Supplementary Material

Ecology and Genetics of Cyperus fuscus in Central Europe—A Model for Ephemeral Wetland Plant Research and Conservation

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Table S4. Chromosome numbers, mean relative DNA contents (DAPI: ratio sample/standard), and mean 1C-values in populations of *Cyperus fuscus*. The ploidies and 1C-values were determined by flow cytometry with DAPI and PI staining, respectively. The numbers of individuals analysed are in parenthesis. Full names of collectors: KGB, Karl-Georg Bernhardt; JB, Jörg Böckelmann; KB, Kateřina Bubíková; SH, Steffen Hameister; ZH, Zdenka Hroudová; ZK, Zygmunt Kącki; PK, Pavel Kúr; FL, Flavia Landucci; AM, Attila Mesterházy; ENB, Elke Naumer-Bernhardt; SP, Soňa Píšová; KŠ, Kateřina Šumberová; KT, Karin Tremetsberger; IV, Ildikó Varga; KW, Klemens Wernisch; MW, Michaela Wernisch. Vouchers are on deposit at the herbarium of the University of Natural Resources and Life Sciences, Vienna (WHB). Population codes, where available, are those of Böckelmann et al. [28]. ND, not determined.

Austria

Lower Austria, Gänserndorf district, branch of river Morava/March, E of Markthof, 48.19269° N, 16.97008° E, 136 m, KGB et al., 14.7.2011, WHB 53925
Chr. no.: ND Rel. DNA cont.: **0.216 (1)** 1C-value: ND

R10: Lower Austria, Gänserndorf district, branch of river Morava/March, E of Markthof, 48.19142° N, 16.97170° E, 136 m, JB, PK, KŠ, 19.9.2012, WHB 62974
Chr. no.: ND Rel. DNA cont.: **0.211 (6)** 1C-value: ND

Vienna, Floridsdorf district, pool close to the Marchfeldkanal, 48.29194° N, 16.42667° E, 158 m, KT, 25.10.2012, no voucher
Chr. no.: ND Rel. DNA cont.: **0.202 (8)** 1C-value: ND

Lower Austria, Tulln district, retention basin, E of Moosbierbaum, 48.30389° N, 15.90778° E, 178 m, KGB, 1.10.2011, WHB 55856
Chr. no.: ND Rel. DNA cont.: **0.212 (8)** 1C-value: ND

Lower Austria, Tulln district, farmland, NW of Zwentendorf an der Donau, 48.35166° N, 15.89139° E, 182 m, KGB, 15.8.2013, no voucher
Chr. no.: ND Rel. DNA cont.: ND 1C-value: **0.230 pg/1C (3)**

R11: Lower Austria, Tulln district, Traisen canal, NE of Preuwitz, 48.37075° N, 15.83806° E, 182 m, JB, 18.9.2012, WHB 62956
Chr. no.: ND Rel. DNA cont.: **0.210 (12)** 1C-value: ND

Lower Austria, Tulln district, oxbow between rivers Donau/Danube and Traisen, NE of Preuwitz, 48.37222° N, 15.83194° E, 184 m, JB, 18.9.2012, no voucher
Chr. no.: **2*n* = 36 (1)** Rel. DNA cont.: ND 1C-value: ND

Lower Austria, Tulln district, muddy lane close to Traisen canal, N of Preuwitz, 48.37061° N, 15.81511° E, 184 m, KGB, 15.8.2013, WHB 59712
Chr. no.: ND Rel. DNA cont.: ND 1C-value: **0.231 pg/1C (3)**

Lower Austria, Tulln district, oxbow between rivers Donau/Danube and Traisen, N of Preuwitz, 48.37764° N, 15.80497° E, 184 m, SH, 8.10.2013, WHB 60764
Chr. no.: ND Rel. DNA cont.: ND 1C-value: **0.230 pg/1C (2)**

Lower Austria, Melk district, bank of river Donau/Danube, Luberegg, 48.23306° N, 15.31556° E, 212 m, KGB, 11.8.2003, WHB 45682–45684
Chr. no.: ND Rel. DNA cont.: **0.198 (10)** 1C-value: ND

AT1: Burgenland, Neusiedl am See district, fallow field, E of Zurndorf, 47.98919° N, 17.03906° E, 130 m, KGB et al., 7.8.2013, WHB 60778
Chr. no.: ND Rel. DNA cont.: **0.183 (6)** 1C-value: ND

AT2: Burgenland, Neusiedl am See district, oxbow of river Leitha, E of Zurndorf, 47.97319° N, 17.05294° E, 130 m, KGB, 25.9.2013, WHB 60491–60494
Chr. no.: ND Rel. DNA cont.: ND 1C-value: **0.234 pg/1C (3)**

AT4: Burgenland, Neusiedl am See district, fallow field next to river Leitha, N of Nickelsdorf, 47.96361° N, 17.06914° E, 130 m, KGB et al., 7.8.2013, WHB 60779
Chr. no.: ND Rel. DNA cont.: **0.194 (7)** 1C-value: ND

Croatia

HR1: Istria County, Motovun district, Mirna canal, N of Motovun, 45.34561° N, 13.82958° E, 14 m, KGB, ENB, 29.8.2013, WHB 59431, 59432, 59477, 59478
Chr. no.: ND Rel. DNA cont.: ND 1C-value: **0.233 pg/1C (3)**

HR3: Osijek-Baranja County, Bilje district, canal, S of Podunavlje, 45.62588° N, 18.81360° E, 78 m, KW, MW, 15.10.2011, WHB 54395
Chr. no.: ND Rel. DNA cont.: **0.202 (8)** 1C-value: ND

Czech Republic

R3: Ústí nad Labem Region, Děčín district, artificial basin of river Labe/Elbe, Nebočady, 50.72945° N, 14.18703° E, 127 m, JB, ZH, SP, KŠ, 13.9.2012, WHB 62978
Chr. no.: **2*n* = 36 (1)** Rel. DNA cont.: **0.216 (5)** 1C-value: ND

Ústí nad Labem Region, Ústí nad Labem district, river Labe/Elbe, Ústí nad Labem, 50.65780° N, 14.04613° E, 133 m, JB, PK, KŠ, 1.10.2012, no voucher
Chr. no.: ND Rel. DNA cont.: **0.214 (6)** 1C-value: ND

F1: Liberec Region, Česká Lípa district, fishpond Novozámecký, Zahrádky, 50.62812° N, 14.54325° E, 251 m, JB, KŠ, KT, 10.7.2012, WHB 62967, 62968
Chr. no.: ND Rel. DNA cont.: **0.217 (1)** 1C-value: ND

Hradec Králové Region, Jičín district, unnamed fishpond near Kopidlno, 50.33827° N, 15.24772° E, 236 m, JB, KŠ, KT, 25.7.2012, WHB 62995
Chr. no.: ND Rel. DNA cont.: ND 1C-value: **0.243 pg/1C (2)**

Pardubice Region, Pardubice district, fish storage pond, Lázně Bohdaneč, 50.08323° N, 15.66478° E, 220 m, JB, KŠ, KT, 9.7.2012, WHB 62971
Chr. no.: ND Rel. DNA cont.: **0.210 (1)** 1C-value: ND

S2: Central Bohemian Region, Mladá Boleslav district, fish storage pond, Střehom, 50.47235° N, 15.13253° E, 251 m, JB, ZH, SP, KŠ, KT, 23.8.2012, WHB 62985
Chr. no.: ND Rel. DNA cont.: **0.219 (1)** 1C-value: ND

Central Bohemian Region, Mladá Boleslav district, fishpond Rejšický, Rejšice, 50.31895° N, 14.97765° E, 213 m, JB, KŠ, KT, 10.7.2012, no voucher
Chr. no.: ND Rel. DNA cont.: **0.212 (4)** 1C-value: ND

Central Bohemian Region, Nymburk district, abandoned quarry, Hořátev, 50.14867° N, 15.05128° E, 186 m, JB, ZH, SP, KT, 24.8.2012, WHB 62984
Chr. no.: ND Rel. DNA cont.: **0.215 (1)** 1C-value: ND

Prague Region, Vinoř district, temporary flooded pool in fallow land, Ctěnice, 50.14910° N, 14.56067° E, 238 m, JB, ZH, SP, KŠ, KT, 21.8.2012, no voucher
Chr. no.: ND Rel. DNA cont.: **0.215 (6)** 1C-value: ND

Central Bohemian Region, Mělník district, oxbow of river Labe/Elbe, NW of Liběchov, 50.41458° N, 14.42995° E, 158 m, JB, ZH, SP, KŠ, KT, 22.8.2012, WHB 62986
Chr. no.: ND Rel. DNA cont.: **0.196 (1)** 1C-value: ND

S3: Central Bohemian Region, Rakovník district, fish storage pond, Mšec, 50.19692° N, 13.91085° E, 407 m, JB, KŠ, KT, 12.7.2012, WHB 62963
Chr. no.: **2*n* = 36 (1)** Rel. DNA cont.: **0.214 (4)** 1C-value: ND

Central Bohemian Region, Rakovník district, fishpond Krtský, 50.07965° N, 13.44595° E, 500 m, JB, KŠ, KT, 12.7.2012, no voucher
Chr. no.: ND Rel. DNA cont.: ND 1C-value: **0.240 pg/1C (3)**

F2: Central Bohemian Region, Benešov district, fishpond Horní Petrovický, Petrovice, 49.71832° N, 14.65050° E, 404 m, JB, ZH, KŠ, KT, 11.7.2012, WHB 62965, 62966
Chr. no.: ND Rel. DNA cont.: **0.214 (6)** 1C-value: ND

F4: Central Bohemian Region, Benešov district, fishpond Velký Sedlečský, Sedlečko, 49.69357° N, 14.53485° E, 445 m, JB, KB, 27.7.2012, WHB 62994
Chr. no.: ND Rel. DNA cont.: **0.209 (2)** 1C-value: ND

F5: Central Bohemian Region, Příbram district, fishpond Dolní Solopyský, Solopysky, 49.65362° N, 14.38492° E, 381 m, JB, KB, 2.8.2012, WHB 62992
Chr. no.: ND Rel. DNA cont.: **0.209 (1)** 1C-value: ND

Central Bohemian Region, Příbram district, fish storage pond, Nedrahovice, 49.61427° N, 14.46000° E, 355 m, JB, KB, 1.8.2012, WHB 62993
Chr. no.: ND Rel. DNA cont.: **0.213 (1)** 1C-value: ND

S5: Central Bohemian Region, Příbram district, fish storage pond, Dobrá Voda, 49.55412° N, 13.99650° E, 448 m, JB, KB, 9.8.2012, WHB 62988
Chr. no.: ND Rel. DNA cont.: **0.212 (1)** 1C-value: ND

F6: South Bohemian Region, Strakonice district, fishpond Pýcha, S of Skaličany, 49.43463° N, 13.91165° E, 442 m, JB, KB, 24.7.2012, WHB 62996
Chr. no.: ND Rel. DNA cont.: **0.219 (1)** 1C-value: ND

S6: South Bohemian Region, Strakonice district, fish storage pond, Tchořovice, 49.43525° N, 13.80737° E, 453 m, JB, KB, 9.8.2012, WHB 62987
Chr. no.: ND Rel. DNA cont.: **0.220 (1)** 1C-value: ND

Plzeň Region, Klatovy district, fishpond Benátka, NW of Velký Bor, 49.37030° N, 13.68347° E, 466 m, JB, KŠ, KT, 13.7.2012, no voucher
Chr. no.: ND Rel. DNA cont.: **0.213 (4)** 1C-value: **0.240 pg/1C (3)**

F7: Plzeň Region, Klatovy district, fishpond Velký Smrkovec, Smrkovec, 49.33685° N, 13.59858° E, 469 m, JB, KB, 24.7.2012, WHB 62997
Chr. no.: ND Rel. DNA cont.: **0.210 (1)** 1C-value: ND

F8: South Bohemian Region, Strakonice district, fishpond Velkorojický, Rojice, 49.34997° N, 13.94233° E, 457 m, JB, KŠ, KT, 13.7.2012, WHB 62961
Chr. no.: ND Rel. DNA cont.: **0.213 (6)** 1C-value: **0.240 pg/1C (3)**

S7: South Bohemian Region, Strakonice district, fish storage pond, Rojice, 49.34737° N, 13.94838° E, 452 m, JB, KB, KŠ, 8.8.2012, WHB 62989
Chr. no.: ND Rel. DNA cont.: **0.217 (1)** 1C-value: ND

F9: South Bohemian Region, Strakonice district, fishpond Chválovec, S of Chrášťovice, 49.32103° N, 13.89727° E, 466 m, JB, KŠ, KT, 13.7.2012, WHB 62962
Chr. no.: **2*n* = 36 (1)** Rel. DNA cont.: **0.213 (1)** 1C-value: ND

South Bohemian Region, Písek district, fishpond Velký Hánovec, S of Písek city, 49.29243° N, 14.14837° E, 370 m, KŠ, 25.8.2011, WHB 54489
Chr. no.: ND Rel. DNA cont.: **0.193 (2)** 1C-value: ND

South Bohemian Region, Písek district, fish storage pond, Kestřany, 49.27206° N, 14.07269° E, 376 m, KŠ, 12.8.2008, WHB 54490 (grown from seeds)
Chr. no.: ND Rel. DNA cont.: **0.197 (6)** 1C-value: ND

South Bohemian Region, České Budějovice district, fishpond Vlhlavský, Vlhlavy, 49.05389° N, 14.28753° E, 402 m, JB, KŠ, KT, 14.7.2012, no voucher
Chr. no.: ND Rel. DNA cont.: **0.213 (2)** 1C-value: ND

South Bohemian Region, České Budějovice district, fish storage pond, Hluboká nad Vltavou, 49.04521° N, 14.43328° E, 372 m, KŠ, 9.9.2008, WHB 54488 (grown from seeds)
Chr. no.: ND Rel. DNA cont.: **0.208 (10)** 1C-value: ND

South Bohemian Region, České Budějovice district, fish storage pond, Hluboká nad Vltavou, 49.04460° N, 14.43278° E, 372 m, KŠ, 1.10.2008, WHB 54491 (grown from seeds)
Chr. no.: ND Rel. DNA cont.: **0.204 (10)** 1C-value: ND

South Bohemian Region, České Budějovice district, fish storage pond, Hluboká nad Vltavou, 49.04456° N, 14.43319° E, 372 m, KŠ, 22.8.2009, WHB 54487 (grown from seeds)
Chr. no.: ND Rel. DNA cont.: **0.207 (9)** 1C-value: ND

S9: South Bohemian Region, České Budějovice district, fish storage pond, Hluboká nad Vltavou, 49.04477° N, 14.43318° E, 372 m, JB, KB, KŠ, 7.8.2012, WHB 62991
Chr. no.: ND Rel. DNA cont.: **0.216 (5)** 1C-value: ND

S10: South Bohemian Region, České Budějovice district, fish storage pond, Hluboká nad Vltavou, 49.04373° N, 14.43253° E, 374 m, JB, KŠ, KT, 14.7.2012, WHB 62960
Chr. no.: ND Rel. DNA cont.: **0.219 (5)** 1C-value: **0.239 pg/1C (3)**

F10: South Moravian Region, Znojmo district, fishpond Želízkovice, Slatina, 49.01413° N, 16.00398° E, 348 m, JB, 5.9.2012, WHB 62983 (wrong locality in Böckelmann et al. [27,28])
Chr. no.: ND Rel. DNA cont.: **0.211 (6)** 1C-value: ND

South Moravian Region, Brno-venkov district, river Jihlava, Medlov, 49.03530° N, 16.51570° E, 188 m, JB, KŠ, KT, 11.9.2012, no voucher
Chr. no.: ND Rel. DNA cont.: **0.217 (6)** 1C-value: ND

R5: South Moravian Region, Břeclav district, river Svratka, Velké Němčice, 48.98427° N, 16.66490° E, 179 m, JB, KŠ, KT, 11.9.2012, WHB 62979
Chr. no.: ND Rel. DNA cont.: **0.215 (8)** 1C-value: ND

R7: South Moravian Region, Břeclav district, river Dyje/Thaya, W of Lanžhot, 48.71183° N, 16.90282° E, 153 m, JB, KŠ, KT, 10.9.2012, WHB 62982
Chr. no.: ND Rel. DNA cont.: **0.216 (1)** 1C-value: ND

R8: South Moravian Region, Břeclav district, oxbow of river Dyje/Thaya, SW of Lanžhot, 48.67257° N, 16.92403° E, 153 m, JB, KŠ, KT, 10.9.2012, WHB 62981
Chr. no.: ND Rel. DNA cont.: **0.215 (1)** 1C-value: ND

Hungary

HU1: Vas County, Vasvár district, unnamed pond, SW of Győrvár, 46.97967° N, 16.83164° E, 153 m, AM, 14.10.2012, WHB 60760–60762
Chr. no.: ND Rel. DNA cont.: ND 1C-value: **0.229 pg/1C (3)**

HU2: Komárom-Esztergom County, Komárom district, rivulet Concó, N of Ács, 47.74097° N, 18.00204° E, 110 m, AM, 16.10.2012, WHB 60768
Chr. no.: **2*n* = 36 (1)** Rel. DNA cont.: **0.192 (1)** 1C-value: **0.232 pg/1C (3)**

HU3: Győr-Moson-Sopron County, Győr district, wet, disturbed sand, S of Győr, 47.64374° N, 17.60800° E, 112 m, AM, 17.10.2012, WHB 60751, 60752
Chr. no.: ND Rel. DNA cont.: ND 1C-value: **0.237 pg/1C (3)**

HU4: Veszprém County, Pápa district, unnamed pond, Nóráp, 47.27789° N, 17.46288° E, 146 m, AM, 17.10.2012, WHB 60750
Chr. no.: ND Rel. DNA cont.: ND 1C-value: **0.238 pg/1C (3)**

HU5: Veszprém County, Ajka district, unnamed pond, Tósokberénd, 47.09707° N, 17.52416° E, 211 m, AM, 14.10.2012, WHB 60757, 60758
Chr. no.: ND Rel. DNA cont.: ND 1C-value: **0.231 pg/1C (3)**

HU6: Zala County, Keszthely district, canal near Lake Balaton, Keszthely, 46.76437° N, 17.27009° E, 104 m, AM, 8.9.2012, WHB 60763
Chr. no.: ND Rel. DNA cont.: ND 1C-value: **0.227 pg/1C (3)**

HU7: Somogy County, Marcali district, fish storage pond, NW of Varászló, 46.44686° N, 17.19489° E, 125 m, AM, 11.10.2012, WHB 60759
Chr. no.: ND Rel. DNA cont.: ND 1C-value: **0.228 pg/1C (3)**

HU8: Fejér County, Gárdony district, fishpond, W of Dinnyés, 47.18046° N, 18.53974° E, 103 m, AM, 12.9.2012, WHB 60741–60743
Chr. no.: ND Rel. DNA cont.: ND 1C-value: **0.230 pg/1C (3)**

HU9: Pest County, Szentendre district, river Duna/Danube, Szentendre, 47.66503° N, 19.07951° E, 101 m, AM, 11.9.2012, WHB 60749
Chr. no.: ND Rel. DNA cont.: ND 1C-value: **0.229 pg/1C (3)**

HU10: Heves County, Eger district, ditch, S of Egerszalók, 47.85389° N, 20.32988° E, 150 m, AM, 6.10.2012, WHB 60765, 60766
Chr. no.: ND Rel. DNA cont.: ND 1C-value: **0.233 pg/1C (3)**

HU12: Szabolcs-Szatmár-Bereg County, Fehérgyarmat district, river Tisza, Tiszabecs, 48.10706° N, 22.83113° E, 112 m, IV, 10.10.2012, WHB 60767
Chr. no.: ND Rel. DNA cont.: ND 1C-value: **0.231 pg/1C (3)**

Italy

IT1: Lombardy Region, Pavia district, bank of river Ticino, 45.23600° N, 9.00642° E, 63 m, KGB, ENB, 31.8.2013, WHB 59476, 60143, 60144
Chr. no.: ND Rel. DNA cont.: ND 1C-value: **0.234 pg/1C (2)**

IT3: Umbria Region, Perugia district, channel tributary of Lago Trasimeno, San Savino, 43.10590° N, 12.18650° E, 258 m, FL, 19.9.2012, WHB 60744–60748
Chr. no.: ND Rel. DNA cont.: **0.214 (6)** 1C-value: **0.233 pg/1C (3)**

IT4: Sicily Region, Palermo district, river Oreto, Palermo, 38.10996° N, 13.37978° E, 1 m, KGB, 13.9.2013, WHB 59535, 59536, 59550, 59551
Chr. no.: ND Rel. DNA cont.: ND 1C-value: **0.235 pg/1C (3)**

Poland

R1: Lubusz Province, Zielona Góra County, artificial side pool of river Odra/Oder, Cigacice, 52.03138° N, 15.61098° E, 51 m, JB, ZK, PK, KŠ, 3.10.2012, WHB 62955
Chr. no.: ND Rel. DNA cont.: **0.213 (5)** 1C-value: ND

R2: Lower Silesia Province, Głogów County, branch of river Odra/Oder, E of Borków, 51.67462° N, 16.20398° E, 75 m, JB, ZK, PK, KŠ, 2.10.2012, WHB 62973
Chr. no.: ND Rel. DNA cont.: **0.216 (6)** 1C-value: ND

Slovakia

Trenčín Region, Púchov district, gravel pit, SE of Lednické Rovné, 49.06250° N, 18.29671° E, 249 m, PK, SP, 10.10.2013, WHB 60773
Chr. no.: ND Rel. DNA cont.: ND 1C-value: **0.233 pg/1C (3)**

Trenčín Region, Ilava district, gravel pit, NW of Dubnica nad Váhom, 48.96825° N, 18.14450° E, 223 m, PK, SP, 10.10.2013, WHB 60769
Chr. no.: ND Rel. DNA cont.: ND 1C-value: **0.228 pg/1C (3)**

Trenčín Region, Ilava district, muddy path, E of Horná Poruba, 48.94323° N, 18.31303° E, 488 m, PK, SP, 10.10.2013, WHB 60774, 60775
Chr. no.: ND Rel. DNA cont.: ND 1C-value: **0.230 pg/1C (3)**

SK1: Trnava Region, Senica district, dam reservoir Vodná nádrž Horná Studená voda (constructed on the site of former large gravel pit), NW of Tomky, 48.58410° N, 17.07905° E, 168 m, PK, KT, 20.9.2013, WHB 60756
Chr. no.: **2*n* = 36 (1)** Rel. DNA cont.: ND 1C-value: **0.231 pg/1C (3)**

SK2: Bratislava Region, Malacky district, pond at Camping Rudava, SW of Malé Leváre, 48.49391° N, 16.96058° E, 147 m, PK, KT, 19.9.2013, WHB 60754
Chr. no.: ND Rel. DNA cont.: ND 1C-value: **0.233 pg/1C (3)**

Bratislava Region, Malacky district, river Rudava, S of Veľké Leváre, 48.48861° N, 17.00944° E, 152 m, JB, PK, KŠ, 4.10.2012, no voucher
Chr. no.: ND Rel. DNA cont.: **0.214 (5)** 1C-value: ND

R9: Bratislava Region, Malacky district, oxbow of river Morava/March, SW of Vysoká pri Morave, 48.31232° N, 16.90373° E, 148 m, JB, PK, KŠ, 4.10.2012, WHB 62972
Chr. no.: ND Rel. DNA cont.: **0.215 (7)** 1C-value: ND

SK3: Bratislava Region, Senec district, pond Slnečné Jazerá, Senec, 48.21523° N, 17.41502° E, 121 m, PK, KT, 20.9.2013, WHB 60755
Chr. no.: ND Rel. DNA cont.: ND 1C-value: **0.237 pg/1C (2)**

SK4: Bratislava Region, Bratislava district, pond Kuchajda, Bratislava – Nové Mesto, 48.17098° N, 17.14310° E, 133 m, PK, KT, 19.9.2013, WHB 60753
Chr. no.: **2*n* = 36 (1)** Rel. DNA cont.: ND 1C-value: ND

Nitra Region, Nové Zámky district, river Dunaj/Danube, S of Chľaba, 47.81993° N, 18.82895° E, 102 m, PK, SP, 11.10.2013, WHB 60770–60772
Chr. no.: ND Rel. DNA cont.: ND 1C-value: **0.230 pg/1C (3)**