Supplementary Table 1. Metadata for the honey bee colonies used in the analysis. Colony name- laboratory code given to specific colony on collection, Amm/H= *A. m. mellifera* or Hybrid honeybee, W/M= whether the colony was a free-living (wild) colony or a managed colony, location= Irish county, or other location, in which the colony was sampled, N= number of bees included in the pool-seq sample, PopC is the query colony, PopA, PopB are the references used to compare query colony against (M or C).

Colony Name	Amm/H	W/M	Location	N	PopC	PopA,PopB	F3	Z-score	f4_ratio
F90CE	Amm	Wild	Clare	30	F90CE	AmC429,X1	0.085	13.79	0.99
F100CE	Amm	Wild	Clare	30	F100CE	X1,ITA_LIG2	0.1081	12.2758	0.97
F91CE	Amm	Wild	Clare	30	F91CE	X1,ITA_LIG2	0.0424	6.4291	0.97
F93CE	Amm	swarm	Clare	30	F93CE	X1,ITA_LIG2	0.0555	8.2644	0.97
F94CE	Amm	Wild	Clare	30	F94CE	X1,ITA_LIG1	0.0162	2.9198	0.95
F9230CE	Amm	Wild	Clare	30	F9230CE	X1,ITA_LIG1	0.0185	2.5516	0.94
F85CE	Amm	Wild	Clare	30	F85CE	X1,ITA_LIG1	-0.0045	-0.6956	0.93
F89CE	**Hybrid**	**Wild**	**Clare**	**30**	**F89CE**	**X1,ITA_LIG2**	**-0.0753**	**-15.6687**	**0.9**
F126C	Amm	Wild	Cork	16	F126C	X1,ITA_LIG2	0.1171	17.1915	1
F127C	Amm	Wild	Cork	30	F127C	X1,ITA_LIG2	0.1344	18.6796	1
F38c	Amm	Wild	Cork	30	F38C	F113O,ITA_LIG2	0.1398	18.7999	1
F129C	Amm	Wild	Cork	30	F129C	AmC419,X1	0.0902	14.308	0.99
F128C	Amm	Wild	Cork	30	F128C	X1,ITA_LIG2	0.0425	7.1158	0.98
F130C	**Hybrid**	**Wild**	**Cork**	**30**	**F130C**	**X1,ITA_LIG1**	**-0.1822**	**-63.9271**	**0.79**
F146DL2022	Amm	Wild	Donegal	20	F146DL22	F113O,ITA_LIG1	0.167	18.9765	0.99
F150DL2022	Amm	Wild	Donegal	25	F150DL22	X1,ITA_LIG1	0.0772	11.4972	0.98
F162DL2022	Amm	Wild	Donegal	30	F162DL22	X1,ITA_LIG1	0.2992	22.1044	0.97
M150DL2021	Amm	Managed	Donegal	20	M150DL21	X1,ITA_LIG2	0.1518	16.2746	0.97
M153DL2021	Amm	Managed	Donegal	30	M153DL21	F146Dl22,ITA_LIG1	0.1933	16.0435	0.97
F139DL2022	Amm	Wild	Donegal	30	F139DL22	X1,ITA_LIG1	0.0413	6.2866	0.96
F157DL2021	Amm	Wild	Donegal	30	F157DL21	X1,ITA_LIG1	0.028	4.6934	0.96
M140DL2021	Amm	Managed	Donegal	20	M140DL21	X1,ITA_LIG2	0.0619	8.2385	0.96
M156DL2021	Amm	Managed	Donegal	30	M156DL21	F146Dl22,ITA_LIG1	0.0783	7.6609	0.96
M159DL2021	Amm	Managed	Donegal	30	M159DL21	X1,ITA_LIG1	0.0089	1.5274	0.96
M216DL2021	Amm	Managed	Donegal	20	M216DL21	X1,ITA_LIG2	0.0938	12.0193	0.96
F137DL2022	Amm	Wild	Donegal	30	F137DL22	X1,ITA_LIG1	-0.0038	-0.6337	0.95
F138DL2021	Amm	Wild	Donegal	30	F138DL21	X1,ITA_LIG1	0.0066	1.1401	0.95
F140DL2021	Amm	Wild	Donegal	25	F140DL21	X1,ITA_LIG2	0.015	2.5218	0.95
F141DL2021	Amm	Wild	Donegal	30	F141DL21	SO20C,ITA_LIG1	0.0316	4.2653	0.95
F160DL2022	Amm	Wild	Donegal	25	F160DL22	X1,ITA_LIG1	0.0154	2.493	0.95
F165DL2022	**Hybrid**	**Wild**	**Donegal**	**30**	**F165DL22**	**X1,ITA_LIG1**	**-0.0218**	**-4.3023**	**0.95**
M138DL2022	Amm	Managed	Donegal	30	M138DL22	X1,ITA_LIG2	0.0275	4.4867	0.95
M139DL2021	Amm	Managed	Donegal	20	M139DL21	X1,ITA_LIG1	0.0612	7.5637	0.95
M141DL2021	Amm	Managed	Donegal	30	M141DL21	SO20C,ITA_LIG1	0.0151	2.3476	0.95
M142DL2021	Amm	Managed	Donegal	30	M142DL21	SO20C,ITA_LIG1	0.0305	4.026	0.95
M166DL2022	**Hybrid**	**Managed**	**Donegal**	**30**	**M166DL22**	**X1,ITA_LIG1**	**-0.0126**	**-2.1541**	**0.95**
F136DL2021	Amm	Wild	Donegal	30	F136DL21	X1,ITA_LIG1	-0.0082	-1.348	0.94
F142DL2022	Amm	Wild	Donegal	30	F142DL22	SO20C,ITA_LIG1	0.0061	0.7658	0.94
F147DL2022	**Hybrid**	**Wild**	**Donegal**	**30**	**F147DL22**	**X1,ITA_LIG1**	**-0.0209**	**-3.7094**	**0.94**
F149DL2022	Amm	Wild	Donegal	15	F149DL22	X1,ITA_LIG2	0.1453	11.56	0.94
M219DL2021	Amm	Managed	Donegal	20	M219DL21	X1,ITA_LIG1	-0.0031	-0.3986	0.94
F144DL2021	Amm	Wild	Donegal	30	F144DL22	SO20C,ITA_LIG1	-0.013	-1.6834	0.93
M137DL2021	Amm	Managed	Donegal	30	M137DL21	SO20C,ITA_LIG1	0.0154	1.799	0.93
M143DL2021	Amm	Managed	Donegal	30	M143DL21	SO20C,ITA_LIG1	-0.0158	-1.9915	0.93
M144DL2021	Amm	Managed	Donegal	30	M144DL21	SO20C,ITA_LIG1	-0.0001	0.1634	0.93
M149DL2021	**Hybrid**	**Managed**	**Donegal**	**25**	**M149DL21**	**AmC419,X1**	**-0.0224**	**-3.9733**	**0.93**
M155DL2021	**Hybrid**	**Managed**	**Donegal**	**30**	**M155DL21**	**SO20C,ITA_LIG1**	**-0.0273**	**-4.0852**	**0.93**

M162DL2022	Amm	Managed	Donegal	30	M162DL22	X1,ITA_LIG1	0.0126	1.9201	0.93
M215DL2021	**Hybrid**	**Managed**	**Donegal**	**30**	**M215DL21**	**SO20C,ITA_LIG1**	**-0.0318**	**-4.9828**	**0.93**
F143DL2022	**Hybrid**	**Wild**	**Donegal**	**30**	**F143DL22**	**X1,ITA_LIG1**	**-0.0425**	**-7.4103**	**0.92**
M167DL2022	**Hybrid**	**Managed**	**Donegal**	**25**	**M167DL22**	**X1,ITA_LIG1**	**-0.0351**	**-5.9021**	**0.92**
M147DL2021	**Amm**	**Managed**	**Donegal**	**15**	**M147DL21**	**X1,ITA_LIG1**	**-0.0113**	**-1.4055**	**0.91**
M148DL2021	**Hybrid**	**Managed**	**Donegal**	**30**	**M148DL21**	**SO20C,ITA_LIG1**	**-0.0829**	**-12.6884**	**0.89**
M217DL2021	**Hybrid**	**Managed**	**Donegal**	**20**	**M217DL21**	**X1,ITA_LIG1**	**-0.0901**	**-15.8286**	**0.87**
M218DL2021	**Hybrid**	**Managed**	**Donegal**	**30**	**M218DL21**	**X1,ITA_LIG1**	**-0.0831**	**-16.8171**	**0.87**
F148DL2022	**Hybrid**	**Wild**	**Donegal**	**30**	**F148DL22**	**X1,ITA_LIG2**	**-0.1014**	**-20.6279**	**0.86**
M136DL2022	**Hybrid**	**Managed**	**Donegal**	**30**	**M136DL22**	**SO20C,ITA_LIG1**	**-0.1459**	**-27.876**	**0.82**
F153DL2021	**Hybrid**	**Wild**	**Donegal**	**25**	**F153DL21**	**X1,ITA_LIG1**	**-0.1599**	**-50.6879**	**0.8**
F156DL2022	**Hybrid**	**Wild**	**Donegal**	**30**	**F156DL22**	**SO20C,ITA_LIG1**	**-0.1367**	**-31.0411**	**0.8**
F152DL2021	**Hybrid**	**Wild**	**Donegal**	**25**	**F152DL21**	**X1,ITA_LIG2**	**-0.1502**	**-37.2096**	**0.76**
F95DL20	**Hybrid**	**Wild**	**Dublin**	**30**	**F95DL20**	**X1,ITA_LIG1**	**-0.0542**	**-11.8456**	**0.92**
F74D19	**Hybrid**	**Wild**	**Dublin**	**30**	**F74D19**	**X1,ITA_LIG1**	**-0.2045**	**-86.9323**	**0.74**
X21	Amm	Managed	Galway	30	X21	X1,ITA_LIG1	0.1645	22.2359	1.01
CL1	Amm	Managed	Galway	30	CL1	X1,ITA_LIG1	0.0903	14.5913	1
F120G	Amm	Wild	Galway	25	F120G	X1,ITA_LIG2	0.1291	20.7417	1
F78G	Amm	Wild	Galway	30	F78G	X1,ITA_LIG1	0.076	14.2331	1
M235G	Amm	Managed	Galway	30	M235G	SO20C,ITA_LIG1	0.0683	10.6336	1
MSN2	Amm	Managed	Galway	30	MSN2	F113O,ITA_LIG2	0.1404	20.7929	1
RFSO4	Amm	Managed	Galway	30	RFSO4	X1,ITA_LIG1	0.0969	15.1934	1
SO20F	Amm	Managed	Galway	30	SO20F	X1,ITA_LIG2	0.0987	16.7457	1
SO20G	Amm	Managed	Galway	30	SO20G	F113O,ITA_LIG1	0.1228	17.4675	1
SO20I	Amm	Managed	Galway	30	SO20I	X1,ITA_LIG1	0.1036	16.9991	1
SO20M	Amm	Managed	Galway	30	SO20M	X1,ITA_LIG2	0.0968	16.0183	1
X1	Amm	Managed	Galway	30	X1	F113O,ITA_LIG2	0.1166	18.0597	1
CA5	Amm	Managed	Galway	30	CA5	X1,ITA_LIG1	0.1003	15.2074	0.99
CG4	Amm	Managed	Galway	30	CG4	X1,ITA_LIG2	0.072	11.2488	0.99
F115G	*Amm*	*Wild*	*Galway*	*30*	*F115G*	*X1,ITA_LIG2*	*0.0688*	*11.6182*	*0.99*
F117G	Amm	Wild	Galway	30	F117G	X1,ITA_LIG2	0.1352	19.1457	0.99
F118G	Amm	Wild	Galway	25	F118G	AmC419,X1	0.0589	10.3716	0.99
F119G	Amm	Wild	Galway	30	F119G	X1,ITA_LIG2	0.1612	20.5764	0.99
F121G	Amm	Wild	Galway	30	F121G	X1,ITA_LIG2	0.0607	10.7284	0.99
F16G	Amm	Wild	Galway	30	F16G	X1,ITA_LIG1	0.1117	18.342	0.99
F27G	Amm	Wild	Galway	30	F27G	F113O,ITA_LIG2	0.1168	16.4339	0.99
F27G19	*Amm*	*Wild*	*Galway*	*30*	*F27G19*	*F113O,ITA_LIG2*	*0.1075*	*15.8151*	*0.99*
F47G	Amm	Wild	Galway	30	F47G	X1,ITA_LIG1	0.0642	11.1494	0.99
F72G	Amm	Wild	Galway	30	F72G	X1,ITA_LIG1	0.0973	15.6418	0.99
F99G	Amm	Wild	Galway	30	F99G	X1,ITA_LIG2	0.0865	13.5042	0.99
MSE2	Amm	Managed	Galway	30	MSE2	X1,ITA_LIG1	0.0829	14.3266	0.99
MSN1	Amm	Managed	Galway	30	MSN1	X1,ITA_LIG1	0.0867	13.6275	0.99
MSN4	Amm	Managed	Galway	30	MSN4	X1,ITA_LIG1	0.0811	15.1198	0.99
Mull_2	Amm	Managed	Galway	30	Mull2	X1,ITA_LIG2	0.067	11.1997	0.99
OSIR1	Amm	Managed	Galway	30	OSIR1	X1,ITA_LIG2	0.1182	16.2687	0.99
RCA1	Amm	Managed	Galway	30	RCA1	X1,ITA_LIG2	0.1082	14.8401	0.99
ROSCG2	Amm	Managed	Galway	30	ROSCG2	X1,ITA_LIG1	0.0863	13.0926	0.99
SO20C	Amm	Managed	Galway	30	SO20C	X1,ITA_LIG1	0.1026	17.8207	0.99

SO20E	Amm	Managed	Galway	30	SO20E	X1,ITA_LIG1	0.1603	19.5995	0.99
X212	Amm	Managed	Galway	30	X212	X1,ITA_LIG2	0.0855	13.5605	0.99
F101	Amm	Wild	Galway	30	F101	X1,ITA_LIG1	0.0507	9.2066	0.98
F112G	Amm	Wild	Galway	30	F112G	X1,ITA_LIG1	0.0869	13.2606	0.98
F116G	Amm	Wild	Galway	30	F116G	X1,ITA_LIG2	0.0303	5.4673	0.98
F48G17	*Amm*	*Wild*	*Galway*	*30*	*F48G17*	*X1,ITA_LIG2*	*0.0857*	*11.7851*	*0.98*
F98G	Amm	Wild	Galway	30	F98G	X1,ITA_LIG2	0.0863	13.3813	0.98
GTNUC	Amm	Wild	Galway	30	GTNUC	X1,ITA_LIG2	0.0837	12.7567	0.98
F104G	Amm	Wild	Galway	30	F104G	X1,ITA_LIG1	0.0032	0.6445	0.97
M233G	Amm	Managed	Galway	30	M233G	SO20C,ITA_LIG1	0.015	2.6543	0.97
TD31	Amm	Managed	Galway	30	TD31	X1,ITA_LIG2	0.0161	3.2007	0.97
M238G	**Hybrid**	**Managed**	**Galway**	**30**	**M238G**	**SO20C,ITA_LIG1**	**-0.0405**	**-5.8906**	**0.93**
F29GBK17	**Hybrid**	**Wild**	**Galway**	**30**	**F29GBK17**	**X1,ITA_LIG2**	**-0.0962**	**-17.4792**	**0.88**
NUIG22SW	**Hybrid**	**Managed**	**Galway**	**30**	**NUIG22SW**	**X1,ITA_LIG1**	**-0.1535**	**-54.4999**	**0.88**
X211W	**Hybrid**	**Managed**	**Galway**	**30**	**X211W**	**SO20C,ITA_LIG1**	**-0.1062**	**-18.334**	**0.88**
F29GBN17	**Hybrid**	**Wild**	**Galway**	**30**	**F29GBN17**	**X1,ITA_LIG2**	**-0.1033**	**-19.2553**	**0.87**
DRX3BND	***Hybrid***	***Managed***	***Galway***	***30***	***DRX3BND***	***SO20C,ITA_LIG1***	***-0.2114***	***-78.1055***	***0.85***
DRX3BLACK	**Hybrid**	**Managed**	**Galway**	**30**	**DRX3BLK**	**X1,ITA_LIG1**	**-0.1738**	**-66.272**	**0.81**
TD2BLK	***Hybrid***	***Managed***	***Galway***	***30***	***TD2BLK***	***X1,ITA_LIG1***	***-0.1869***	***-67.921***	***0.77***
TD2BND	**Hybrid**	**Managed**	**Galway**	**30**	**TD2BND**	**X1,ITA_LIG1**	**-0.195**	**-74.0261**	**0.75**
F125KY	Amm	Wild	Kerry	30	F125KY	X1,ITA_LIG2	0.0883	14.6233	1
F123KY	Amm	Wild	Kerry	30	F123KY	X1,ITA_LIG1	0.0953	14.6152	0.99
F124KY	Amm	Wild	Kerry	30	F124KY	X1,ITA_LIG2	0.073	11.2561	0.98
F122KY	**Hybrid**	**Wild**	**Kerry**	**23**	**F122KY**	**X1,ITA_LIG2**	**-0.1067**	**-24.2839**	**0.89**
F106LS	Amm	Wild	Laois	30	F106LS	X1,ITA_LIG2	0.1109	17.1882	1
F107LS	Amm	Wild	Laois	30	F107R	X1,ITA_LIG2	0.078	13.1027	0.99
F134LS	Amm	Wild	Laois	30	F134L	X1,ITA_LIG2	0.094	14.7056	0.99
RG919_T5	Amm	Managed	Louth	30	RG919_T5	X1,ITA_LIG2	0.0806	11.57	0.98
WT19_U4	Amm	Managed	Louth	30	WT19_U4	X1,ITA_LIG2	0.0905	13.385	0.98
RG159_T2	Amm	Managed	Louth	30	RG159_T2	X1,ITA_LIG1	0.0406	6.6343	0.97
RG245_T8	Amm	Managed	Louth	30	RG245_T8	X1,ITA_LIG1	0.0855	12.0477	0.97
RG278_T4	Amm	Managed	Louth	30	RG278_T4	X1,ITA_LIG2	0.0405	6.8374	0.97
RG295_T9	Amm	Managed	Louth	30	RG295_T9	X1,ITA_LIG1	0.0356	5.8846	0.97
RG308_T7	Amm	Managed	Louth	30	RG308_T7	X1,ITA_LIG2	0.06	9.4597	0.97
RG32_T3	Amm	Managed	Louth	30	RG32_T3	X1,ITA_LIG1	0.0466	6.8963	0.97
RG52_T1	Amm	Managed	Louth	30	RG52_T1	X1,ITA_LIG1	0.0351	5.6935	0.97
WT23_U8	Amm	Managed	Louth	30	WT23_U8	X1,ITA_LIG2	0.0457	7.5047	0.97
WT25_U5	Amm	Managed	Louth	30	WT25_U5	X1,ITA_LIG1	0.0263	4.6946	0.97
WT27_U6	Amm	Managed	Louth	30	WT27_U6	X1,ITA_LIG2	0.0026	0.6541	0.97
WT28_U1	Amm	Managed	Louth	30	WT28_U1	X1,ITA_LIG2	0.0472	6.8932	0.97
WT30_U2	Amm	Managed	Louth	30	WT30_U2	X1,ITA_LIG2	0.0546	8.5532	0.97
WT29_U3	Amm	Managed	Louth	30	WT29_U3	X1,ITA_LIG1	-0.0083	-1.6612	0.96
F159LH2022	**Hybrid**	**Wild**	**Louth**	**30**	**F159LH22**	**X1,ITA_LIG1**	**-0.1476**	**-34.7774**	**0.82**
F114O	Amm	Wild	Offaly	30	F114O	X1,ITA_LIG2	0.1197	18.869	1
F133O	Amm	Wild	Offaly	30	F133L	X1,ITA_LIG2	0.1121	17.5751	1
F113O	Amm	Wild	Offaly	30	F113O	X1,ITA_LIG1	0.0953	15.0704	0.99
F135O	Amm	Wild	Offaly	30	F135G	X1,ITA_LIG1	0.0896	14.8483	0.99
F132O	Amm	Wild	Offaly	30	F132L	X1,ITA_LIG2	0.0614	10.7159	0.98

F13R	Amm	Wild	Roscommon	30	F13R	X1,ITA_LIG2	0.0926	14.1475	0.99
F97R	Amm	Wild	Roscommon	30	F97R	X1,ITA_LIG1	0.0211	3.6783	0.96
F109R	Amm	Wild	Roscommon	30	F109R	X1,ITA_LIG1	0.0077	1.1944	0.95
DR16	Amm	Managed	Tipperary	30	DR16	F113O,ITA_LIG1	0.1476	21.7104	1
DR23	Amm	Managed	Tipperary	30	DR23	F113O,ITA_LIG2	0.0747	13.812	1
H1	Amm	Managed	Tipperary	30	H1	F113O,ITA_LIG2	0.1313	19.6179	1
H2	Amm	Managed	Tipperary	30	H2	X1,ITA_LIG1	0.108	18.7323	1
BD31	Amm	Managed	Tipperary	30	BD31	F113O,ITA_LIG1	0.1097	17.0268	0.99
DR11	Amm	Managed	Tipperary	30	DR11	X1,ITA_LIG2	0.1036	15.616	0.99
DR19	Amm	Managed	Tipperary	30	DR19	X1,ITA_LIG2	0.0473	9.4289	0.99
BD1	Amm	Managed	Tipperary	30	BD1	X1,ITA_LIG2	0.0852	13.2963	0.98
AFH1	**Hybrid**	**swarm**	**Tipperary**	**30**	**AFH1**	**X1,ITA_LIG1**	**-0.1993**	**-82.396**	**0.76**
F131WM	Amm	Wild	WestMeath	30	F131W	X1,ITA_LIG1	0.0655	10.1638	0.98
AmC109	Amc	Managed	Germany	30	T5	AmC419,X1	0.0919	13.5074	0.99
AmC419	Amc	Managed	Germany	30					
AmC423	Amc	Managed	Germany	30					
AmC429	Amc	Managed	Germany	30					
AmC435	Amc	Managed	Germany	30					
JIBWCB1	Hybrid	Wild	England	30	JIBWCB1	X1,ITA_LIG1	-0.1907	-72.6625	0.72
JIBWWC1	Hybrid	Wild	England	30	JIBWWC1	X1,ITA_LIG1	-0.1914	-66.1858	0.69
RPOT	Hybrid	Wild	England	12	RPOT	X1,ITA_LIG1	-0.1807	-59.3922	0.28

Supplementary Table 2. Results of the hybrid detection methods. For each method the results are listed from most hybridised to least.

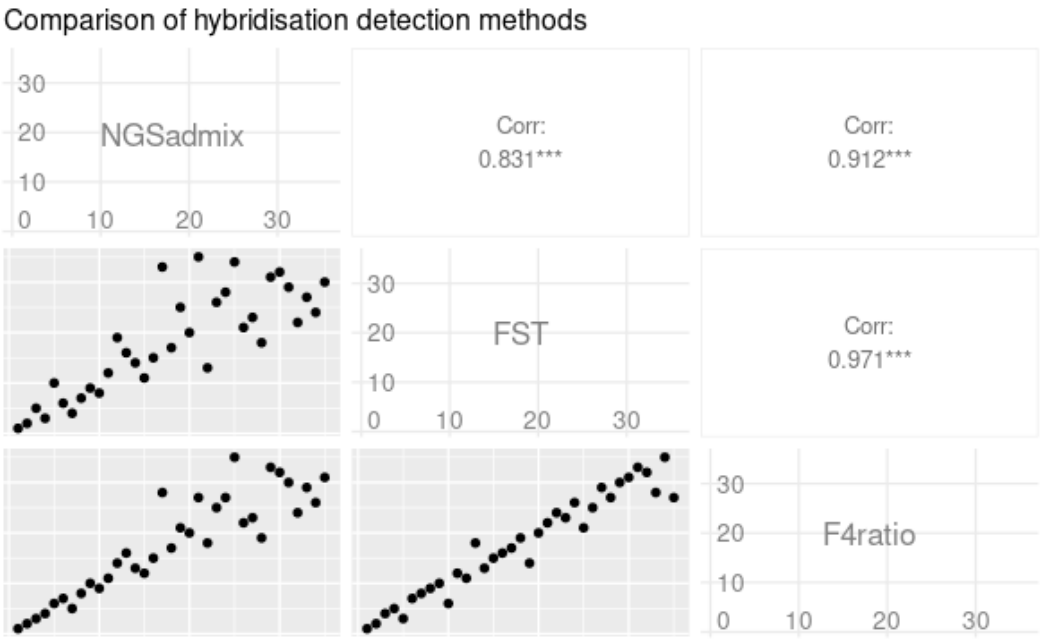
f4 Ratio		
Sample	f4ratio	F3<3
RPOT	0.2794	Y
JIBWWC1	0.6889	Y
JIBWCB1	0.7244	Y
F74D19	0.7370	Y
TD2BND	0.7544	Y
F152DL21	0.7574	Y
AFH1	0.7580	Y
TD2BLK	0.7712	Y
F130C	0.7878	Y
F153DL21	0.8038	Y
F159LH22	0.8194	Y
DRX3BLK	0.8454	Y
F148DL22	0.8594	Y
M217DL21	0.8662	Y
F29GBN17	0.8676	Y
M218DL21	0.8682	Y
F29GBK17	0.8755	Y
NUIG22SW	0.8755	Y
F122KY	0.8931	Y
F89CE	0.8969	Y
M147DL21	0.9052	N
F143DL22	0.9176	Y
M167DL22	0.9179	Y
F95DL20	0.9229	Y
F85CE	0.9291	N
M149DL21	0.9298	Y
M162DL22	0.9314	N
F147DL22	0.9368	Y
F136DL21	0.9375	N
M219DL21	0.9393	N
M166DL22	0.9485	N
F137DL22	0.9499	N
F138DL21	0.9504	N
F109R	0.9510	N
F160DL22	0.9513	N
F165DL22	0.9530	N
F94CE	0.9535	N
RG295_T9	0.9664	N

Average FST	
Sample	FST
RPOT	0.2724
JIBWWC1	0.4699
F74D19	0.4800
JIBWCB1	0.4840
TD2BND	0.4922
AFH1	0.4926
TD2BLK	0.5055
F130C	0.5150
F152DL21	0.5260
F153DL21	0.5264
DRX3BLK	0.5370
F159LH22	0.5380
NUIG22SW	0.5597
F148DL22	0.5646
F29GBN17	0.5785
F29GBK17	0.5817
M218DL21	0.5824
F122KY	0.5885
F89CE	0.5898
M217DL21	0.5920
M167DL22	0.6029
F143DL22	0.6040
F95DL20	0.6080
M147DL21	0.6119
M149DL21	0.6124
F85CE	0.6137
F165DL22	0.6166
F147DL22	0.6201
M162DL22	0.6225
M219DL21	0.6229
M166DL22	0.7173
F136DL21	0.7180
F137DL22	0.7217
F109R	0.7246
F138DL21	0.7250
F160DL22	0.7267
F94CE	0.7276
RG295_T9	0.7332

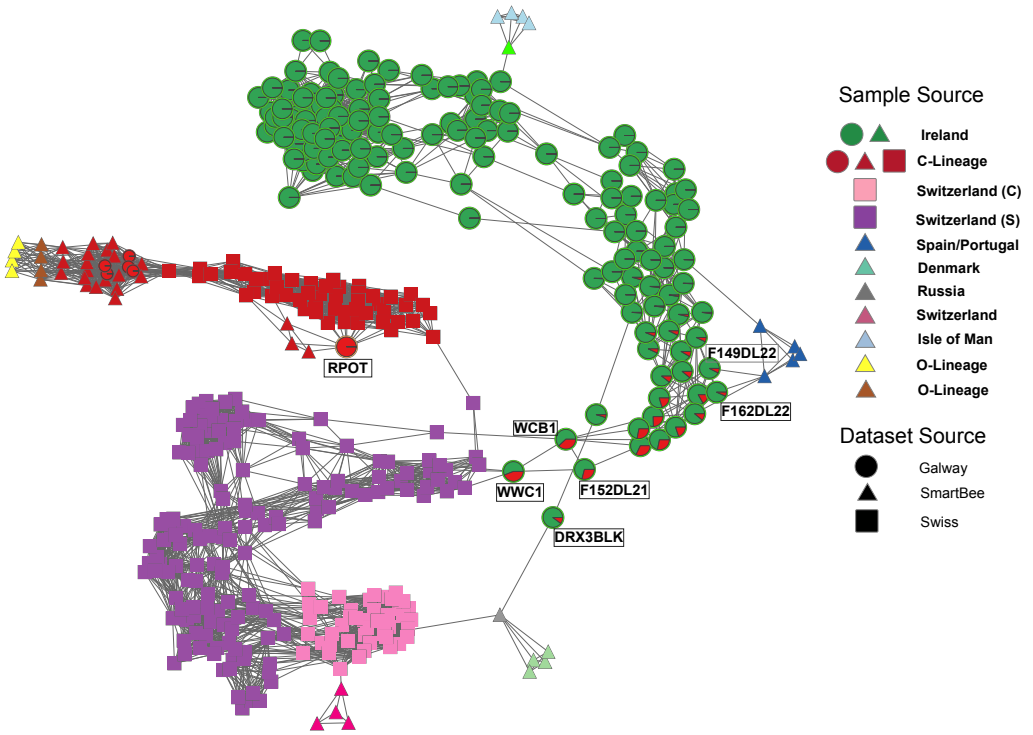
ADMIXTURE		
Sample	C	M
RPOT	0.589	0.411
AFH1	0.391	0.609
TD2BND	0.378	0.622
F74D19	0.377	0.623
JIBWWC1	0.372	0.628
TD2BLK	0.369	0.631
JIBWCB1	0.364	0.636
F130C	0.353	0.647
DRX3BLK	0.325	0.675
F152DL21	0.308	0.692
F153DL21	0.304	0.696
NUIG22SW	0.278	0.722
F159LH22	0.270	0.730
F148DL22	0.200	0.800
M218DL21	0.200	0.800
F29GBN17	0.197	0.803
F122KY	0.194	0.806
F29GBK17	0.194	0.806
M217DL21	0.186	0.814
F89CE	0.150	0.850
M147DL21	0.118	0.882
F95DL20	0.115	0.885
M167DL22	0.103	0.897
F143DL22	0.098	0.902
M149DL21	0.093	0.907
F85CE	0.093	0.907
M162DL22	0.084	0.916
M166DL22	0.082	0.918
F147DL22	0.079	0.921
F136DL21	0.075	0.925
M219DL21	0.074	0.926
F109R	0.065	0.935
F138DL21	0.061	0.939
F94CE	0.060	0.940
F165DL22	0.060	0.940
F160DL22	0.059	0.941
RG295_T9	0.056	0.944
F137DL22	0.055	0.945

Supplementary Table 3: Hybrid detection methods ranked by assigning sequential numbers to each sample based on how hybridised each method deemed said sample to be. 1 is most hybridised, 38 is least.

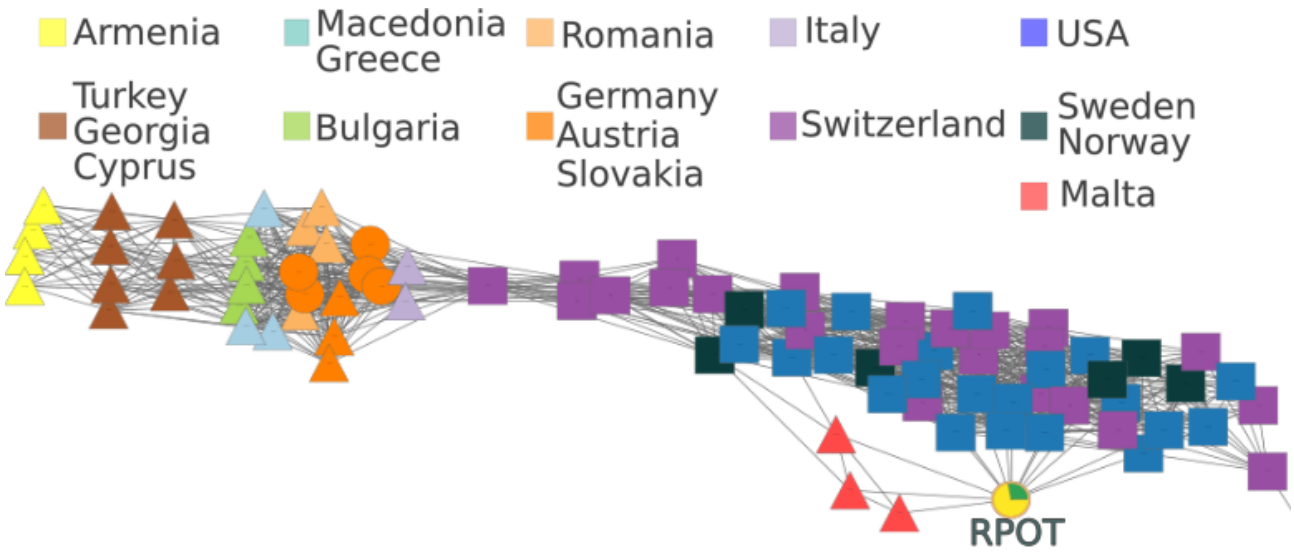
Colony	NGSAdmix	FST	f4ratio
RPOT	1	1	1
JIBWWC1	5	2	2
JIBWCB1	7	5	3
F74D19	4	3	4
AFH1	2	6	5
TD2BND	3	4	6
F152DL21	10	10	7
TD2BLK	6	7	8
F130C	8	8	9
F153DL21	11	9	10
F159LH22	13	12	11
DRX3BLK	9	11	12
F148DL22	14	14	13
M217DL21	19	19	14
F29GBN17	16	15	15
M218DL21	15	16	16
NUIG22SW	12	13	17
F29GBK17	18	17	18
F122KY	17	18	19
F89CE	20	20	20
M147DL21	21	24	21
M167DL22	23	23	22
F143DL22	24	21	23
F95D20	22	22	24
F85CE	26	27	25
M149DL21	25	25	26
M162DL22	27	32	27
F147DL22	29	26	28
F136DL21	30	30	29
M219DL21	31	31	30
M166DL22	28	29	31
F137DL22	38	33	32
F138DL21	33	35	33
F109R	32	34	34
F160DL22	36	37	35
F94CE	34	36	36
F165DL22	35	28	37
RG295_T9	37	38	38



Supplementary Figure 1. The output from each of the three hybrid detection methods were successively ranked from most C-lineage like to least and compared using Spearman's correlation. High correlation was obtained between the results of all three methods for the 38 test colonies.



Supplementary Figure 2. European honey bee dataset population model created with NetView supimposed with introgression estimates from NGSadmix.



Suppl. Figure 3. Non M-lineage section of the European honey bee dataset population model that was created with NetView from a distance matrix computed from nucleotide counts at 770k SNP locations. Nodes are coloured and shaped by country and dataset of origin. Triangle, square, and circle for the SMARTbee, Swiss, and Galway datasets respectively. From the left to the right of the network the trend follows a geographical pattern from Armenia to Western Europe.