[1089,1092,1094]]  
11N405:M0035707 x 11N3422:0011002  
12R405:M0008204 x 12R3593:0023814 12R3593:0023814: [12r/aleph/9.8-[1998]]  
12R405:M0008205 x 12R3593:0023811 12R3593:0023811: [12r/aleph/9.8-[2002]]  
14R405:M0001402 x 14R3959:0010509 14R3959:0010509: [14r/bet/18.8-[2208,2213]]

]]  
14R405:M0001404 x 14R3959:0010509 14R3959:0010509: [14r/bet/18.8-[2208,2213  
]]  
15R405:M0001101 x 15R4353:0011002 15R4353:0011002: [15r/bet/11.8-[2664  
]]  
17R4492:0007902 x 17R4492:0007906  
17R4492:0007903 x 17R4492:0007906  
17R4492:0007904 x 17R4492:0007909  
17R4492:0007905 x 17R4492:0007906  
17R4492:0007907 x 17R4492:0007906  
17R4492:0007910 x 17R4492:0007909  
15R405:M0001102 x 15R4353:0011002 15R4353:0011002: [15r/bet/11.8-[2664  
]]  
15R405:M0001103 x 15R4353:0011002 15R4353:0011002: [15r/bet/11.8-[2664  
]]  
14R405:M0001408 x 14R3959:0010509 14R3959:0010509: [14r/bet/18.8-[2208,2213  
]]  
12R405:M0008208 x 12R3593:0023802 12R3593:0023802: [12r/aleph/9.8-[2005]]  
11N405:M0037305 x 11N3422:0011001  
06R300:W00I7717 x 06R0021:0002101  
06N301:W0005102 x 06N1304:0016603  
06N301:W0005705 x 06N1304:0016604  
09R201:S0042908 x 09R1304:0017512 09R1304:0017512: [09r/aleph/18.8-[265,269,273]]  
10R205:S0007312 x 10R1033:0020004 10R1033:0020004: [10r/gimmel/9.8-[114]]  
10R205:S0007313 x 10R1033:0020010 10R1033:0020010: [10r/gimmel/9.8-[117]]  
10R205:S0007903 x 10R1033:0020002 10R1033:0020002: [10r/gimmel/9.8-[113]]  
11R205:S0050104 x 11R3190:0017807 11R3190:0017807: [11r/aleph/18.8-[1034]]  
11R205:S0050106 x 11R3190:0017801 11R3190:0017801: [11r/aleph/18.8-[1038]]  
11N205:S0031807 x 11N3417:0010510  
12R205:S0003702 x 12R3588:0023201 12R3588:0023201: [12r/aleph/8.8-[1945]]  
12N205:S0036705 x 12N3948:0017506 13R4085:0006101 x 13R4085:0006108 13R4085:0006101: [13r/bet/21.7-[1420  
],13r/bet/25.7-[1568]] 13R4085:0006108: [13r/bet/1.8-[1719],13r/bet/21.7-[1422],13r/bet/25.7-[1570]]  
13R4085:0006103 x 13R4085:0006108 13R4085:0006108: [13r/bet/1.8-[1719]  
,13r/bet/21.7-[1422],13r/bet/25.7-[1570]]  
13R4085:0006104 x 13R4085:0006108 13R4085:0006108: [13r/bet/1.8-[1719]  
,13r/bet/21.7-[1422],13r/bet/25.7-[1570]]  
13R4085:0006108 x 13R4085:0006108 13R4085:0006108: [13r/bet/1.8-[1719]  
,13r/bet/21.7-[1422],13r/bet/25.7-[1570]] 13R4085:0006108: [13r/bet/1.8-[1719],13r/bet/21.7-[1422],13r/bet/25.7-[1570]]  
14R4085:0010002 x 14R4085:0010011 14R4085:0010011: [14r/bet/18.8-[2183  
]]  
14R4085:0010004 x 14R4085:0010011 14R4085:0010011: [14r/bet/18.8-[2183  
]]  
14R4085:0010006 x 14R4085:0010011 14R4085:0010011: [14r/bet/18.8-[2183  
]]  
14R4085:0010008 x 14R4085:0010011 14R4085:0010011: [14r/bet/18.8-[2183  
]]

5

76

les4-\_w23

Fri Jun 01 16:28:50 2018

6

```

]]
14R4086:0010103 x 14R4086:0010116
14R4086:0010108 x 14R4086:0010116
14R4086:0010111 x 14R4086:0010116
14R4086:0010114 x 14R4086:0010116
14R4086:0010116 x 14R4086:0010116
14R4086:0010116: [14r/bet/18.8-[2206]]
14R505:B0002003 x 14R4086:0010116
14R505:B0002107 x 14R4086:0010116
16R4086:0007609 x 16R4086:0007609
16R4086:0007611 x 16R4086:0007610
16R4086:0007610: [16r/gimmel/26.7-[1
28]]

12N305:W0038312 x 12N3949:0017709
12R305:W0001706 x 12R3589:0023307
11N305:W0041906 x 11N3418:0010604
11R305:W0050410 x 11R1735:0018106
07R301:W0027514 x 07R2771:0042301
07R301:W0029305 x 07R2771:0042302
07R401:M0024905 x 07R2771:0042301
07R401:M0029408 x 07R2771:0042302
06N301:W0028703 x 06N1705:0021602
07R301:W0023006 x 07R2770:0042507
07R301:W0027511 x 07R2770:0042506
07R401:M0024903 x 07R2770:0042506
06N301:W0028704 x 06N1705:0021603
06N301:W0028705 x 06N1705:0021605
06N301:W0028706 x 06N1705:0021606
06N401:M0007601 x 06N1705:0021606
06N401:M0008202 x 06N1705:0021605
06N401:M0011506 x 06N1705:0021601
07R201:S0029802 x 07R2772:0042401
07R201:S0030411 x 07R2772:0042408
07R201:S0033716 x 07R2772:0042406
07R301:W0002307 x 07R2772:0042408
07R301:W0034703 x 07R2772:0042406
07R401:M0002107 x 07R2772:0042408
07R401:M0029107 x 07R2772:0042401
07R401:M0034511 x 07R2772:0042406
09R401:M0043503 x 09R2147:0017710
09R401:M0045307 x 09R2147:0017710
11R405:M0050303 x 11R2234:0017908
11R405:M0051007 x 11R2234:0017909

14R4086:0010116: [14r/bet/18.8-[2206]]
14R4086:0010116: [14r/bet/18.8-[2206]]
14R4086:0010116: [14r/bet/18.8-[2206]]
14R4086:0010116: [14r/bet/18.8-[2206]]
14R4086:0010116: [14r/bet/18.8-[2206]]
14R4086:0010116: [14r/bet/18.8-[2206]]
14R4086:0010116: [14r/bet/18.8-[2206]]
16R4086:0007610: [16r/gimmel/26.7-[1
28]]

12R3589:0023307: [12r/aleph/8.8-[1946]]
11R1735:0018106: [11r/aleph/18.8-[1031]]
09R2147:0017710: [09r/aleph/18.8-[276,281,284]]
09R2147:0017710: [09r/aleph/18.8-[276,281,284]]
11R2234:0017908: [11r/aleph/18.8-[1044]]
11R2234:0017909: [11r/aleph/18.8-[1036]]
```

11N205:S0034503 x 11N3419:0010705  
11N205:S0034504 x 11N3419:0010705  
11N405:M0032808 x 11N3419:0010704

56

sun all  
end

12N3590:0018002 x 12N3590:0018001  
12N3590:0018003 x 12N3590:0018001  
12N3590:0018008 x 12N3590:0018001  
12N3590:0018103 x 12N3590:0018101  
12N3590:0018105 x 12N3590:0018101  
12N3590:0018107 x 12N3590:0018101  
12N3590:0018108 x 12N3590:0018102  
12N3590:0018109 x 12N3590:0018102  
12N3590:0018110 x 12N3590:0018105  
12N405:M0039606 x 12N3590:0017901  
12N405:M0039607 x 12N3590:0017901  
12R503:B0012506 x 12R3590:0023405  
12R503:B0012507 x 12R3590:0023401  
12R503:B0012608 x 12R3590:0023403  
13R3590:0006303 x 13R3590:0006304  
13R3590:0006306 x 13R3590:0006304  
14R3590:0010203 x 14R3590:0010209  
14R3590:0010205 x 14R3590:0010209  
14R3590:0010207 x 14R3590:0010209  
17R3590:0007402 x 17R3590:0007412  
17R3590:0007406 x 17R3590:0007412  
17R3590:0007410 x 17R3590:0007412  
17R3590:0007411 x 17R3590:0007412

12N3590:0018001: [12n/bet/13.1-[843]]  
12N3590:0018001: [12n/bet/13.1-[843]]  
12N3590:0018001: [12n/bet/13.1-[843]]  
12N3590:0018101: [12n/bet/13.1-[845]]  
12N3590:0018101: [12n/bet/13.1-[845]]  
12N3590:0018101: [12n/bet/13.1-[845]]  
12N3590:0018102: [12n/bet/13.1-[846]]  
12N3590:0018102: [12n/bet/13.1-[846]]

12N3590:0017901: [12n/bet/13.1-[841]]  
12N3590:0017901: [12n/bet/13.1-[841]]

12R3590:0023403: [12r/bet/3.8-[45]]  
13R3590:0006304: [13r/bet/1.8-[1710],13r/

bet/15.7-[1155],13r/bet/18.7-[1300],13r/bet/21.7-[1418],13r/bet/25.7-[1573]]

13R3590:0006304: [13r/bet/1.8-[1710],13r/bet/15.7-[1155],13r/bet/18.7-[1300],13r/bet/21.7-[1418],13r/bet/25.7-[1573]]

13R3590:0006306: [13r/bet/1.8-[1709]]  
14R3590:0010209: [14r/bet/18.8-[2207]]  
14R3590:0010209: [14r/bet/18.8-[2207]]  
14R3590:0010209: [14r/bet/18.8-[2207]]  
17R3590:0007412: [17r/gimmel/1.8-[297]]  
17R3590:0007412: [17r/gimmel/1.8-[297]]  
17R3590:0007412: [17r/gimmel/1.8-[297]]  
17R3590:0007412: [17r/gimmel/1.8-[297]]

11N405:M0034009 x 11N3419:0010704

06N401:M0012902 x 06N1705:0021603

07R201:S0030405 x 07R2769:0042601

07R301:W0002606 x 07R2769:0042601

07R401:M0006608 x 07R2769:0042601

07G201:S0000404 x 07G1705:0001101 !!!

09R201:S0042903 x 09R2228:0017404  
-[5],09r/bet/2.9-[10]]

09R2228:0017404: [09r/aleph/18.8-[251,255,259],09r/aleph/21.8

09R201:S0042906 x 09R2228:0017412

09R2228:0017412: [09r/aleph/21.8-[7],09r/bet/2.9-[19]]

07G301:W0000801 x 07G1705:0001101

07G301:W0000804 x 07G1705:0001106

07G401:M0000304 x 07G1705:0001108 !!!

07G401:M0000606 x 07G1705:0001101 !!!