IAPT CHROMOSOME DATA

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Supporting Information may be found online in the Supporting Information section at the end of the article.

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Abbreviations: GPB, General Purpose Buffer; LB01, Lysis Buffer; OXPRO, CyStain PI OxProtect buffer.

CYPERACEAE

I. *Carex* subg. *Carex*

Carex sect. *Acrocystis* Dumort.

Carex montana L.

The CVs of sample and internal standard were 3.98% and 3.20%, respectively, using *Solanum* as standard and GPB.

2C = 0.75 ± 0.006 pg, PI FCM. Spain, Álava, "Montes Altos de Vitoria", Txaparca ravine, 42°48′02.3″N, 02°37′43.3″W, 04 Jun 2022, *R.Sánchez-Villegas & al. 52RSV22* (UPOS).

Carex sect. *Ceratocystis* Dumort.

Carex demissa Hornem.

The CVs of sample and internal standard were 4.92% and 4.16%, respectively, using *Solanum* as standard and GPB.

2C = 0.84 ± 0.007 pg, PI FCM. New Zealand, South Island, Southland Land District, Aparima Valley, 45°43′08.7″S, 168°00′24.7″E, 28 Jan 2024, *A. Morales-Alonso & al. 22NZ-AMA24* (CHR, UPOS).

Carex demissa Hornem. × *Carex lepidocarpa* Tausch

The CVs of sample and internal standard were 4.92% and 4.16%, respectively, using *Solanum* as standard and GPB.

2C = 0.89 ± 0.026 pg, PI FCM. France, Dpt. Ariège, Artiguès, near to the Noubals reservoir, 42°43′02.9″N, 02°03′21.7″E, 17 Jul 2023, *S. Martín-Bravo & al. 94SMB23* (UPOS).

Carex flaviformis Nelmes

The CVs of sample and internal standard were 4.82% and 4.17%, respectively, using *Solanum* as standard and GPB.

2C = 0.85 ± 0.003 pg, PI FCM. New Zealand, South Island, Tasman Land District, 1000 Acre Plateau, Matiri Valley, 41°36′14.1″S, 172°19′37.7″E, 07 Feb 2024, *A. Morales-Alonso & al. 124NZ-AMA24* (CHR, UPOS).

The CVs of sample and internal standard were 4.48% and 3.92%, respectively, using *Solanum* as standard and GPB.

2C = 0.87 ± 0.005 pg, PI FCM. New Zealand, South Island, Canterbury Land District, Spider Lakes, 43°36′24.2″S, 171°07′05.7″E, 21 Feb 2024, *A. Morales-Alonso & K. Ford 161NZ-AMA24* (CHR, UPOS).

Carex hostiana DC.

The CVs of sample and internal standard were 4.40% and 3.74%, respectively, using *Solanum* as standard and GPB.

2C = 0.82 ± 0.006 pg, PI FCM. France, Dpt. Ariège, Artiguès, near to the Noubals reservoir, 42°43′02.9″N, 02°03′21.7″E, 17 Jul 2023, *S. Martín-Bravo & al. 97SMB23* (UPOS).

Carex sagei Phil.

The CVs of sample and internal standard were 3.98% and 2.85%, respectively, using *Solanum* as standard and LB01.

2C = 0.85 ± 0.0001 pg, PI FCM. Chile, Los Lagos, Llanquihue, road to Sofía lake, 41°35′34.3″S, 72°41′18.3″W, 27 Jan 2023, *P. Jiménez-Mejías & al. 29PJM-CL23* (CONC, UPOS).

The CVs of sample and internal standard were 3.96% and 3.40%, respectively, using *Solanum* as standard and GPB.

2C = 0.88 ± 0.005 pg, PI FCM. Chile, Araucanía, Malleco, Paso del Pino Hachado, 38°39′17.5″S, 70°55′14.7″W, 21 Jan 2023, *P. Jiménez-Mejías & al. 27PJM-CL23* (CONC, UPOS).

Carex sect. *Chlorostachyae* Tuck. ex Meinsh.

Carex capillaris L.

The CVs of sample and internal standard were 3.52% and 3.00%, respectively, using *Solanum* as standard and GPB.

2C = 1.19 ± 0.009 pg, PI FCM. Switzerland, Canton of Bern, Grindelwald, path from the Eigergletscher cable car station to the Guggi Hütte, 46°34′21.0″N, 07°58′10.0″E, 19 Aug 2023, *R. Sánchez-Villegas & M. Luceño 33RSV23* (UPOS).

Carex sect. *Clandestinae* G.Don

Carex callitrichos var. *nana* (H.Lév. & Vaniot) S.Yun Liang, L.K.Dai & Y.C.Tang

The CVs of sample and internal standard were 2.34% and 1.76%, respectively, using *Petroselinum* as standard and GPB.

2C = 2.27 ± 0.012 pg, PI FCM. China, Anhui, Huangshan, 30° 07′21.9″N, 118°10′13.1″E, 02 Jun 2023, *P. Jiménez-Mejías & al. 78PJM-CN23* (UPOS, ZJFC).

Carex erythrobasis H.Lév. & Vaniot

The CVs of sample and internal standard were 2.71% and 2.63%, respectively, using *Solanum* as standard and Otto I-II buffer.

2C = 0.96 ± 0.0001 pg, PI FCM. South Korea, Mountain 214 in Gohan-ri, Gohan-eup, Jeongseon-gun, Gangwon-do, 37° 09′29.4″N, 128°54′43.0″E, 15 May 2022, *Y. Cho & S. Kim 2022-022* (SWU0054275).

Carex lanceolata Boott

The CVs of sample and internal standard were 4.45% and 3.43%, respectively, using *Petroselinum* as standard and GPB.

2C = 2.37 ± 0.017 pg, PI FCM. China, Anhui, Jiuhuashan, Jiuhua Mountain, 30°27′57.9″N, 117°49′01.1″E, 03 Jun 2023, *P. Jiménez-Mejías & al. 80PJM-CN23* (UPOS, ZJFC).

Carex ornithopoda Willd.

The CVs of sample and internal standard were 4.44% and 3.55%, respectively, using *Solanum* as standard and GPB.

2C = 0.87 ± 0.007 pg, PI FCM. Switzerland, Canton of Bern, Grindelwald, path from the Eigergletscher cable car station to the Guggi Hütte, 46°34′05.0″N, 07°58′01.0″E, 19 Aug 2023, *R. Sánchez-Villegas & M. Luceño 34RSV23* (UPOS).

Carex sect. *Dissitiflorae* K.T.Takah. & M.N.Tamura

Carex bostrychostigma Maxim.

The CVs of sample and internal standard were 2.72% and 2.76%, respectively, using *Glycine* as standard and Otto I-II buffer.

2C = 1.66 ± 0.02 pg, PI FCM. South Korea, Mt. Cheonmasan, Namyangju-si, Gyeonggi-do, 37°40′40.6″N, 127°15′37.9″E, 16 Apr 2022, *H. Moon & al. 2022-418* (SWU0060300).

The CVs of sample and internal standard were 3.45% and 3.25%, respectively, using *Solanum* as standard and GPB.

2C = 1.59 ± 0.009 pg, PI FCM. China, Zhejiang, Tianmushan, Xitianmu Natural Reserve, 30°20′28.1″N, 119°26′41.5″E, 30 May 2023, *P. Jiménez-Mejías & al. 30PJM-CN23* (UPOS, ZJFC).

Carex sect. *Echinochlaenae* Kük.

Carex albula Allan

The CVs of sample and internal standard were 4.39% and 3.94%, respectively, using *Solanum* as standard and GPB.

2C = 0.86 ± 0.003 pg, PI FCM. New Zealand, South Island, Canterbury Land District, Mt. John Observatory, near Tekapo, 43° 59′07.0″S, 170°27′58.8″E, 01 Feb 2024, *A. Morales-Alonso & al. 78NZ-AMA24* (CHR, UPOS).

Carex buchananii Berggr.

The CVs of sample and internal standard were 3.89% and 3.54%, respectively, using *Solanum* as standard and GPB.

2C = 0.89 ± 0.009 pg, PI FCM. New Zealand, South Island, Canterbury Land District, Castle Hill Basin, Prebble Hill, 43°12′ 45.97″S, 171°44′46.2″E, 29 Feb 2024, *A. Morales-Alonso & K. Ford 169NZ-AMA24* (CHR, UPOS).

The CVs of sample and internal standard were 4.93% and 4.09%, respectively, using *Solanum* as standard and GPB.

2C = 0.87 ± 0.003 pg, PI FCM. New Zealand, South Island, Canterbury Land District, Ashburton Lakes, 43°29′27.2″S, 171°10′44.6″E, 21 Feb 2024, *A. Morales-Alonso & K. Ford 158NZ-AMA24* (CHR, UPOS).

Carex cf. *buchananii* Berggr.

The CVs of sample and internal standard were 4.37% and 3.22%, respectively, using *Solanum* as standard and GPB.

2C = 0.88 ± 0.006 pg, PI FCM. New Zealand, commercial origin, cultivated in UPOS herbarium (UPOS).

The CVs of sample and internal standard were 3.83% and 3.14%, respectively, using *Solanum* as standard and GPB.

2C = 0.89 ± 0.003 pg, PI FCM. New Zealand, commercial origin, cultivated in UPOS herbarium (UPOS).

Carex chathamica Petrie

The CVs of sample and internal standard were 4.44% and 3.69%, respectively, using *Solanum* as standard and GPB.

2C = 0.93 ± 0.005 pg, PI FCM. New Zealand, South Island, Chatham Island, Rekohu, Ocean Bay Mail Scenic Reserve, 44°12′ 54.0″S, 176°28′04.8″W, 28 Jan 2020, *P. de Lange KF 755/20*, cultivated in CHR greenhouse (CHR-667249).

Carex cockayneana Kük. ex Cheeseman

The CVs of sample and internal standard were 4.75% and 4.39%, respectively, using *Solanum* as standard and GPB.

2C = 0.97 ± 0.004 pg, PI FCM. New Zealand, South Island, West Coast, Westland Land District, road to Okarito from Ross, near Whataroa River, 43°10′37.3″S, 170°27′20.9″E, 04 Feb 2024, *A. Morales-Alonso & P. Jiménez-Mejías 95NZ-AMA24* (CHR, UPOS).

The CVs of sample and internal standard were 4.46% and 3.44%, respectively, using *Solanum* as standard and GPB.

2C = 0.94 ± 0.001 pg, PI FCM. New Zealand, South Island, Tasman Land District, Matiri Valley, near Matiri River, 41°39′44.5″S, 172°19′51.0″E, 07 Feb 2024, *A. Morales-Alonso & al. 140NZ-AMA24* (CHR, UPOS).

Carex comans Berggr.

The CVs of sample and internal standard were 4.81% and 4.64%, respectively, using *Solanum* as standard and GPB.

2C = 0.88 ± 0.000 pg, PI FCM. New Zealand, South Island, Southland Land District, east end of Colac Bay, near Riverton, 46°21′41.6″S, 167°56′55.3″E, 28 Jan 2024, *A. Morales-Alonso & al. 14NZ-AMA24* (CHR, UPOS).

Carex cf. *comans* Berggr.

The CVs of sample and internal standard were 3.78% and 3.20%, respectively, using *Solanum* as standard and GPB.

2C = 0.88 ± 0.003 pg, PI FCM. New Zealand, commercial origin, cultivated in UPOS herbarium (UPOS).

The CVs of sample and internal standard were 3.70% and 2.80%, respectively, using *Solanum* as standard and GPB.

2C = 0.86 ± 0.001 pg, PI FCM. New Zealand, commercial origin, cultivated in UPOS herbarium (UPOS).

The CVs of sample and internal standard were 3.69% and 2.97%, respectively, using *Solanum* as standard and GPB.

2C = 0.84 ± 0.003 pg, PI FCM. New Zealand, commercial origin, cultivated in UPOS herbarium (UPOS).

Carex cremnicola K.A.Ford

The CVs of sample and internal standard were 4.04% and 3.90%, respectively, using *Solanum* as standard and GPB.

2C = 0.93 ± 0.002 pg, PI FCM. New Zealand, South Island, Tasman Land District, Hawkes Lookout, 41°17′13.8″S, 173°07′36.5″E, 08 Feb 2024, *A. Morales-Alonso & al. 148NZ-AMA24* (CHR, UPOS).

Carex dallii Kirk

The CVs of sample and internal standard were 4.76% and 3.98%, respectively, using *Solanum* as standard and GPB.

2C = 0.89 ± 0.004 pg, PI FCM. New Zealand, South Island, Southland Land District, West Dome, marshy area near road, 45°33′38.9″S, 168°10′46.8″E, 16 Jan 2024, *K. Ford & B. Rance KF 1216/24*, cultivated in CHR greenhouse (CHR).

Carex decurtata Cheeseman

The CVs of sample and internal standard were 4.49% and 3.78%, respectively, using *Solanum* as standard and GPB.

2C = 0.86 ± 0.006 pg, PI FCM. New Zealand, South Island, Canterbury Land District, Mackenzie Basin, W Irishman Stream, 44°08′54.6″S, 170°20′31.0″E, 01 Feb 2024, *A. Morales-Alonso & al. 77NZ-AMA24* (CHR, UPOS).

Carex devia Cheeseman

The CVs of sample and internal standard were 4.93% and 4.38%, respectively, using *Solanum* as standard and GPB.

2C = 0.88 ± 0.001 pg, PI FCM. New Zealand, South Island, Tasman Land District, Red Hills, Wairau Valley, next to Wairau River, Nelson, 41°44′02.4″S, 172°59′25.7″E, 08 Feb 2024, *A. Morales-Alonso & al. 147NZ-AMA24* (CHR, UPOS).

Carex dipsacea Berggr.

The CVs of sample and internal standard were 4.72% and 3.65%, respectively, using *Solanum* as standard and GPB.

2C = 0.89 ± 0.002 pg, PI FCM. New Zealand, South Island, Canterbury Land District, Lake Coleridge area, Acheron River gorge, 43°21′38.5″S, 171°37′28.7″E, 07 Mar 2020, *S. Martín-Bravo & al. 227SMB-NZ* (CHR, UPOS).

The CVs of sample and internal standard were 4.70% and 3.98%, respectively, using *Solanum* as standard and GPB.

2C = 0.90 ± 0.002 pg, PI FCM. New Zealand, South Island, Canterbury Land District, Lake Coleridge area, Acheron River gorge, 43°21′38.5″S, 171°37′28.7″E, 07 Mar 2020, *S. Martín-Bravo & al. 227SMB-NZ* (CHR, UPOS).

The CVs of sample and internal standard were 4.63% and 3.21%, respectively, using *Solanum* as standard and GPB.

2C = 0.92 ± 0.003 pg, PI FCM. New Zealand, South Island, Tasman Land District, Waikari Reserve, Waikari, 41°24′32.3″S, 173°02′22.1″E, 09 Feb 2024, *A. Morales-Alonso & al. 153NZ-AMA24* (CHR, UPOS).

The CVs of sample and internal standard were 4.21% and 4.16%, respectively, using *Solanum* as standard and GPB.

2C = 0.88 ± 0.013 pg, PI FCM. New Zealand, South Island, Canterbury Land District, Ashburton Forks, 43°43′14.8″S, 171°34′49.3″E, 21 Feb 2024, *A. Morales-Alonso & K. Ford 157NZ-AMA24* (CHR, UPOS).

Carex dissita Sol. ex Boott

The CVs of sample and internal standard were 3.30% and 3.99%, respectively, using *Solanum* as standard and GPB.

2C = 3.05 ± 0.012 pg, PI FCM. New Zealand, South Island, Canterbury Land District, Mt. Somers, South Face Track, 43°37′43.9″S, 171°24′58.9″E, 21 Feb 2024, *A. Morales-Alonso & K. Ford 163NZ-AMA24* (CHR, UPOS).

Carex druceana Hamlin

The CVs of sample and internal standard were 4.40% and 3.74%, respectively, using *Solanum* as standard and GPB.

2C = 0.87 ± 0.003 pg, PI FCM. New Zealand, North Island, Wellington Land District, Ruahine Range, Rangiwahia, 39°53′37.6″S, 176°02′28.6″E, 29 Jan 2023, *K. Ford & al. KF 1133/23*, cultivated in CHR greenhouse (UPOS).

Carex edgariae Hamlin

The CVs of sample and internal standard were 4.86% and 3.44%, respectively, using *Solanum* as standard and GPB.

2C = 0.81 ± 0.001 pg, PI FCM. New Zealand, South Island, Otago Land District, Motatapu Station, North Branch, 44°43′40.4″S, 168°53′18.9″E, 18 Dec 2021, *C. Morse KF 1000/21*, cultivated in CHR greenhouse (CHR-674608).

The CVs of sample and internal standard were 3.53% and 2.69%, respectively, using *Solanum* as standard and GPB.

2C = 0.81 ± 0.002 pg, PI FCM. New Zealand, South Island, Otago Land District, Motatapu Station, North Branch, 44°43′40.4″S, 168°53′18.9″E, 18 Dec 2021, *C. Morse KF 1000/21*, cultivated in CHR greenhouse (UPOS).

The CVs of sample and internal standard were 3.84% and 2.66%, respectively, using *Solanum* as standard and GPB.

2C = 0.84 ± 0.003 pg, PI FCM. New Zealand, South Island, Otago Land District, Motatapu Station, North Branch, 44°43′40.4″ S, 168°53′18.9″E, 18 Dec 2021, *C. Morse KF 1000/21*, cultivated in CHR greenhouse (UPOS).

Carex fernandezensis Mack. ex G.A.Wheeler

The CVs of sample and internal standard were 3.86% and 3.38%, respectively, using *Solanum* as standard and LB01.

2C = 0.80 ± 0.001 pg, PI FCM. Chile, Islas Juan Fernández, Robinson Crusoe Island, Parque Nacional Archipiélago de Juan Fernández, trail to Mirador Alejandro Selkirk, descending from Portezuelo de Villagra towards Villagra, cultivated in Diego N. Penneckamp's private garden, 33°38′16.63″S, 78°51′12.24″W, 25 Jan 2023, *M. Sanz-Arnal & al. 26MSA-CL23* (CONC, UPOS).

Carex flagellifera Colenso

The CVs of sample and internal standard were 5.09% and 4.33%, respectively, using *Solanum* as standard and GPB.

2C = 0.88 ± 0.006 pg, PI FCM. New Zealand, South Island, West Coast, Westland Land District, Three Mile Track to Okarito Lagoon, 43°13′32.9″S, 170°09′36.6″E, 04 Feb 2024, *A. Morales-Alonso & al. 100NZ-AMA24* (CHR, UPOS).

The CVs of sample and internal standard were 4.36% and 4.45%, respectively, using *Solanum* as standard and GPB.

2C = 0.88 ± 0.001 pg, PI FCM. New Zealand, South Island, Canterbury Land District, Ashburton Forks, 43°43′14.8″S, 171°34′ 49.3″E, 21 Feb 2024, *A. Morales-Alonso & K. Ford 156NZ-AMA24* (CHR, UPOS).

The CVs of sample and internal standard were 4.14% and 4.30%, respectively, using *Solanum* as standard and GPB.

2C = 0.86 ± 0.003 pg, PI FCM. New Zealand, South Island, Canterbury Land District, Castle Hill Basin, Prebble Hill, 43°12′ 34.1″S, 171°45′08.1″E, 29 Feb 2024, *A. Morales-Alonso & K. Ford 168NZ-AMA24* (CHR, UPOS).

Carex forsteri Wahlenb.

The CVs of sample and internal standard were 4.23% and 3.62%, respectively, using *Solanum* as standard and GPB.

2C = 0.91 ± 0.001 pg, PI FCM. New Zealand, South Island, Canterbury Land District, Mt. Somers, South Face Track, 43°37′43.9″S, 171°24′58.9″E, 21 Feb 2024, *A. Morales-Alonso & K. Ford 166NZ-AMA24* (CHR, UPOS).

Carex fretalis Hamlin

The CVs of sample and internal standard were 3.74% and 3.83%, respectively, using *Solanum* as standard and GPB.

2C = 0.88 ± 0.006 pg, PI FCM. New Zealand, South Island, Southland Land District, Slope Point, 100+ m from the cliff top, 46°40′16.4″S, 168°59′54.3″E, 12 Dec 2021, *B. Rance KF 998/21*, cultivated in CHR greenhouse (CHR-674617).

Carex goyenii Petrie

The CVs of sample and internal standard were 4.18% and 3.83%, respectively, using *Solanum* as standard and GPB.

2C = 0.86 ± 0.001 pg, PI FCM. New Zealand, South Island, Canterbury Land District, Mt. Somers, South Face Track, 43°37′ 43.9″S, 171°24′58.9″E, 21 Feb 2024, *A. Morales-Alonso & K. Ford 162NZ-AMA24* (CHR, UPOS).

Carex impexa K.A.Ford

The CVs of sample and internal standard were 4.87% and 4.01%, respectively, using *Solanum* as standard and GPB.

2C = 0.84 ± 0.003 pg, PI FCM. New Zealand, South Island, Tasman Land District, 1000 Acre Plateau, Matiri Valley, 41°36′ 14.1″S, 172°19′37.7″E, 07 Feb 2024, *A. Morales-Alonso & al. 121NZ-AMA24* (CHR, UPOS).

Carex inopinata V.J.Cook

The CVs of sample and internal standard were 4.72% and 4.31%, respectively, using *Solanum* as standard and GPB.

2C = 0.85 ± 0.011 pg, PI FCM. New Zealand, South Island, Canterbury Land District, Castle Hill Basin, Prebble Hill, 43°12′ 34.1″S, 171°45′08.1″E, 29 Feb 2024, *A. Morales-Alonso & K. Ford 167NZ-AMA24* (CHR, UPOS).

Carex lambertiana Boott

The CVs of sample and internal standard were 4.61% and 3.19%, respectively, using *Solanum* as standard and GPB.

2C = 0.91 ± 0.008 pg, PI FCM. New Zealand, South Island, Tasman Land District, Waikari Reserve, Waikari, 41°24′32.3″S, 173°02′22.1″E, 09 Feb 2024, *A. Morales-Alonso & al. 151NZ-AMA24* (CHR, UPOS).

Carex libera (Kük.) Hamlin

The CVs of sample and internal standard were 4.84% and 4.67%, respectively, using *Solanum* as standard and GPB.

2C = 0.87 ± 0.003 pg, PI FCM. New Zealand, South Island, Tasman Land District, 1000 Acre Plateau, Matiri Valley, 41°36′ 14.1″S, 172°19′37.7″E, 07 Feb 2024, *A. Morales-Alonso & al. 123NZ-AMA24* (CHR, UPOS).

Carex litorosa L.H.Bailey

The CVs of sample and internal standard were 4.55% and 3.85%, respectively, using *Solanum* as standard and GPB.

2C = 0.93 ± 0.001 pg, PI FCM. New Zealand, South Island, Tasman Land District, Richmond marshaw, 41°17′13.8″S, 173°07′ 36.5″E, 08 Feb 2024, *A. Morales-Alonso & al. 149NZ-AMA24* (CHR, UPOS).

Carex petriei Cheeseman

The CVs of sample and internal standard were 3.38% and 2.84%, respectively, using *Solanum* as standard and GPB.

2C = 0.82 ± 0.002 pg, PI FCM. New Zealand, South Island, Otago Land District, Queenstown, Remarkables Ski area, 45°03′ 06.2″S, 168°48′51.2″E, 21 Feb 2020, *S. Martín-Bravo 212SMB-NZ* (UPOS).

Carex cf. *petriei*

The CVs of sample and internal standard were 4.80% and 4.63%, respectively, using *Solanum* as standard and GPB.

2C = 0.84 ± 0.004 pg, PI FCM. New Zealand, North Island, Manawatū-Whanganui, on the banks of Mangatururu River, 39° 17′30.8″S, 175°30′23.8″E, 15 Dec 2017, *K. Ford KF 540/17*, cultivated in CHR greenhouse (CHR-639451).

Carex raoulii Boott

The CVs of sample and internal standard were 4.02% and 3.82%, respectively, using *Solanum* as standard and GPB.

2C = 0.85 ± 0.003 pg, PI FCM. New Zealand, South Island, Canterbury Land District, Allendale-Governors Bay Walkway, 43°37′58.7″S, 172°39′00.0″E, 27 Jan 2024, *A. Morales-Alonso & P. Jiménez-Mejías 4NZ-AMA24* (CHR, UPOS).

The CVs of sample and internal standard were 3.95% and 3.07%, respectively, using *Solanum* as standard and GPB.

2C = 0.84 ± 0.006 pg, PI FCM. New Zealand, South Island, Canterbury Land District, Allendale-Governors Bay Walkway, 43°37′58.7″S, 172°39′00.0″E, 27 Jan 2024, *A. Morales-Alonso & P. Jiménez-Mejías 4NZ-AMA24* (CHR, UPOS).

The CVs of sample and internal standard were 4.18% and 3.72%, respectively, using *Solanum* as standard and GPB.

2C = 0.88 ± 0.004 pg, PI FCM. New Zealand, South Island, Canterbury Land District, Allendale-Governors Bay Walkway, 43°37′58.7″S, 172°39′00.0″E, 27 Jan 2024, *A. Morales-Alonso & P. Jiménez-Mejías 4NZ-AMA24* (CHR, UPOS).

The CVs of sample and internal standard were 4.88% and 4.58%, respectively, using *Solanum* as standard and GPB.

2C = 0.87 ± 0.005 pg, PI FCM. New Zealand, South Island, Canterbury Land District, Akaroa, forest reserve just east of township, Garden of Tane, 43°48′47.8″S, 172°57′35.6″E, 01 Dec 2019, *S. Martín-Bravo & K. Ford KF 686/19*, cultivated in CHR greenhouse (CHR-666505).

Carex rubicunda Petrie

The CVs of sample and internal standard were 4.84% and 4.54%, respectively, using *Solanum* as standard and GPB.

2C = 0.81 ± 0.010 pg, PI FCM. New Zealand, South Island, Southland Land District, Lugar Burn outlet, North Arm, Te Anau, 45°03′16.1″S, 167°43′14.5″E, 12 Mar 2020, *K. Ford KF 778/20*, cultivated in CHR greenhouse (CHR-667268).

The CVs of sample and internal standard were 4.42% and 3.62%, respectively, using *Solanum* as standard and GPB.

2C = 0.83 ± 0.001 pg, PI FCM. New Zealand, South Island, Canterbury Land District, Spider Lakes, 43°36′24.2″S, 171°07′05.7″E, 21 Feb 2024, *A. Morales-Alonso & K. Ford 160NZ-AMA24* (CHR, UPOS).

The CVs of sample and internal standard were 4.95% and 3.02%, respectively, using *Solanum* as standard and GPB.

2C = 0.88 ± 0.004 pg, PI FCM. New Zealand, South Island, Otago Land District, Von Valley, junction of North Branch and South Branch, "3 Tarns", 45°11′48.6″S, 168°18′19.5″E, 20 Feb 2023, *K. Ford & al. KF 1144/23*, cultivated in CHR greenhouse (CHR).

Carex solandri Boott

The CVs of sample and internal standard were 5.06% and 4.42%, respectively, using *Solanum* as standard and GPB.

2C = 0.92 ± 0.006 pg, PI FCM. New Zealand, South Island, Tasman Land District, Matiri Valley, near Matiri River, 41°39′44.5″S, 172°19′51.0″E, 07 Feb 2024, *A. Morales-Alonso & al. 138NZ-AMA24* (CHR, UPOS).

Carex traversii Kirk

The CVs of sample and internal standard were 4.25% and 3.90%, respectively, using *Solanum* as standard and GPB.

2C = 0.89 ± 0.006 pg, PI FCM. New Zealand, South Island, Tasman Land District, Red Hills, Wairau Valley, next to Wairau River, Nelson, 41°44′02.4″S, 172°59′25.7″E, 08 Feb 2024, *A. Morales-Alonso & al. 142NZ-AMA24* (CHR, UPOS).

Carex uncifolia Cheeseman

The CVs of sample and internal standard were 4.78% and 4.09%, respectively, using *Solanum* as standard and GPB.

2C = 0.90 ± 0.004 pg, PI FCM. New Zealand, South Island, Southland Land District, West Dome, 45°33′03.3″S, 168°11′08.9″E, 29 Jan 2024, *A. Morales-Alonso & al. 32NZ-AMA24* (CHR, UPOS).

Carex ventosa C.B.Clarke

The CVs of sample and internal standard were 3.78% and 3.84%, respectively, using *Solanum* as standard and GPB.

2C = 1.04 ± 0.002 pg, PI FCM. New Zealand, South Island, Chatham Islands, Rekohu, Ocean Bay Mail Scenic Reserve, 43°58′28.0″S, 176°26′21.1″W, 28 Jan 2020, *P. de Lange KF 754/20*, cultivated in CHR greenhouse (CHR-667248).

Carex wakatipu Petrie

The CVs of sample and internal standard were 4.07% and 3.61%, respectively, using *Solanum* as standard and GPB.

2C = 0.88 ± 0.009 pg, PI FCM. New Zealand, South Island, Otago Land District, Pisa Range, above Lake McKay, 44°50′54.4″S, 169°12′40.9″E, 12 Feb 2020, *K. Ford KF 705/20*, cultivated in CHR greenhouse (CHR-666520).

***Carex* sect. *Fecundae* Kük.**

Carex chordalis Liebm.

The CVs of sample and internal standard were 3.88% and 3.14%, respectively, using *Solanum* as standard and OXPRO.

2C = 1.03 ± 0.006 pg, PI FCM. Ecuador, Pichincha, Laguna de Papallacta, 00°22′27.5″S, 78°09′54.5″W, 05 Aug 2022, *A. Morales-Alonso & al. 101ECU-AMA22* (UPOS).

Carex jamesonii Boott

The CVs of sample and internal standard were 3.72% and 3.12%, respectively, using *Solanum* as standard and OXPRO.

2C = 0.94 ± 0.002 pg, PI FCM. Ecuador, Pichincha, Laguna de Papallacta, 00°22′27.5″S, 78°09′54.5″W, 05 Aug 2022, *A. Morales-Alonso & al. 102ECU-AMA22* (UPOS).

Carex lemanniana Boott

The CVs of sample and internal standard were 3.40% and 3.10%, respectively, using *Solanum* as standard and OXPRO.

2C = 0.96 ± 0.003 pg, PI FCM. Ecuador, Carchi, Reserva Ecológica El Ángel, road to Lagunas Verdes of Chiles Volcano, 00°47′55.4″N, 77°54′59.5″W, 06 Aug 2022, *A. Morales-Alonso & al. 115ECU-AMA22* (UPOS).

Carex pichinchensis Kunth

The CVs of sample and internal standard were 3.90% and 2.93%, respectively, using *Solanum* as standard and OXPRO.

2C = 0.98 ± 0.005 pg, PI FCM. Ecuador, Pichincha, ascent to Cerro Corazón, 00°33′55.1″S, 78°40′08.9″W, 04 Aug 2022, *A. Morales-Alonso & al. 90ECU-AMA22* (UPOS).

The CVs of sample and internal standard were 4.15% and 3.39%, respectively, using *Solanum* as standard and OXPRO.

2C = 0.96 ± 0.002 pg, PI FCM. Ecuador, Pichincha, Andean Snipe trail, Yanacocha Biological Reserve, 00°07′06.8″S, 78°35′09.3″W, 10 Aug 2022, *A. Morales-Alonso & al. 145ECU-AMA22* (UPOS).

***Carex* sect. *Frigidae* Fr. ex Kük.**

Carex frigida All.

The CVs of sample and internal standard were 4.68% and 4.45%, respectively, using *Solanum* as standard and GPB.

2C = 0.86 ± 0.069 pg, PI FCM. Switzerland, Canton of Valais, Bellwald, Spilsee, 46°27′40.0″N, 08°09′52.0″E, 20 Aug 2023, *R. Sánchez-Villegas & M. Luceño 40RSV23* (UPOS).

The CVs of sample and internal standard were 4.46% and 4.70%, respectively, using *Solanum* as standard and GPB.

2C = 0.96 ± 0.004 pg, PI FCM. Switzerland, Canton of Valais, Fieschertal, Märjalensee, trail Märjalen-Stausee, 46°26′23.0″N, 08° 05′49.0″E, 16 Aug 2023, *R. Sánchez-Villegas & M. Luceño 22RSV23* (UPOS).

***Carex* sect. *Graciles* Kük.**

Carex brunnea Thunb.

The CVs of sample and internal standard were 4.44% and 4.38%, respectively, using *Solanum* as standard and GPB.

2C = 1.01 ± 0.005 pg, PI FCM. China, Zhejiang, Ningbo, Baoguosi, 29°59′22.7″N, 121°31′29.2″E, 2022, *R.-G. Ren 10*, cultivated in ZJFC herbarium (ZJFC).

The CVs of sample and internal standard were 4.03% and 2.91%, respectively, using *Solanum* as standard and GPB.

2C = 0.99 ± 0.005 pg, PI FCM. China, Zhejiang, Taohua Island, 29°49′12.5″N, 122°17′32.3″E, 05 Jun 2023, *P. Jiménez-Mejías & al. 98PJM-CN23* (UPOS, ZJFC).

***Carex* sect. *Indicae* Mack.**

Carex amicta Boott

The CVs of sample and internal standard were 3.68% and 3.37%, respectively, using *Solanum* as standard and OXPRO.

2C = 1.14 ± 0.004 pg, PI FCM. Ecuador, Carchi, El Ángel Ecological Reserve, road to Lagunas Verdes of Chiles Volcano, 00°47′ 18.7″N, 77°53′30.7″W, 06 Aug 2022, *A. Morales-Alonso & al. 112ECU-AMA22* (UPOS).

Carex porrecta Reznicek & Camelb.

The CVs of sample and internal standard were 4.57% and 3.84%, respectively, using *Solanum* as standard and OXPRO.

2C = 1.17 ± 0.002 pg, PI FCM. Ecuador, Pichincha, base of Cerro Pan de Azúcar, Pululahua Geobotanical Reserve, 00°03′ 07.4″N, 78°29′15.4″W, 08 Aug 2022, *A. Morales-Alonso & al. 129ECU-AMA22* (UPOS).

Carex porrecta Reznicek & Camelb. × *Carex polystachya* Sw. ex Wahlenb.

The CVs of sample and internal standard were 4.40% and 4.15%, respectively, using *Solanum* as standard and OXPRO.

2C = 1.14 ± 0.030 pg, PI FCM. Ecuador, Pichincha, base of Cerro Pan de Azúcar, Pululahua Geobotanical Reserve, 00°03′ 07.4″N, 78°29′15.4″W, 08 Aug 2022, *A. Morales-Alonso & al. 124ECU-AMA22* (UPOS).

Carex sodiroi Kük.

The CVs of sample and internal standard were 4.65% and 3.78%, respectively, using *Solanum* as standard and OXPRO.

2C = 1.13 ± 0.020 pg, PI FCM. Ecuador, Pichincha, Quito-Gualea road, El Pahuma, 00°01′34.2″N, 78°37′56.8″W, 10 Aug 2022, *A. Morales-Alonso & al. 135ECU-AMA22* (UPOS).

The CVs of sample and internal standard were 3.66% and 3.45%, respectively, using *Solanum* as standard and LB01.

2C = 1.18 ± 0.010 pg, PI FCM. Ecuador, Pichincha, road to Pululahua Geobotanical Reserve via Moraspungo entrance, 00°02′ 11.2″N, 78°30′31.7″W, 08 Aug 2022, *A. Morales-Alonso & al. 121ECU-AMA22* (UPOS).

The CVs of sample and internal standard were 4.74% and 3.31%, respectively, using *Solanum* as standard and OXPRO.

2C = 1.12 ± 0.002 pg, PI FCM. Ecuador, Pichincha, base of Cerro Pan de Azúcar, Pululahua Geobotanical Reserve, 00°03′ 07.4″N, 78°29′15.4″W, 08 Aug 2022, *A. Morales-Alonso & al. 126ECU-AMA22* (UPOS).

The CVs of sample and internal standard were 2.83% and 2.33%, respectively, using *Solanum* as standard and LB01.

2C = 1.19 ± 0.003 pg, PI FCM. Ecuador, Pichincha, road to Pululahua Geobotanical Reserve via Moraspungo entrance, 00°01′ 50.4″N, 78°30′27.1″W, 08 Aug 2022, *A. Morales-Alonso & al. 120ECU-AMA22* (UPOS).

The CVs of sample and internal standard were 3.47% and 2.75%, respectively, using *Petroselinum* as standard and LB01.

2C = 1.26 ± 0.002 pg, PI FCM. Ecuador, Pichincha, road to Pululahua Geobotanical Reserve via Moraspungo entrance, 00°01′ 50.4″N, 78°30′27.1″W, 08 Aug 2022, *A. Morales-Alonso & al. 120ECU-AMA22* (UPOS).

***Carex* sect. *Lageniformes* (Ohwi) Nelmes**

Carex taihuensis S.W.Su & S.M.Xu

The CVs of sample and internal standard were 4.10% and 3.48%, respectively, using *Solanum* as standard and GPB.

2C = 1.46 ± 0.012 pg, PI FCM. China, Anhui, Taihu, Dashan to Shuanghe, 30°25′27.9″N, 116°05′20.9″E, 24 Apr 2015, *X.-F. Jin & W.-J. Chen 15042417*, cultivated in ZJFC herbarium (ZJFC).

***Carex* sect. *Limosae* (Heuff.) Meinsh.**

Carex magellanica Lam.

The CVs of sample and internal standard were 4.28% and 3.03%, respectively, using *Solanum* as standard and LB01.

2C = 1.04 ± 0.006 pg, PI FCM. Chile, Araucanía, Malleco, Nahuelbuta National Park, 37°48′08.4″S, 73°01′05.2″W, 21 Jan 2023, *S. Martín-Bravo & al. 31SMB23* (CONC, UPOS).

The CVs of sample and internal standard were 3.08% and 2.77%, respectively, using *Solanum* as standard and LB01.

2C = 1.05 ± 0.003 pg, PI FCM. Chile, Los Ríos, Corral, 39°56′ 54.6″S, 73°27′35.1″W, 23 Jan 2023, *J.I. Márquez-Corro & al. 33JMC23* (CONC, UPOS).

The CVs of sample and internal standard were 3.11% and 3.19%, respectively, using *Solanum* as standard and GPB.

2C = 1.02 ± 0.002 pg, PI FCM. Chile, Los Lagos, Chiloé, Piuchué Range, San Pedro, 42°19′24.2″S, 73°53′42.3″W, 30 Jan 2023, *P. Muñoz-Schüler & al. 96.PMS.ENE* (CONC, UPOS).

The CVs of sample and internal standard were 2.74% and 2.73%, respectively, using *Solanum* as standard and GPB.

2C = 1.04 ± 0.012 pg, PI FCM. France, Eastern Pyrénées Department, Latour de Carol, Serra Blanca de la Tor, trail to San-Pere de Cedret, 42°27′12.8″N, 01°53′13.5″E, 16 Jul 2023, *S. Martín-Bravo & al. 76SMB23* (CONC, UPOS).

***Carex* sect. *Longicaules* Mack. ex Reznicek**

Carex pygmaea Boeckeler

The CVs of sample and internal standard were 4.53% and 3.04%, respectively, using *Solanum* as standard and OXPRO.

2C = 1.01 ± 0.005 pg, PI FCM. Ecuador, Pichincha, ascent to Cerro Corazón, 00°34′05.5″S, 78°39′54.0″W, 04 Aug 2022, *A. Morales-Alonso & al. 93ECU-AMA22* (UPOS).

Carex sect. *Molliculae* Ohwi

Carex alopecuroides D.Don

The CVs of sample and internal standard were 3.08% and 2.43%, respectively, using *Solanum* as standard and GPB.

2C = 0.86 ± 0.016 pg, PI FCM. China, Zhejiang, Lin'an, Changhua, 30°10′52.6″N, 119°12′33.5″E, 05 May 2016, *X.-F. Jin 3621*, cultivated in ZJFC herbarium (ZJFC).

Carex doniana Spreng.

The CVs of sample and internal standard were 3.55% and 2.71%, respectively, using *Solanum* as standard and GPB.

2C = 0.85 ± 0.002 pg, PI FCM. China, Zhejiang, Lin'an, Changhua, 30°14′43.5″N, 119°06′38.2″E, 02 May 2008, *X.-F. Jin 2021*, cultivated in ZJFC herbarium (ZJFC).

Carex japonica Thunb.

The CVs of sample and internal standard were 4.13% and 3.15%, respectively, using *Solanum* as standard and GPB.

2C = 0.90 ± 0.002 pg, PI FCM. China, Zhejiang, Tianmushan, Xitianmu Natural Reserve, 30°20′28.1″N, 119°26′41.5″E, 30 May 2023, *P. Jiménez-Mejías & al. 28PJM-CN23* (UPOS, ZJFC).

Carex mollicula Boott

The CVs of sample and internal standard were 2.71% and 2.64%, respectively, using *Solanum* as standard and Otto I-II buffer.

2C = 0.8 ± 0 pg, PI FCM. Korea, Mountain 18-1 in Wondal-ri, Jukgok-myeon, Gokseong-gun, Jeollanam-do, 35°08′02.1″N, 127°22′04.3″E, 17 May 2022, *Y. Cho & S.Kim 2022-029* (SWU0054282).

The CVs of sample and internal standard were 4.25% and 2.88%, respectively, using *Solanum* as standard and GPB.

2C = 0.84 ± 0.002 pg, PI FCM. China, Zhejiang, Tianmushan, Xitianmu Natural Reserve, 30°20′28.1″N, 119°26′41.5″E, 30 May 2023, *P. Jiménez-Mejías & al. 29PJM-CN23* (UPOS, ZJFC).

Carex sect. *Occlusae* C.B.Clarke

Carex borealifujianica Y.F.Lu & X.F.Jin

The CVs of sample and internal standard were 4.87% and 3.12%, respectively, using *Solanum* as standard and GPB.

2C = 0.99 ± 0.014 pg, PI FCM. China, Zhejiang, Taohua Island, 29°49′12.5″N, 122°17′32.3″E, 05 Jun 2023, *P. Jiménez-Mejías & al. 94PJM-CN23* (UPOS, ZJFC).

Carex ligulata Nees

The CVs of sample and internal standard were 5.06% and 2.72%, respectively, using *Solanum* as standard and GPB.

2C = 1.08 ± 0.007 pg, PI FCM. China, Zhejiang, Tianmushan, Xitianmu Natural Reserve, 30°19′25.7″N, 119°26′22.3″E, 30 May 2023, *P. Jiménez-Mejías & al. 38PJM-CN23* (UPOS, ZJFC).

The CVs of sample and internal standard were 4.00% and 2.91%, respectively, using *Solanum* as standard and GPB.

2C = 0.99 ± 0.003 pg, PI FCM. China, Zhejiang, Tianmushan, Xitianmu Natural Reserve, 30°20′28.1″N, 119°26′41.5″E, 30 May 2023, *P. Jiménez-Mejías & al. 32PJM-CN23* (UPOS, ZJFC).

The CVs of sample and internal standard were 3.61% and 2.20%, respectively, using *Solanum* as standard and GPB.

2C = 1.04 ± 0.003 pg, PI FCM. China, Zhejiang, Qingyuan, Longgong, 27°29′35.9″N, 118°57′28.3″E, 09 May 2017, *X.-F. Jin 3958*, cultivated in ZJFC herbarium (ZJFC).

Carex maubertiana Boott

The CVs of sample and internal standard were 4.86% and 3.07%, respectively, using *Solanum* as standard and GPB.

2C = 0.96 ± 0.002 pg, PI FCM. China, Anhui, Qiyunshan, 29°48′30.2″N, 118°02′05.3″E, 01 Jun 2023, *P. Jiménez-Mejías & al. 61PJM-CN23* (UPOS, ZJFC).

Carex phyllocephala T.Koyama

The CVs of sample and internal standard were 4.07% and 3.02%, respectively, using *Solanum* as standard and GPB.

2C = 0.98 ± 0.005 pg, PI FCM. China, Guangdong, Conghua, Lütian, 23°49′22.0″N, 113°57′34.7″E, 13 May 2009, *S.-H. Jin & al. CH09009*, cultivated in ZJFC herbarium (ZJFC).

Carex sect. *Paludosae* G.Don in J.C.Loudon

Carex acutiformis Ehrh.

The CVs of sample and internal standard were 4.39% and 3.10%, respectively, using *Solanum* as standard and GPB.

2C = 0.97 ± 0.016 pg, PI FCM. France, Ariège Department, Artiguès, near Noubals reservoir, 42°43′02.9″N, 02°03′21.7″E, 17 Jul 2023, *S. Martín-Bravo & al. 100SMB23* (UPOS).

The CVs of sample and internal standard were 4.40% and 3.01%, respectively, using *Solanum* as standard and GPB.

2C = 1.01 ± 0.004 pg, PI FCM. Switzerland, Canton of Valais, Täsch, Schalisee, 46°04′47.0″N, 07°46′32.0″E, 22 Aug 2023, *R. Sánchez-Villegas & M. Luceño 45RSV23* (UPOS).

Carex brownii Tuck.

The CVs of sample and internal standard were 4.28% and 3.04%, respectively, using *Solanum* as standard and GPB.

2C = 0.95 ± 0.010 pg, PI FCM. China, Zhejiang, Qianqingtang reservoir, 30°17′55.9″N, 119°07′25.0″E, 29 May 2023, *P. Jiménez-Mejías & al. 14PJM-CN23* (UPOS, ZJFC).

Carex ischnostachya Steud.

The CVs of sample and internal standard were 3.83% and 2.53%, respectively, using *Solanum* as standard and GPB.

2C = 0.93 ± 0.003 pg, PI FCM. China, Zhejiang, Hangzhou, Lingyin, 30°14′56.6″N, 120°06′30.3″E, 02 May 2001, *X.-F. Jin 6991*, cultivated in ZJFC herbarium (ZJFC).

Carex olivacea Boott

The CVs of sample and internal standard were 4.64% and 3.29%, respectively, using *Solanum* as standard and GPB.

2C = 0.96 ± 0.002 pg, PI FCM. China, Zhejiang, Qianqingtang reservoir, 30°17′55.9″N, 119°07′25.0″E, 29 May 2023, *P. Jiménez-Mejías & al. 18bisPJM-CN23* (UPOS, ZJFC).

Carex retrofracta Kük.

The CVs of sample and internal standard were 4.55% and 3.84%, respectively, using *Solanum* as standard and GPB.

2C = 0.96 ± 0.005 pg, PI FCM. China, Zhejiang, Hangzhou, Lingyin, 30°14′56.6″N, 120°06′30.3″E, 02 May 2001, *X.-F. Jin 6989*, cultivated in ZJFC herbarium (ZJFC).

Carex sclerocarpa Franch.

The CVs of sample and internal standard were 4.29% and 3.40%, respectively, using *Solanum* as standard and GPB.

2C = 0.96 ± 0.004 pg, PI FCM. China, Zhejiang, Lin'an, Changhua, 30°10′52.6″N, 119°12′33.5″E, 05 May 2016, *X.-F. Jin 3613*, cultivated in ZJFC herbarium (ZJFC).

Carex subtumida (Kük.) Ohwi

The CVs of sample and internal standard were 4.54% and 3.67%, respectively, using *Solanum* as standard and GPB.

2C = 0.95 ± 0.008 pg, PI FCM. China, Zhejiang, Pan'an, Shanghu, 29°09′00.8″N, 120°40′14.3″E, 16 May 2016, *X.-F. Jin 2870*, cultivated in ZJFC herbarium (ZJFC).

The CVs of sample and internal standard were 5.67% and 3.05%, respectively, using *Solanum* as standard and GPB.

2C = 0.95 ± 0.007 pg, PI FCM. China, Zhejiang, Tianmushan, Xitianmu Natural Reserve, 30°20′28.1″N, 119°26′41.5″E, 30 May 2023, *P. Jiménez-Mejías & al. 31PJM-CN23* (UPOS, ZJFC).

Carex sect. *Paniceae* G.Don.

Carex arisanensis Hayata

The CVs of sample and internal standard were 3.07% and 2.61%, respectively, using *Solanum* as standard and GPB.

2C = 1.62 ± 0.002 pg, PI FCM. China, Zhejiang, Wencheng, Mt. Tongling, 27°49′42.1″N, 119°51′52.3″E, 16 Apr 2014, *W.-J. Chen & al. 399*, cultivated in ZJFC herbarium (ZJFC).

Carex bicolor Bellardi ex All.

The CVs of sample and internal standard were 4.58% and 4.62%, respectively, using *Solanum* as standard and GPB.

2C = 1.35 ± 0.004 pg, PI FCM. Switzerland, Canton of Valais, Täsch, Schalisee, 46°04′47.0″N, 07°46′32.0″E, 22 Aug 2023, *R. Sánchez-Villegas & M. Luceño 43RSV23* (UPOS).

Carex filipes Franch. & Sav.

The CVs of sample and internal standard were 2.85% and 2.88%, respectively, using *Glycine* as standard and Otto I-II buffer.

2C = 1.44 ± 0 pg, PI FCM. South Korea, Mountain 2-1 in Moak-ri, Bulgap-myeon, Yeonggwang-gun, Jeollanam-do, 35°11′46.0″N, 126°33′02.5″E, 04 May 2022, *Y. Cho & S. Kim 2022-009* (SWU0054266).

Carex sect. *Phacocystis* Dumort.

Carex aequialta Kük.

The CVs of sample and internal standard were 2.88% and 2.89%, respectively, using *Raphanus* as standard and Otto I-II buffer.

2C = 0.84 ± 0 pg, PI FCM. South Korea, Mountain 1-34 in Sinseong-ri, Bukha-myeon, Jangseong-gun, Jeollanam-do, 35°26′36.3″N, 126°50′52.0″E, 05 May 2022, *Y. Cho & S. Kim 2022-015* (SWU0054269).

Carex aff. *coriacea* Hamlin

The CVs of sample and internal standard were 4.51% and 4.70%, respectively, using *Solanum* as standard and GPB.

2C = 0.99 ± 0.004 pg, PI FCM. New Zealand, South Island, Tasman Land District, 1000 Acre Plateau, Matiri Valley, 41°36′14.1″S, 172°19′37.7″E, 07 Feb 2024, *A. Morales-Alonso & al. 117NZ-AMA24* (CHR, UPOS)

Carex antucensis Kunze ex Kunth

The CVs of sample and internal standard were 4.40% and 3.66%, respectively, using *Solanum* as standard and LB01.

2C = 1.00 ± 0.002 pg, PI FCM. Chile, Ñuble, Chillán, Termas de Chillán, road between Aguascalientes valley and the Termas de Chillán resort, near Paso Pirigallo, 36°54′21.8″S, 71°22′56.3″W, 18 Jan 2023, *S. Martín-Bravo & al. 16SMB23* (CONC, UPOS).

The CVs of sample and internal standard were 3.75% and 2.70%, respectively, using *Solanum* as standard and LB01.

2C = 0.99 ± 0.013 pg, PI FCM. Chile, Ñuble, Chillán, Termas de Chillán, Aguascalientes valley, 36°54′23.5″S, 71°22′30.5″W, 18 Jan 2023, *S. Martín-Bravo & al. 11SMB23* (CONC, UPOS).

Carex cinerascens Kük.

The CVs of sample and internal standard were 3.84% and 2.57%, respectively, using *Solanum* as standard and Otto I-II buffer.

2C = 0.98 ± 0 pg, PI FCM. South Korea, 123 Yongdang-ri, Wondong-myeon, Yangsan-si, Gyeongsangnam-do, 35°22′10.4″N, 128°54′49.2″E, 24 May 2022, *Y. Cho & S. Kim 2022-042* (SWU0054297, SWU0054298).

Carex darwinii Boott

The CVs of sample and internal standard were 4.17% and 3.05%, respectively, using *Solanum* as standard and LB01.

2C = 0.93 ± 0.001 pg, PI FCM. Chile, Araucanía, Malleco, Curacautín, road 181, 38°27′40.2″S, 71°42′23.0″W, 21 Jan 2023, *P. Jiménez-Mejías & al. 14PJM-CL23* (CONC, UPOS).

Carex decidua Boott

The CVs of sample and internal standard were 4.43% and 3.31%, respectively, using *Solanum* as standard and LB01.

2C = 0.95 ± 0.008 pg, PI FCM. Chile, Los Lagos, Puyehue National Park, 40°46′51.5″S, 72°12′39.6″W, 26 Jan 2023, *J.I. Márquez-Corro & al. 64JMC23* (CONC, UPOS).

The CVs of sample and internal standard were 3.69% and 2.11%, respectively, using *Solanum* as standard and GPB.

2C = 1.01 ± 0.005 pg, PI FCM. Chile, Araucanía, Malleco, Paso del Pino Hachado, 38°39′17.5″S, 70°55′14.7″W, 21 Jan 2023, *P. Jiménez-Mejías & al. 24PJM-CL23* (CONC, UPOS).

The CVs of sample and internal standard were 2.96% and 2.20%, respectively, using *Solanum* as standard and GPB.

2C = 0.99 ± 0.002 pg, PI FCM. Chile, Santiago, Farellones, Valle Nevado ski resort, Tres Puntas, 33°19′34.0″S, 70°14′30.2″W, 16 Jan 2023, *P. Jiménez-Mejías & al. 10PJM-CL23* (CONC, UPOS).

The CVs of sample and internal standard were 3.93% and 3.53%, respectively, using *Solanum* as standard and GPB.

2C = 0.94 ± 0.059 pg, PI FCM. Chile, Los Lagos, Llanquihue, Lenca, Alerce Andino National Park, ascent to Laguna Triángulo, 43°33′52.6″S, 72°32′17.9″W, 28 Jan 2023, *P. García-Moro & al. 26pgm23* (CONC, UPOS).

Carex enneastachya C.B.Clarke

The CVs of sample and internal standard were 4.56% and 3.44%, respectively, using *Solanum* as standard and OXPRO.

2C = 0.89 ± 0.011 pg, PI FCM. Ecuador, Pichincha, lower lagoon, Cayambe-Coca National Park, 00°19′41.7″S, 78°12′02.0″W, 04 Aug 2022, *A. Morales-Alonso & al. 98ECU-AMA22* (UPOS).

Carex forficula Franch. & Sav.

The CVs of sample and internal standard were 2.83% and 2.74%, respectively, using *Solanum* as standard and Otto I-II buffer.

2C = 1 ± 0.04 pg, PI FCM. South Korea, Shimjeok Wetland, Inje-gun, Gangwon-do, 38°13′46.5″N, 128°10′09.6″E, 28 Jun 2020, *Y. Cho & S. Kim 2022-005* (SWU0054333, SWU0054336, SWU0054337).

Carex gaudichaudiana Kunth

The CVs of sample and internal standard were 4.48% and 4.33%, respectively, using *Solanum* as standard and GPB.

2C = 0.98 ± 0.007 pg, PI FCM. New Zealand, South Island, West Coast, Westland Land District, Three Mile Track to Okarito Lagoon, 43°13′32.9″S, 170°09′36.6″E, 04 Feb 2024, *A. Morales-Alonso & P. Jiménez-Mejías 103NZ-AMA24* (CHR, UPOS).

Carex geminata Schkuhr

The CVs of sample and internal standard were 4.72% and 4.17%, respectively, using *Solanum* as standard and GPB.

2C = 0.96 ± 0.007 pg, PI FCM. New Zealand, South Island, Canterbury Land District, Allendale-Governors Bay Walkway, 43°38′16.6″S, 172°38′53.3″E, 27 Jan 2024, *A. Morales-Alonso & P. Jiménez-Mejías 7NZ-AMA24* (CHR, UPOS).

Carex micrantha Kük.

The CVs of sample and internal standard were 2.73% and 2.53%, respectively, using *Solanum* as standard and Otto I-II buffer.

2C = 0.9 ± 0 pg, PI FCM. Korea, 123 Yongdang-ri, Wondong-myeon, Yangsan-si, Gyeongsangnam-do, 35°22′10.4″N, 128°54′49.2″E, 24 May 2022, *Y. Cho & S. Kim 2022-043* (SWU0054299).

Carex nigra (L.) Reichard

The CVs of sample and internal standard were 3.98% and 4.02%, respectively, using *Solanum* as standard and GPB.

2C = 0.97 ± 0.007 pg, PI FCM. France, Eastern Pyrénées Department, road from Mont-Louis to La Bollosa reservoir, trail to Estany Largo, Estany del Racó, 42°33′20.3″N, 02°00′33.8″E, 17 Jul 2023, *S. Martín-Bravo & al. 106SMB23* (UPOS).

The CVs of sample and internal standard were 3.85% and 3.07%, respectively, using *Solanum* as standard and GPB.

2C = 0.96 ± 0.003 pg, PI FCM. Switzerland, Canton of Valais, Bellwald, Spilsee, 46°27′40.0″N, 08°09′52.0″E, 20 Aug 2023, *R. Sánchez-Villegas & M. Luceño 41RSV23* (UPOS).

The CVs of sample and internal standard were 3.59% and 2.81%, respectively, using *Solanum* as standard and GPB.

2C = 0.99 ± 0.016 pg, PI FCM. Switzerland, Canton of Valais, Zermatt, Stellisee, 46°00′47.0″N, 07°47′53.0″E, 24 Aug 2023, *R. Sánchez-Villegas & M. Luceño 58RSV23* (UPOS).

The CVs of sample and internal standard were 3.30% and 2.79%, respectively, using *Solanum* as standard and GPB.

2C = 0.99 ± 0.007 pg, PI FCM. Switzerland, Canton of Valais, Fieschertal, Vordersee, trail Märjalen-Stausee, 46°26′35.0″N, 08°06′35.0″E, 16 Aug 2023, *R. Sánchez-Villegas & M. Luceño 21RSV23* (UPOS).

Carex otaruensis Franch.

The CVs of sample and internal standard were 3.22% and 2.64%, respectively, using *Solanum* as standard and GPB.

2C = 1.08 ± 0.014 pg, PI FCM. China, Zhejiang, Qianqingtang reservoir, 30°18′01.7″N, 119°07′04.7″E, 29 May 2023, *P. Jiménez-Mejías & al. 22PJM-CN23* (UPOS, ZJFC).

Carex quixotiana Ben.Benítez, Martín-Bravo, Luceño & Jim.Mejías

The CVs of sample and internal standard were 4.12% and 2.87%, respectively, using *Solanum* as standard and GPB.

2C = 1.02 ± 0.003 pg, PI FCM. Spain, Ciudad Real, Sierra Madrona, Fuencaliente, road to San Isidro campsite, 38°26′56.7″N, 04°19′37.8″W, 27 Apr 2013, *S. Martín-Bravo & F. García-de-Leániz 3SMB13* (UPOS).

Carex reuteriana Boiss. subsp. *reuteriana*

The CVs of sample and internal standard were 3.97% and 3.91%, respectively, using *Solanum* as standard and GPB.

2C = 1.17 ± 0.003 pg, PI FCM. Spain, Ávila, El Barco de Ávila, banks of the Tormes River, 40°20′47.8″N, 05°31′58.7″W, 01 Apr 2022, *M. Luceño & al. 198ML25* (UPOS).

Carex suifunensis Kom.

The CVs of sample and internal standard were 2.68% and 3.91%, respectively, using *Solanum* as standard and Otto I-II buffer.

2C = 0.96 ± 0 pg, PI FCM. South Korea, Mountain 2-3 in Jungsan-dong, Buk-gu, Ulsan, 35°40′09.5″N, 129°22′17.0″E, 23 May 2022, *Y. Cho & S. Kim 2022-038* (SWU0054292).

***Carex* sect. *Praelongae* (Kük.) Nelmes**

Carex dimorpholepis Steud.

The CVs of sample and internal standard were 3.40% and 2.52%, respectively, using *Solanum* as standard and GPB.

2C = 0.78 ± 0.002 pg, PI FCM. China, Zhejiang, Ningbo, Hangzhou Bay, 30°21′54.4″N, 121°10′31.1″E, 04 Jun 2023, *P. Jiménez-Mejías & al. 87PJM-CN23* (UPOS, ZJFC).

***Carex* sect. *Racemosae* G.Don**

Carex atrata L.

The CVs of sample and internal standard were 4.46% and 3.78%, respectively, using *Solanum* as standard and GPB.

2C = 0.95 ± 0.004 pg, PI FCM. Switzerland, Canton of Bern, Grindelwald, Eigergletscher cable car station, 46°34′28.0″N, 07°58′23.0″E, 19 Aug 2023, *R. Sánchez-Villegas & M. Luceño 39RSV23* (UPOS).

Carex hartmaniorum A.Cajander

The CVs of sample and internal standard were 3.73% and 3.36%, respectively, using *Solanum* as standard and GPB.

2C = 0.84 ± 0.014 pg, PI FCM. France, Ariège Department, Artiguès, near Noubals reservoir, 42°43′02.9″N, 02°03′21.7″E, 17 Jul 2023, *S. Martín-Bravo & al. 95SMB23* (UPOS).

The CVs of sample and internal standard were 4.62% and 4.44%, respectively, using *Solanum* as standard and GPB.

2C = 0.93 ± 0.004 pg, PI FCM. France, Eastern Pyrénées Department, Latour de Carol, Serra Blanca de la Tor, trail to San-Pere de Cedret, 42°27′12.8″N, 01°53′13.5″E, 16 Jul 2023, *S. Martín-Bravo & al. 79SMB23* (UPOS).

Carex parviflora Host

The CVs of sample and internal standard were 4.89% and 3.89%, respectively, using *Solanum* as standard and GPB.

2C = 0.95 ± 0.001 pg, PI FCM. Switzerland, Canton of Bern, Grindelwald, path from the Eigergletscher cable car station to the Guggi Hütte, 46°34′05.0″N, 07°58′01.0″E, 19 Aug 2023, *R. Sánchez-Villegas & M. Luceño 35RSV23* (UPOS).

***Carex* sect. *Rhomboidales* Kük.**

Carex basiflora C.B.Clarke

The CVs of sample and internal standard were 4.40% and 2.53%, respectively, using *Solanum* as standard and GPB.

2C = 1.02 ± 0.004 pg, PI FCM. China, Shaanxi, Meixian, Honghegu, 34°02′00.4″N, 107°45′53.8″E, 18 May 2010, *X.-F. Jin & W.-J. Chen 2612*, cultivated in ZJFC herbarium (ZJFC).

Carex brevicuspis C.B.Clarke

The CVs of sample and internal standard were 3.97% and 3.17%, respectively, using *Solanum* as standard and GPB.

2C = 0.98 ± 0.007 pg, PI FCM. China, Zhejiang, Pan'an, Mt. Dapan, 29°00′20.7″N, 120°30′28.8″E, 25 Apr 2010, *X.-F. Jin 2547*, cultivated in ZJFC herbarium (ZJFC).

Carex chaofangii C.Z.Zheng & X.F.Jin

The CVs of sample and internal standard were 3.90% and 2.87%, respectively, using *Solanum* as standard and GPB.

2C = 1.28 ± 0.013 pg, PI FCM. China, Zhejiang, Wencheng, Mt. Tongling, 27°49′06.8″N, 119°50′49.7″E, 16 Apr 2014, *W.-J. Chen 369*, cultivated in ZJFC herbarium (ZJFC).

Carex chinensis Retz.

The CVs of sample and internal standard were 3.82% and 3.23%, respectively, using *Solanum* as standard and GPB.

2C = 1.15 ± 0.009 pg, PI FCM. China, Zhejiang, Songyang, Yuyan, 28°21′22.0″N, 119°18′16.9″E, 22 Apr 2010, *X.-F. Jin 2501*, cultivated in ZJFC herbarium (ZJFC).

The CVs of sample and internal standard were 3.95% and 3.07%, respectively, using *Solanum* as standard and GPB.

2C = 1.18 ± 0.002 pg, PI FCM. China, Anhui, Huangshan, 30° 06′45.4″N, 118°10′09.2″E, 02 Jun 2023, *P. Jiménez-Mejías & al. 76PJM-CN23* (UPOS, ZJFC).

Carex harlandii Boott

The CVs of sample and internal standard were 3.88% and 3.76%, respectively, using *Solanum* as standard and GPB.

2C = 1.29 ± 0.005 pg, PI FCM. China, Anhui, Xiuning, Liukou, 29°35′59.5″N, 118°20′23.1″E, 27 May 2009, *H. Wang 1751*, cultivated in ZJFC herbarium (ZJFC).

Carex huangshanica X.F.Jin & W.J.Chen

The CVs of sample and internal standard were 4.06% and 3.20%, respectively, using *Solanum* as standard and GPB.

2C = 0.88 ± 0.003 pg, PI FCM. China, Anhui, Huangshan, 30° 07′21.9″N, 118°10′13.1″E, 02 Jun 2023, *P. Jiménez-Mejías & al. 70PJM-CN23* (UPOS, ZJFC).

Carex jiuhuaensis S.W.Su

The CVs of sample and internal standard were 5.13% and 2.99%, respectively, using *Solanum* as standard and GPB.

2C = 0.86 ± 0.005 pg, PI FCM. China, Anhui, Jiuhuashan, Jiuhua Mountain, 30°27′57.9″N, 117°49′01.1″E, 03 Jun 2023, *P. Jiménez-Mejías & al. 81PJM-CN23* (UPOS, ZJFC).

Carex manca Boott

The CVs of sample and internal standard were 4.42% and 3.58%, respectively, using *Solanum* as standard and GPB.

2C = 0.99 ± 0.007 pg, PI FCM. China, Zhejiang, Hangzhou, Lingyin, 30°15′00.2″N, 120°06′31.4″E, 11 Apr 2003, *X.-F. Jin 24*, cultivated in ZJFC herbarium (ZJFC).

Carex radiciflora Dunn

The CVs of sample and internal standard were 4.34% and 2.72%, respectively, using *Solanum* as standard and GPB.

2C = 1.19 ± 0.009 pg, PI FCM. China, Zhejiang, Suichang, Yanping, 28°22′56.5″N, 118°54′13.4″E, 23 Apr 2010, *X.-F. Jin & al. 2511*, cultivated in ZJFC herbarium (ZJFC).

Carex simulans C.B.Clarke

The CVs of sample and internal standard were 3.79% and 2.94%, respectively, using *Solanum* as standard and GPB.

2C = 1.18 ± 0.005 pg, PI FCM. China, Zhejiang, Pan'an, Shanghu, 29°09′00.4″N, 120°40′13.5″E, 09 Apr 2011, *X.-F. Jin 2650*, cultivated in ZJFC herbarium (ZJFC).

Carex thibetica Franch.

The CVs of sample and internal standard were 4.08% and 2.99%, respectively, using *Solanum* as standard and GPB.

2C = 0.87 ± 0.003 pg, PI FCM. China, Zhejiang, Lin'an, Changhua, 30°10′56.211″N, 119°12′33.502″E, May 2016, *X.-F. Jin s.n.*, cultivated in ZJFC herbarium (ZJFC).

Carex wahuensis (Franch. & Sav.) T.Koyama

The CVs of sample and internal standard were 4.03% and 3.30%, respectively, using *Solanum* as standard and GPB.

2C = 0.97 ± 0.005 pg, PI FCM. China, Zhejiang, Taohua Island, 29°49′12.5″N, 122°17′32.3″E, 05 Jun 2023, *P. Jiménez-Mejías & al. 96PJM-CN23* (UPOS, ZJFC).

***Carex* sect. *Rhynchocystis* Dumort.**

Carex bequaertii subsp. *mossii* (Nelmes) Míguez, Martín-Bravo & Jim.Mejías

The CVs of sample and internal standard were 5.65% and 4.14%, respectively, using *Solanum* as standard and GPB.

2C = 1.00 ± 0.011 pg, PI FCM. South Africa, KwaZulu-Natal, Bushman's Nek, Caravan Park, 29°50′37.8″S, 029°12′57.2″E, 17 Dec 2008, *S. Martín-Bravo, 169SMB08* (UPOS-13908).

Carex microcarpa Bertol. ex Moris

The CVs of sample and internal standard were 3.73% and 3.07%, respectively, using *Solanum* as standard and GPB.

2C = 0.81 ± 0.002 pg, PI FCM. France, Corsica, Asco, between Asco and the ski area, 42°25′29.8″N, 08°57′59.5″E, 06 May 2007, *M. Escudero & M. Luceño 104ME07* (UPOS-4723).

Carex pendula Huds.

The CVs of sample and internal standard were 4.72% and 3.07%, respectively, using *Solanum* as standard and LB01.

2C = 0.94 ± 0.017 pg, PI FCM. Chile, Los Ríos, Valdivia, Isla Teja, 39°48′35.0″S, 73°15′27.8″W, 23 Jan 2023, *P. Muñoz-Schüler & al. 81.PMS.ENE* (CONC, UPOS).

***Carex* sect. *Spirostachyae* Drejer**

Carex binervis Sm.

The CVs of sample and internal standard were 3.52% and 2.84%, respectively, using *Solanum* as standard and GPB.

2C = 0.85 ± 0.001 pg, PI FCM. Spain, Ávila, La Nava del Barco, track to Puente de la Yunta (start of the trail to Laguna de la Nava), 40°16′45.1″N, 05°33′27.6″W, 18 Aug 2023, *S. Martín-Bravo 125SMB23* (UPOS).

Carex camposii subsp. *tejedensis* R.Sánchez-Villegas, M.Escudero & Luceño

The CVs of sample and internal standard were 4.68% and 3.49%, respectively, using *Solanum* as standard and GPB.

2C = 0.92 ± 0.009 pg, PI FCM. Spain, Málaga, Canillas de Albaida, Arroyo El Nevazo, Sierra de Tejeda, Almijara y Alhama Natural Park, 36°52′55.9″N, 03°57′2.8″W, 13 Jun 2021, *R. Sánchez-Villegas & al. 65bisRSV21* (UPOS-14126).

Carex fuscula d'Urv.

The CVs of sample and internal standard were 4.51% and 3.30%, respectively, using *Solanum* as standard and LB01.

2C = 0.84 ± 0.002 pg, PI FCM. Chile, Coquimbo, Tulahuén, Río Grande valley, before Cuesta del Toro, 30°57′24.6″S, 70°31′39.1″W, 15 Jan 2023, *P. Muñoz-Schüler & al. 40.PMS.ENE* (CONC, UPOS).

The CVs of sample and internal standard were 4.83% and 3.83%, respectively, using *Solanum* as standard and LB01.

2C = 0.81 ± 0.002 pg, PI FCM. Chile, Araucanía, Malleco, Nahuelbuta National Park, 37°48′07.0″S, 73°01′04.7″W, 21 Jan 2023, *S. Martín-Bravo & al. 27SMB23* (CONC, UPOS).

The CVs of sample and internal standard were 4.77% and 3.29%, respectively, using *Solanum* as standard and LB01.

2C = 0.87 ± 0.006 pg, PI FCM. Chile, Biobío, Hualpén, Hualpén Peninsula, Terrestrial Biology Station, 36°47′50.0″S, 73° 09′30.6″W, 04 Jan 2023, *P. Muñoz-Schüler & al. 04.PMS.ENE* (CONC, UPOS).

The CVs of sample and internal standard were 4.16% and 3.34%, respectively, using *Solanum* as standard and LB01.

2C = 0.86 ± 0.003 pg, PI FCM. Chile, Araucanía, Malleco, Nahuelbuta National Park, 37°48′08.4″S, 73°01′05.2″W, 21 Jan 2023, *S. Martín-Bravo & al. 30bisSMB23* (CONC, UPOS).

The CVs of sample and internal standard were 3.12% and 2.31%, respectively, using *Solanum* as standard and GPB.

2C = 0.92 ± 0.003 pg, PI FCM. Chile, Araucanía, Malleco, Lonquimay, Alaska Falls, La Cascada stream, 38°30′16.8″S, 71°24′45.2″ W, 22 Jan 2023, *P. García-Moro & al. 06pgm23* (CONC, UPOS).

The CVs of sample and internal standard were 3.98% and 2.96%, respectively, using *Solanum* as standard and GPB.

2C = 0.88 ± 0.002 pg, PI FCM. Chile, Los Ríos, Corral, 39°56′ 54.6″S, 73°27′35.1″W, 23 Jan 2023, *J.I. Márquez-Corro & al. 31JMC23* (CONC, UPOS).

The CVs of sample and internal standard were 3.10% and 2.80%, respectively, using *Solanum* as standard and GPB.

2C = 0.86 ± 0.011 pg, PI FCM. Chile, Los Lagos, Chiloé, Piuchué Range, San Pedro, 42°19′24.2″S, 73°53′42.3″W, 30 Jan 2023, *P. Muñoz-Schüler & al. 90.PMS.ENE* (CONC, UPOS).

The CVs of sample and internal standard were 4.31% and 2.89%, respectively, using *Solanum* as standard and GPB.

2C = 0.90 ± 0.010 pg, PI FCM. Chile, Los Ríos, Corral, ditches next to the Tornagaleones River, 39°56′29.9″S, 73°12′21.7″W, 23 Jan 2023, *J.I. Márquez-Corro & al. 20JMC23* (CONC, UPOS).

The CVs of sample and internal standard were 4.36% and 2.45%, respectively, using *Solanum* as standard and GPB.

2C = 0.88 ± 0.004 pg, PI FCM. Chile, Biobío, Antuco, Laguna del Laja National Park, Los Barros sector, 37°27′43.8″S, 71°19′07.0″W, 20 Jan 2023, *P. Muñoz-Schüler & al. 62.PMS.ENE* (CONC, UPOS).

The CVs of sample and internal standard were 4.41% and 2.72%, respectively, using *Solanum* as standard and GPB.

2C = 0.86 ± 0.002 pg, PI FCM. Chile, Los Lagos, Chiloé, Puñihuil penguin beach, clifftop trail, 41°55′44.6″S, 74°02′18.5″W, 29 Jan 2023, *P. Jiménez-Mejías & al. 40PJM-CL23* (CONC, UPOS).

The CVs of sample and internal standard were 3.98% and 2.35%, respectively, using *Solanum* as standard and GPB.

2C = 0.85 ± 0.005 pg, PI FCM. Chile, Biobío, Polcura, Polcura Range, road to Frutillar, 37°16′23.0″S, 71°45′37.1″W, 20 Jan 2023, *P. Muñoz-Schüler & al. 47.PMS.ENE* (CONC, UPOS).

Carex perraudieriana (Kük. ex Bornm.) Gay ex Kük.

The CVs of sample and internal standard were 4.61% and 4.25%, respectively, using *Solanum* as standard and GPB.

2C = 0.91 ± 0.005 pg, PI FCM. Spain, Canary Islands, Tenerife, Santa Cruz de Tenerife, Bosque Encantado (La Ensillada), 28°34′ 08.7″N, 016°10′10.8″W, 01 Jan 2023, *R. Sánchez-Villegas & al. 7RSV23* (UPOS).

Carex sect. *Strigosae* (Andersson) Christ

Carex strigosa Huds.

The CVs of sample and internal standard were 4.59% and 3.41%, respectively, using *Solanum* as standard and GPB.

2C = 0.79 ± 0.006 pg, PI FCM. Switzerland, Canton of Valais, Zermatt, descent from the base of the Matterhorn to Zermatt via Schwarzsee station, 45°59′27.8″N, 07°42′14.0″E, 23 Aug 2023, *R. Sánchez-Villegas & M. Luceño 51RSV23* (UPOS).

Carex sect. *Sylvaticae* Rouy

Carex paui Sennen

The CVs of sample and internal standard were 4.43% and 3.25%, respectively, using *Solanum* as standard and GPB.

2C = 0.86 ± 0.003 pg, PI FCM. Spain, Barcelona, Turó de Cal Caletre, Tordera, Camí de Sant Andreu, 41°39′00.4″N, 02°39′04.2″ E, 29 Apr 2023, *J. Jurado & M. Luceño 11JJS23* (UPOS)

Carex sylvatica Huds.

The CVs of sample and internal standard were 3.73% and 3.00%, respectively, using *Solanum* as standard and GPB.

2C = 0.88 ± 0.008 pg, PI FCM. Switzerland, Canton of Valais, Blatten, trail from Blatten to the Massaweg canyon, 46°21′45.0″N, 07°59′35.0″E, 17 Aug 2023, *R. Sánchez-Villegas & M. Luceño 28RSV23* (UPOS).

Conica Clade

Carex breviaristata K.T.Fu

The CVs of sample and internal standard were 4.32% and 2.72%, respectively, using *Solanum* as standard and GPB.

2C = 1.13 ± 0.003 pg, PI FCM. China, Zhejiang, Suichang, Yanping, 28°22′56.5″N, 118°54′13.4″E, 23 Apr 2010, *X.-F. Jin & al. 2518*, cultivated in ZJFC herbarium (ZJFC).

Carex dolichostachya Hayata

The CVs of sample and internal standard were 4.22% and 2.83%, respectively, using *Solanum* as standard and GPB.

2C = 1.19 ± 0.009 pg, PI FCM. China, Zhejiang, Lin'an, Changhua, 30°18′37.5″N, 119°07′39.1″E, 19 May 2008, *X.-F. Jin 2107*, cultivated in ZJFC herbarium (ZJFC).

The CVs of sample and internal standard were 3.44% and 3.25%, respectively, using *Solanum* as standard and GPB.

2C = 1.33 ± 0.005 pg, PI FCM. China, Anhui, Huangshan, 30° 06′45.4″N, 118°10′09.2″E, 02 Jun 2023, *P. Jiménez-Mejías & al. 73PJM-CN23* (UPOS, ZJFC).

The CVs of sample and internal standard were 4.18% and 2.94%, respectively, using *Solanum* as standard and GPB.

2C = 1.17 ± 0.004 pg, PI FCM. China, Anhui, Qiyunshanzhen, near the cable car station, 29°49′04.9″N, 118°02′19.0″E, 01 Jun 2023, *P. Jiménez-Mejías & al. 68PJM-CN23* (UPOS, ZJFC).

Carex duvaliana Franch. & Sav.

The CVs of sample and internal standard were 4.02% and 3.44%, respectively, using *Solanum* as standard and GPB.

2C = 1.03 ± 0.008 pg, PI FCM. China, Zhejiang, Lin'an, Changhua, 30°06′51.5″N, 118°54′47.9″E, 01 May 2007, *X.-F. Jin 1748*, cultivated in ZJFC herbarium (ZJFC).

Carex kiangsuensis Kük.

The CVs of sample and internal standard were 3.11% and 2.55%, respectively, using *Solanum* as standard and GPB.

2C = 1.28 ± 0.004 pg, PI FCM. China, Zhejiang, Linhai, Mt. Kuocang, 28°48′50.4″N, 120°56′19.2″E, 17 Jun 2022, *Y.-F. Lu & X.-F. Jin 323*, cultivated in ZJFC herbarium (ZJFC).

Carex pisiformis Boott

The CVs of sample and internal standard were 4.02% and 3.70%, respectively, using *Solanum* as standard and GPB.

2C = 1.28 ± 0.003 pg, PI FCM. China, Zhejiang, Tiantai, Mt. Huading, 29°15′36.4″N, 121°05′48.9″E, 20 Apr 2006, *X.-F. Jin 1481*, cultivated in ZJFC herbarium (ZJFC).

The CVs of sample and internal standard were 4.51% and 3.06%, respectively, using *Solanum* as standard and GPB.

2C = 1.05 ± 0.005 pg, PI FCM. China, Zhejiang, Tianmushan, Xitianmu Natural Reserve, 30°20′28.1″N, 119°26′41.5″E, 30 May 2023, *P. Jiménez-Mejías & al. 34PJM-CN23* (UPOS, ZJFC)

Carex qiyunensis S.W.Su & S.M.Xu

The CVs of sample and internal standard were 4.46% and 3.27%, respectively, using *Solanum* as standard and GPB.

2C = 1.05 ± 0.005 pg, PI FCM. China, Anhui, Xiuning, Mt. Qiyun, 29°48′58.8″N, 118°02′33.7″E, 14 May 2011, *X.-F. Jin & al. 2725*, cultivated in ZJFC herbarium (ZJFC).

Carex sabynensis Less. ex Kunth

The CVs of sample and internal standard were 3.23% and 2.36%, respectively, using *Solanum* as standard and GPB.

2C = 1.19 ± 0.002 pg, PI FCM. China, Zhejiang, Lin'an, Changhua, 30°18′40.2″N, 119°07′41.2″E, 12 May 2017, *Y.-F. Lu 59*, cultivated in ZJFC herbarium (ZJFC).

The CVs of sample and internal standard were 2.78% and 2.78%, respectively, using *Solanum* as standard and Otto I-II buffer.

2C = 1.16 ± 0.02 pg, PI FCM. South Korea, Mountain 17 in Munsu-ri (Nogodan-Banyabong), Toji-myeon, Gurye-gun, Jeollanam-do, 35°17′42.2″N, 127°32′19.2″E, 22 Jun 2022, *Y. Cho & S. Kim 2022-063* (SWU0054324).

Carex sociata Boott

The CVs of sample and internal standard were 4.50% and 3.44%, respectively, using *Solanum* as standard and GPB.

2C = 1.19 ± 0.008 pg, PI FCM. China, Zhejiang, Suichang, 28° 36′21.2″N, 119°16′42.2″E, 05 May 2017, *X.-F. Jin 3903*, cultivated in ZJFC herbarium (ZJFC).

Carex tianmushanica C.Z.Zheng & X.F.Jin

The CVs of sample and internal standard were 4.55% and 3.14%, respectively, using *Solanum* as standard and GPB.

2C = 1.33 ± 0.007 pg, PI FCM. China, Zhejiang, Tianmushan, Xitianmu Natural Reserve, 30°20′28.1″N, 119°26′41.5″ E, 30 May 2023, *P. Jiménez-Mejías & al. 35PJM-CN23* (UPOS, ZJFC).

Carex tosaensis Akiyama

The CVs of sample and internal standard were 4.33% and 3.68%, respectively, using *Solanum* as standard and GPB.

2C = 1.34 ± 0.002 pg, PI FCM. China, Anhui, Huangshan, 30° 07′21.9″N, 118°10′13.1″E, 02 Jun 2023, *P. Jiménez-Mejías & al. 72PJM-CN23* (UPOS, ZJFC).

Flacca Clade

Carex banksii Boott

The CVs of sample and internal standard were 5.07% and 3.44%, respectively, using *Solanum* as standard and LB01.

2C = 1.49 ± 0.018 pg, PI FCM. Chile, Biobío, Antuco, Lake in Laja National Park, 37°25′30.5″S, 72°04′34.5″W, 20 Jan 2023, *M. Sanz-Arnal & al. 15MSA-CL23* (CONC, UPOS).

The CVs of sample and internal standard were 3.64% and 2.20%, respectively, using *Solanum* as standard and GPB.

2C = 1.43 ± 0.003 pg, PI FCM. Chile, Ñuble, Termas de Chillán, Aguas Calientes Valley, 36°54′08.1″S, 71°22′37.8″W, 18 Jan 2023, *S. Martín-Bravo & al. 65SMB23* (CONC, UPOS).

The CVs of sample and internal standard were 4.38% and 2.14%, respectively, using *Solanum* as standard and GPB.

2C = 1.44 ± 0.004 pg, PI FCM. Chile, Araucanía, Malleco, Pino Hachado, 38°39′17.5″S, 70°55′14.7″W, 21 Jan 2023, *P. Jiménez-Mejías & al. 23PJM-CL23* (CONC, UPOS).

Carex banksii var. *odontolepis* (Phil.) Kük.

The CVs of sample and internal standard were 2.55% and 3.47%, respectively, using *Solanum* as standard and LB01.

2C = 2.70 ± 0.002 pg, PI FCM. Chile, Araucanía, Malleco, Nahuelbuta National Park, recreation area by the Purén River, 37° 49′42.0″S, 73°00′37.4″W, 22 Jan 2023, *S. Martín-Bravo & al. 52SMB23* (CONC, UPOS).

Carex ferruginea Scop.

The CVs of sample and internal standard were 4.77% and 3.99%, respectively, using *Solanum* as standard and GPB.

2C = 1.41 ± 0.005 pg PI FCM. Switzerland, Canton of Bern, Grindelwald, path from the Eigergletscher cable car station to the Guggi Hütte, 46°34′02.0″N, 07°58′00.0″E, 19 Aug 2023, *R. Sánchez-Villegas & M. Luceño 38RSV23* (UPOS).

Carex firma Host

The CVs of sample and internal standard were 3.59% and 3.60%, respectively, using *Solanum* as standard and GPB.

2C = 2.49 ± 0.006 pg PI FCM. Switzerland, Canton of Bern, Grindelwald, path from the Eigergletscher cable car station to the Guggi Hütte, 46°34′05.0″N, 07°58′01.0″E, 19 Aug 2023, *R. Sánchez-Villegas & M. Luceño 37RSV23* (UPOS).

Carex flacca Schreb.

The CVs of sample and internal standard were 3.30% and 2.85%, respectively, using *Solanum* as standard and GPB.

2C = 0.99 ± 0.011 pg PI FCM. Spain, Ávila, Solana de Ávila, ascent to Laguna del Duque from the Central del Chorro, 40°18′ 19.6″N, 05°40′46.4″W, 19 Aug 2023, *S. Martín-Bravo & A. Rodríguez Saéz 126SMB23* (UPOS).

Carex sempervirens Vill.

The CVs of sample and internal standard were 2.14% and 2.59%, respectively, using *Oryza* as standard and GPB.

2C = 2.25 ± 0.009 pg PI FCM. Switzerland, Canton of Bern, Grindelwald, Eigergletscher cable car station, 46°34′38.0″N, 07°58′ 23.0″E, 19 Aug 2023, *R. Sánchez-Villegas & M. Luceño 31RSV23* (UPOS).

Hirta Clade

Carex aematorhyncha Desv.

The CVs of sample and internal standard were 4.02% and 3.46%, respectively, using *Solanum* as standard and LB01.

2C = 0.84 ± 0.002 pg, PI FCM. Chile, Araucanía, Malleco, Nahuelbuta National Park, 37°48′08.4″S, 73°01′05.2″W, 21 Jan 2023, *S. Martín-Bravo & al. 32SMB23* (CONC, UPOS).

The CVs of sample and internal standard were 4.10% and 2.15%, respectively, using *Solanum* as standard and GPB.

2C = 0.92 ± 0.012 pg, PI FCM. Chile, Araucanía, Malleco, Curacautín, route 181, 38°27′40.2″S, 71°42′23.0″W, 21 Jan 2023, *P. Jiménez-Mejías & al. 15PJM-CL23* (CONC, UPOS).

The CVs of sample and internal standard were 4.08% and 4.09%, respectively, using *Solanum* as standard and GPB.

2C = 0.83 ± 0.009 pg, PI FCM. Chile, Los Lagos, Chiloé, road to Playa Mar Brava, Pudeyi River, 41°55′04.6″S, 73°59′45.3″W, 29 Jan 2023, *P. Jiménez-Mejías & al. 43PJM-CL23* (CONC, UPOS).

Carex chilensis Brongn.

The CVs of sample and internal standard were 3.96% and 3.46%, respectively, using *Solanum* as standard and LB01.

2C = 0.88 ± 0.004 pg, PI FCM. Chile, Los Ríos, Pelchuquín, Cudico River, 39°38′38.2″S, 73°07′31.7″E, 23 Jan 2023, *P. Muñoz-Schüler & al. 68.PMS.ENE* (CONC, UPOS).

Carex excelsa Poepp. ex Kunth

The CVs of sample and internal standard were 4.44% and 3.54%, respectively, using *Solanum* as standard and LB01.

2C = 0.87 ± 0.008 pg, PI FCM. Chile, Coquimbo, Tulahuén, Río Grande valley, before Cuesta del Toro, 30°57′23.1″S, 70°31′29.8″W, 15 Jan 2023, *P. Muñoz-Schüler & al. 36.PMS.ENE* (CONC, UPOS).

The CVs of sample and internal standard were 4.29% and 3.14%, respectively, using *Solanum* as standard and LB01.

2C = 0.79 ± 0.012 pg, PI FCM. Chile, Coquimbo, Tulahuén, Río Grande valley, beyond Cuesta del Toro, 30°57′37.6″S, 70°31′20.7″W, 15 Jan 2023, *P. Muñoz-Schüler & al. 33.PMS.ENE* (CONC, UPOS).

The CVs of sample and internal standard were 4.62% and 3.42%, respectively, using *Solanum* as standard and LB01.

2C = 0.88 ± 0.008 pg, PI FCM. Chile, Los Ríos, Río Bueno, road from Crucero to Entre Lagos, 40°35′35.0″S, 72°38′34.8″W, 26 Jan 2023, *J.I. Márquez-Corro & al. 40JMC23* (CONC, UPOS).

The CVs of sample and internal standard were 3.70% and 2.96%, respectively, using *Solanum* as standard and GPB.

2C = 0.83 ± 0.006 pg, PI FCM. Chile, Araucanía, Malleco, Curacautín, route 181, 38°27′40.2″S, 71°42′23.0″W, 21 Jan 2023, *P. Jiménez-Mejías & al. 16PJM-CL23* (CONC, UPOS).

The CVs of sample and internal standard were 3.57% and 2.29%, respectively, using *Solanum* as standard and GPB.

2C = 0.76 ± 0.004 pg, PI FCM. Chile, Biobío, Polcura, road from Polcura to San Antonio, 37°16′53.4″S, 71°43′18.0″W, 20 Jan 2023, *M. Sanz-Arnal & al. 01MSA-CL23* (CONC, UPOS).

Carex hirta L.

The CVs of sample and internal standard were 4.56% and 3.87%, respectively, using *Solanum* as standard and GPB.

2C = 0.78 ± 0.003 pg, PI FCM. France, Eastern Pyrénées Department, Latour de Carol, Serra Blanca de la Tor, trail to San-Pere de Cedret, 42°27′12.8″N, 01°53′13.5″E, 16 Jul 2023, *S. Martín-Bravo & al. 78SMB23* (UPOS).

The CVs of sample and internal standard were 4.79% and 4.67%, respectively, using *Solanum* as standard and GPB.

2C = 0.76 ± 0.007 pg, PI FCM. Switzerland, Canton of Valais, Täsch, Schalisee, 46°04′47.0″N, 07°46′32.0″E, 22 Aug 2023, *R. Sánchez-Villegas & M. Luceño 44RSV23* (UPOS).

Carex hookeri Kunth

The CVs of sample and internal standard were 4.69% and 3.36%, respectively, using *Solanum* as standard and LB01.

2C = 0.91 ± 0.034 pg, PI FCM. Chile, Los Lagos, Chiloé, road to Playa Mar Brava, Pudeyi River, 41°55′04.6″S, 73°59′45.3″W, 29 Jan 2023, *P. Jiménez-Mejías & al. 42PJM-CL23* (CONC, UPOS).

Carex maorica Hamlin

The CVs of sample and internal standard were 4.42% and 4.82%, respectively, using *Solanum* as standard and GPB.

2C = 0.89 ± 0.001 pg, PI FCM. New Zealand, South Island, Tasman Land District, Matiri Valley, near Matiri River, 41°39′44.5″S, 172°19′51.0″E, 07 Feb 2024, *A. Morales-Alonso & al. 139NZ-AMA24* (CHR, UPOS).

Carex multispicata Kunze ex Kunth

The CVs of sample and internal standard were 4.84% and 3.79%, respectively, using *Solanum* as standard and LB01.

2C = 0.95 ± 0.011 pg, PI FCM. Chile, Biobío, Polcura, road from Polcura to San Antonio, 37°13′21.9″S, 71°41′20.4″W, 20 Jan 2023, *M. Sanz-Arnal & al. 08MSA-CL23* (CONC, UPOS).

The CVs of sample and internal standard were 3.96% and 2.32%, respectively, using *Solanum* as standard and GPB.

2C = 0.91 ± 0.004 pg, PI FCM. Chile, Los Lagos, Alerce Andino National Park, Sargazo sector, road to Laguna Sargazo, 41°30′58.3″S, 72°36′16.9″W, 28 Jan 2023, *M. Sanz-Arnal & al. 32MSA-CL23* (CONC, UPOS).

The CVs of sample and internal standard were 3.70% and 3.34%, respectively, using *Solanum* as standard and GPB.

2C = 0.81 ± 0.002 pg, PI FCM. Chile, Los Ríos, Corral, 39°55′12.2″S, 73°15′00.8″W, 23 Jan 2023, *J.I. Márquez-Corro & al. 22JMC23* (CONC, UPOS).

The CVs of sample and internal standard were 4.53% and 2.79%, respectively, using *Solanum* as standard and GPB.

2C = 0.90 ± 0.008 pg, PI FCM. Chile, Los Ríos, Valdivia, Chaihuín, Alerce Costero National Park, road to Gayana Ecolodge, Chaihuoque stream, 39°57′35.1″S, 73°32′02.8″W, 24 Jan 2023, *P. García-Moro & al. 14pgm23* (CONC, UPOS).

The CVs of sample and internal standard were 3.71% and 2.41%, respectively, using *Solanum* as standard and GPB.

2C = 0.85 ± 0.012 pg, PI FCM. Chile, Los Ríos, Río Bueno, road from Crucero to Entre Lagos, 40°35′37.1″S, 72°38′33.8″W, 26 Jan 2023, *J.I. Márquez-Corro & al. 39JMC23* (CONC, UPOS).

Carex pseudocyperus L.

The CVs of sample and internal standard were 6.38% and 3.44%, respectively, using *Solanum* as standard and GPB.

2C = 0.87 ± 0.012 pg, PI FCM. Spain, Cáceres, Talayuela, Tiétar River, 40°01′21.0″N, 05°36′43.0″W, 01 Oct 2005, *R. Sánchez-Villegas & al. 934RSV18* (UPOS-0718).

Carex pumila Thunb.

The CVs of sample and internal standard were 4.74% and 2.71%, respectively, using *Solanum* as standard and LB01.

2C = 0.88 ± 0.011 pg, PI FCM. Chile, Los Ríos, Valdivia, Chaihuín, beach by the Chaihuín River, 39°57′07.1″S, 73°34′52.4″W, 24 Jan 2023, *P. García-Moro & al. 18pgm23* (CONC, UPOS).

The CVs of sample and internal standard were 5.78% and 4.16%, respectively, using *Solanum* as standard and LB01.

2C = 0.93 ± 0.012 pg, PI FCM. Chile, Los Lagos, Chiloé, Playa Mar Brava, 41°53′00.6″S, 73°59′41.3″W, 29 Jan 2023, *P. Jiménez-Mejías & al. 39PJM-CL23* (CONC, UPOS).

The CVs of sample and internal standard were 4.40% and 3.45%, respectively, using *Solanum* as standard and GPB.

2C = 0.85 ± 0.003 pg, PI FCM. China, Zhejiang, Taohua Island, 29°49′12.5″N, 122°17′32.3″E, 05 Jun 2023, *P. Jiménez-Mejías & al. 91PJM-CN23* (UPOS, ZJFC).

Carex rostrata Stokes

The CVs of sample and internal standard were 4.49% and 3.66%, respectively, using *Solanum* as standard and GPB. 2C = 0.87 ± 0.003 pg, PI FCM. Switzerland, Canton of Valais, Fieschertal, Vordersee, trail Märjalen-Stausee, 46°26′35.0″N, 008°06′35.0″E, 16 Aug 2023, *R. Sánchez-Villegas & M. Luceño 20RSV23* (UPOS).

Carex scabrifolia Steud.

The CVs of sample and internal standard were 4.28% and 2.47%, respectively, using *Solanum* as standard and GPB.

2C = 0.81 ± 0.003 pg, PI FCM. China, Zhejiang, Ningbo, Hangzhou Bay, 30°21′54.4″N, 121°10′31.1″E, 04 Jun 2023, *P. Jiménez-Mejías & al. 89PJM-CN23* (UPOS, ZJFC).

Carex tristicha Boott

The CVs of sample and internal standard were 3.69% and 3.12%, respectively, using *Solanum* as standard and OXPRO.

2C = 1.04 ± 0.068 pg, PI FCM. Ecuador, Carchi, El Ángel Ecological Reserve, road to Lagunas Verdes of Chiles Volcano, 00°47′45.2″N, 77°52′29.9″W, 06 Aug 2022, *A. Morales-Alonso & al. 109ECU-AMA22* (UPOS).

Carex vesicaria L.

The CVs of sample and internal standard were 3.61% and 2.98%, respectively, using *Solanum* as standard and GPB.

2C = 0.94 ± 0.001 pg, PI FCM. Switzerland, Canton of Valais, Blatten, trail from Blatten to the Massaweg canyon, 46°21′45.0″N, 07°59′35.0″E, 17 Aug 2023, *R. Sánchez-Villegas & M. Luceño 30RSV23* (UPOS).

The CVs of sample and internal standard were 3.86% and 2.94%, respectively, using *Solanum* as standard and GPB.

2C = 0.91 ± 0.004 pg, PI FCM. Spain, Ávila, El Barco de Ávila, Tormes River, upstream from the confluence with the Aravalle River, 40°20′48.4″N, 05°31′59.4″W, 20 Aug 2023, *S. Martín-Bravo & A. Rodríguez Saéz 128SMB23* (UPOS).

Carex werdermannii L.Gross

The CVs of sample and internal standard were 4.63% and 3.95%, respectively, using *Solanum* as standard and LB01.

2C = 0.87 ± 0.002 pg, PI FCM. Chile, Los Ríos, Cordillera Pelada, Alerce Costero National Park, 40°10′04.7″S, 73°30′28.9″W, 01 Feb 2023, *J.I. Márquez-Corro & al. 67JMC23* (CONC, UPOS).

The CVs of sample and internal standard were 4.73% and 3.44%, respectively, using *Solanum* as standard and LB01.

2C = 0.90 ± 0.002 pg, PI FCM. Chile, Los Ríos, Corral, 39°56′54.6″S, 73°27′35.1″W, 23 Jan 2023, *J.I. Márquez-Corro & al. 30JMC23* (CONC, UPOS).

The CVs of sample and internal standard were 3.18% and 2.35%, respectively, using *Solanum* as standard and GPB.

2C = 0.90 ± 0.002 pg, PI FCM. Chile, Los Ríos, Cordillera Pelada, Alerce Costero National Park, 40°09′56.9″S, 73°30′18.1″W, 01 Feb 2023, *J.I. Márquez-Corro & al. 73JMC23* (CONC, UPOS).

The CVs of sample and internal standard were 4.12% and 2.89%, respectively, using *Solanum* as standard and GPB.

2C = 0.89 ± 0.002 pg, PI FCM. Chile, Los Lagos, Chiloé, Piuchué Range, San Pedro, 42°19′24.2″S, 73°53′42.3″W, 30 Jan 2023, *P. Muñoz-Schüler & al. 89.PMS.ENE* (CONC, UPOS).

Mitrata Clade

Carex breviculmis R.Br.

The CVs of sample and internal standard were 2.91% and 2.25%, respectively, using *Solanum* as standard and GPB.

2C = 1.04 ± 0.019 pg, PI FCM. China, Zhejiang, Taohua Island, 29°49′12.5″N, 122°17′32.3″E, 05 Jun 2023, *P. Jiménez-Mejías & al. 101PJM-CN23* (UPOS, ZJFC).

The CVs of sample and internal standard were 4.16% and 3.11%, respectively, using *Solanum* as standard and GPB.

2C = 1.03 ± 0.002 pg, PI FCM. China, Zhejiang, Suichang, 28°36′21.2″N, 119°16′42.2″E, 05 May 2017, *X.-F. Jin 3902*, cultivated in ZJFC herbarium (ZJFC).

The CVs of sample and internal standard were 4.74% and 4.09%, respectively, using *Solanum* as standard and GPB.

2C = 1.05 ± 0.003 pg, PI FCM. New Zealand, South Island, Tasman Land District, Red Hills, Wairau Valley, next to Wairau River, Nelson, 41°44′02.4″S, 172°59′25.7″E, 08 Feb 2024, *A. Morales-Alonso & al. 146NZ-AMA24* (CHR, UPOS).

Carex depressa subsp. *basilaris* (Jord.) Cif. & Giacom.

The CVs of sample and internal standard were 4.08% and 3.83%, respectively, using *Solanum* as standard and GPB.

2C = 1.31 ± 0.002 pg, PI FCM. Spain, Barcelona, Tordera, Turo d'en buc de les Nogueres, 41°39′29.4″N, 02°39′46.2″E, 29 Apr 2023, *J. Jurado & M. Luceño 12JJS23* (UPOS).

Carex mitrata var. *aristata* Ohwi

The CVs of sample and internal standard were 3.77% and 2.97%, respectively, using *Solanum* as standard and GPB.

2C = 0.97 ± 0.000 pg, PI FCM. China, Zhejiang, Jiande, Meicheng, 29°33′03.5″N, 119°30′38.4″E, 11 Apr 2018, *X.-F. Jin & Y.-F. Lu s.n.*, cultivated in ZJFC herbarium (ZJFC).

Carex mitrata Franch. var. *mitrata*

The CVs of sample and internal standard were 4.25% and 3.32%, respectively, using *Solanum* as standard and GPB.

2C = 1.01 ± 0.006 pg, PI FCM. China, Zhejiang, Road to Qianqingtang, 30°18′23.4″N, 119°06′13.4″E, 29 May 2023, *P. Jiménez-Mejías & al. 4PJM-CN23* (UPOS, ZJFC).

The CVs of sample and internal standard were 4.35% and 3.15%, respectively, using *Solanum* as standard and GPB.

2C = 1.05 ± 0.005 pg, PI FCM. China, Zhejiang, Taohua Island, 29°49′12.5″N, 122°17′32.3″E, 05 Jun 2023, *P. Jiménez-Mejías & al. 97PJM-CN23* (UPOS, ZJFC).

Carex truncatirostris S.W.Su & S.M.Xu

The CVs of sample and internal standard were 3.74% and 2.99%, respectively, using *Solanum* as standard and GPB.

2C = 1.03 ± 0.009 pg, PI FCM. China, Zhejiang, Pan'an, Molin, 29°03′13.9″N, 120°32′52.0″E, 18 Apr 2011, *X.-F. Jin 2674*, cultivated in ZJFC herbarium (ZJFC).

The CVs of sample and internal standard were 3.81% and 2.58%, respectively, using *Solanum* as standard and GPB.

2C = 1.04 ± 0.004 pg, PI FCM. China, Zhejiang, Tianmushan, Xitianmu Natural Reserve, 30°20′28.1″N, 119°26′41.5″E, 30 May 2023, *P. Jiménez-Mejías & al. 33PJM-CN23* (UPOS, ZJFC).

Carex tsushimensis (Ohwi) Ohwi

The CVs of sample and internal standard were 2.57% and 2.63%, respectively, using *Solanum* as standard and Otto I-II buffer.

2C = 1.14 ± 0 pg, PI FCM. South Korea, 26 Chang Yuri, Jodo-myeon, Jindo-gun, Jeollanam-do, 34°18′28.5″N, 126°04′59.9″E, 01 Jun 2022, *Y. Cho & S. Kim 2022-050* (SWU0054305, SWU 0054306).

Carex umbrosa Host

The CVs of sample and internal standard were 4.07% and 3.41%, respectively, using *Solanum* as standard and GPB.

2C = 1.19 ± 0.014 pg, PI FCM. France, Eastern Pyrénées Department, Latour de Carol, Serra Blanca de la Tor, road to San-Pere de Cedret, 42°27′11.5″N, 01°53′19.2″E, 16 Jul 2023, *S. Martín-Bravo & al. 80SMB23* (UPOS).

Tristachya Clade

Carex tristachya var. *pocilliformis* (Boott) Kük.

The CVs of sample and internal standard were 3.04% and 2.30%, respectively, using *Solanum* as standard and GPB.

2C = 1.13 ± 0.001 pg, PI FCM. China, Zhejiang, Ningbo, Hangzhou Bay, 30°21′54.4″N, 121°10′31.1″E, 04 Jun 2023, *P. Jiménez-Mejías & al. 90PJM-CN23* (UPOS, ZJFC).

Carex tristachya Thunb. var. *tristachya*

The CVs of sample and internal standard were 5.92% and 2.50%, respectively, using *Solanum* as standard and GPB.

2C = 1.20 ± 0.013 pg, PI FCM. China, Zhejiang, Taohua Island, 29°49′12.5″N, 122°17′32.3″E, 05 Jun 2023, *P. Jiménez-Mejías & al. 95PJM-CN23* (UPOS, ZJFC).

Incertae Sedis

Carex brevispicula G.H.Nam & G.Y.Chung

The CVs of sample and internal standard were 2.69% and 2.63%, respectively, using *Solanum* as standard and Otto I-II buffer.

2C = 0.96 ± 0 pg, PI FCM. Korea, Mt. 18-1 Wondal-ri, Jukgok-myeon, Gokseong-gun, Jeollanam-do, 35°08′01.5″N, 127°22′14.2″E, 20 Apr 2022, *Y. Cho & S. Kim 2202-007* (SWU0054251).

Carex oxyphylla Franch.

The CVs of sample and internal standard were 4.13% and 3.09%, respectively, using *Solanum* as standard and GPB.

2C = 0.93 ± 0.004 pg, PI FCM. China, Anhui, Huangshan, 30°06′45.4″N, 118°10′09.2″E, 02 Jun 2023, *P. Jiménez-Mejías & al. 74PJM-CN23* (UPOS, ZJFC).

The CVs of sample and internal standard were 4.30% and 2.38%, respectively, using *Solanum* as standard and GPB.

2C = 1.11 ± 0.009 pg, PI FCM. China, Zhejiang, Taohua Island, 29°49′12.5″N, 122°17′32.3″E, 05 Jun 2023, *P. Jiménez-Mejías & al. 99PJM-CN23* (UPOS, ZJFC).

The CVs of sample and internal standard were 4.28% and 3.48%, respectively, using *Solanum* as standard and GPB.

2C = 0.88 ± 0.009 pg, PI FCM. China, Anhui, Huangshan, 30°07′21.9″N, 118°10′13.1″E, 02 Jun 2023, *P. Jiménez-Mejías & al. 79PJM-CN23* (UPOS, ZJFC).

II. *Carex* subg. *Euthyceras* Peterm.

Kobresia Clade

Carex myosuroides Vill.

The CVs of sample and internal standard were 4.73% and 4.55%, respectively, using *Solanum* as standard and GPB.

2C = 0.92 ± 0.003 pg, PI FCM. Switzerland, Canton of Valais, Battmeralp, road VA-R95, 46°26′10.0″N, 008°05′09.0″E, 16 Aug 2023, *R. Sánchez-Villegas & M. Luceño 26RSV23* (UPOS).

Carex simpliciuscula Wahlenb.

The CVs of sample and internal standard were 4.47% and 3.07%, respectively, using *Solanum* as standard and GPB.

2C = 0.86 ± 0.002 pg, PI FCM. Switzerland, Canton of Bern, Grindelwald, path from the Eigergletscher cable car station to the Guggi Hütte, 46°34′05.0″N, 07°58′01.0″E, 19 Aug 2023, *R. Sánchez-Villegas & M. Luceño 36RSV23* (UPOS).

Pauciflora Clade

Carex pauciflora Lightf.

The CVs of sample and internal standard were 3.81% and 2.95%, respectively, using *Solanum* as standard and GPB.

2C = 0.92 ± 0.001 pg, PI FCM. Switzerland, Canton of Valais, Zermatt, Matterhorn glacier, 45°59′17.0″N, 07°04′55.0″E, 23 Aug 2023, *R. Sánchez-Villegas & M. Luceño 48RSV23* (UPOS).

Rara Clade

Carex capillacea Boott

The CVs of sample and internal standard were 4.67% and 3.38%, respectively, using *Solanum* as standard and GPB.

2C = 0.91 ± 0.004 pg, PI FCM. New Zealand, South Island, Southland Land District, Oreti-Mavora QEII Covenant, Mt Nicholas Road, 45°19′53.5″S, 168°12′01.7″E, 21 Feb 2023, *K. Ford & B. Rance KF1149/23* (CHR, UPOS)

Carex uda Maxim.

The CVs of sample and internal standard were 2.77% and 2.52%, respectively, using *Solanum* as standard and Otto I-II buffer.

2C = 0.84 ± 0 pg, PI FCM. South Korea, Seonjaryeong, Daegwallyeong Maru-gil, Daegwallyeong-myeon, Pyeongchang-gun, Gangwon-do, 37°41′26.8″N, 128°45′26.7″E, 29 Jun 2022, *Y. Cho & S. Kim 2022-012* (SWU0054346).

III. *Carex* subg. *Psyllophorae* (Degl.) Peterm. *Carex* sect. *Junciformes* Boeck

Carex acicularis Boott

The CVs of sample and internal standard were 4.72% and 4.40%, respectively, using *Solanum* as standard and GPB.

2C = 0.96 ± 0.003 pg, PI FCM. New Zealand, South Island, Canterbury Land District, Ohau Ski Field, 44°13′23.1″S, 169°46′28.8″E, 01 Feb 2024, *A. Morales-Alonso & al. 74NZ-AMA24* (CHR, UPOS).

Carex cf. *acicularis* Boott

The CVs of sample and internal standard were 4.85% and 4.17%, respectively, using *Solanum* as standard and GPB.

2C = 0.92 ± 0.020 pg, PI FCM. New Zealand, South Island, Canterbury Land District, Craigieburn Range, below Mount Cockayne, 43°09′14.5″S, 171°39′42.6″E, 02 May 2017, *K. Ford & A. Shanks KF502*, cultivated in CHR greenhouse (CHR-638464).

Carex andina Phil.

The CVs of sample and internal standard were 4.71% and 2.37%, respectively, using *Solanum* as standard and GPB.

2C = 0.85 ± 0.004 pg, PI FCM. Chile, Ñuble, Chillán, Termas de Chillán, Aguascalientes Valley, 36°54′27.2″S, 71°22′21.9″W, 18 Jan 2023, *S. Martín-Bravo & al. 01SMB23* (CONC, UPOS).

The CVs of sample and internal standard were 4.74% and 2.99%, respectively, using *Solanum* as standard and LB01.

2C = 0.83 ± 0.011 pg, PI FCM. Chile, Ñuble, Chillán, Termas de Chillán, Aguascalientes Valley, 36°54′06.0″S, 71°22′38.6″W, 18 Jan 2023, *S. Martín-Bravo & al. 03SMB23* (CONC, UPOS).

Carex aphylla Kunth

The CVs of sample and internal standard were 4.58% and 3.06%, respectively, using *Solanum* as standard and LB01.

2C = 1.03 ± 0.008 pg, PI FCM. Chile, Araucanía, Malleco, Nahuelbuta National Park, Piedra del Águila viewpoint, 37°49′30.4″S, 73°02′03.4″W, 21 Jan 2023, *S. Martín-Bravo & al. 40SMB23* (CONC, UPOS).

The CVs of sample and internal standard were 3.12% and 2.41%, respectively, using *Solanum* as standard and GPB.

2C = 0.95 ± 0.001 pg, PI FCM. Chile, Araucanía, Malleco, Lonquimay, Alaska waterfall, La Cascada stream, 38°30′16.8″S, 71°24′45.2″W, 22 Jan 2023, *P. García-Moro & al. 08pgm23* (CONC, UPOS).

The CVs of sample and internal standard were 3.82% and 3.38%, respectively, using *Solanum* as standard and GPB.

2C = 0.89 ± 0.003 pg, PI FCM. Chile, Araucanía, Malleco, Pino Hachado, slopes immediately south of the international pass, 38°39′49.5″S, 70°53′57.7″W, 21 Jan 2023, *P. Jiménez-Mejías & al. 20PJM-CL23* (CONC, UPOS).

The CVs of sample and internal standard were 4.45% and 3.37%, respectively, using *Solanum* as standard and GPB.

2C = 0.94 ± 0.012 pg, PI FCM. Chile, Ñuble, Chillán, between Chillán and Termas de Chillán, Las Trancas Valley, near Renegado stream, 36°55′00.1″S, 71°27′11.8″W, 18 Jan 2023, *S. Martín-Bravo & al. 21SMB23* (CONC, UPOS).

The CVs of sample and internal standard were 3.72% and 2.94%, respectively, using *Solanum* as standard and GPB.

2C = 0.91 ± 0.003 pg, PI FCM. Chile, Ñuble, Chillán, between Chillán and Termas de Chillán, Las Trancas Valley, 36°54′54.2″S, 71°29′36.4″W, 18 Jan 2023, *S. Martín-Bravo & al. 20SMB23* (CONC, UPOS).

The CVs of sample and internal standard were 3.73% and 2.23%, respectively, using *Solanum* as standard and GPB.

2C = 0.99 ± 0.011 pg, PI FCM. Chile, Araucanía, Malleco, Curacautín (between Lonquimay and Curacautín), Malalcahuello National Reserve, slope of the volcano (end of trail), 38°24′50.4″S, 71°32′18.8″W, 22 Jan 2023, *P. García-Moro & al. 11pgm23* (CONC, UPOS).

The CVs of sample and internal standard were 3.48% and 2.50%, respectively, using *Solanum* as standard and GPB.

2C = 0.94 ± 0.004 pg, PI FCM. Chile, Biobío, Antuco, Laguna del Laja National Park, Antuco volcano lava flow, northeast position, 37°28′00.2″S, 71°19′07.1″W, 20 Jan 2023, *M. Sanz-Arnal & al. 12MSA-CL23* (CONC, UPOS).

Carex argentina Barros

The CVs of sample and internal standard were 4.51% and 4.20%, respectively, using *Solanum* as standard and LB01.

2C = 0.74 ± 0.002 pg, PI FCM. Chile, Santiago, Farellones, Valle Nevado ski resort, Tres Puntas, 33°19′40.5″S, 70°14′54.6″W, 16 Jan 2023, *P. Jiménez-Mejías & al. 01PJM-CL23* (CONC, UPOS).

The CVs of sample and internal standard were 4.55% and 3.07%, respectively, using *Solanum* as standard and LB01.

2C = 0.86 ± 0.013 pg, PI FCM. Chile, Araucanía, Malleco, Pino Hachado, slopes immediately south of the international pass, 38°39′49.5″S, 70°53′57.7″W, 21 Jan 2023, *P. Jiménez-Mejías & al. 21PJM-CL23* (CONC, UPOS).

Carex boelckeiana Barros

The CVs of sample and internal standard were 3.47% and 3.02%, respectively, using *Solanum* as standard and LB01.

2C = 0.89 ± 0.001 pg, PI FCM. Chile, Araucanía, Malleco, Pino Hachado, slopes immediately south of the international pass, 38°39′49.5″S, 70°53′57.7″W, 21 Jan 2023, *P. Jiménez-Mejías & al. 18PJM-CL23* (CONC, UPOS).

Carex caduca Boott

The CVs of sample and internal standard were 4.02% and 2.85%, respectively, using *Solanum* as standard and LB01.

2C = 1.10 ± 0.013 pg, PI FCM. Chile, Los Lagos, Puyehue National Park, Raihuen Volcano crater, 40°46′45.3″S, 72°11′26.4″W, 26 Jan 2023, *J.I. Márquez-Corro & al. 55JMC23* (CONC, UPOS)

Carex camptoglochin V.I.Krecz.

The CVs of sample and internal standard were 4.78% and 4.02%, respectively, using *Solanum* as standard and LB01.

2C = 0.99 ± 0.006 pg, PI FCM. Chile, Los Ríos, Cordillera Pelada, Alerce Costero National Park, 40°09′56.9″S, 73°30′18.1″W, 01 Feb 2023, *J.I. Márquez-Corro & al. 71JMC23* (CONC, UPOS).

The CVs of sample and internal standard were 4.03% and 3.18%, respectively, using *Solanum* as standard and GPB.

2C = 0.95 ± 0.004 pg, PI FCM. Chile, Los Lagos, Chiloé, Piuchué Range, San Pedro, 42°19′24.2″S, 73°53′42.3″W, 30 Jan 2023, *P. Muñoz-Schüler & al. 92.PMS.ENE* (CONC, UPOS).

Carex chlorolepis Steud.

The CVs of sample and internal standard were 3.33% and 2.99%, respectively, using Solanum as standard and LB01.

2C = 0.90 ± 0.006 pg, PI FCM. Chile, Los Ríos, Corral, 39°57′20.8″S, 73°22′29.8″W, 23 Jan 2023, *J.I. Márquez-Corro & al. 26JMC23* (CONC, UPOS).

The CVs of sample and internal standard were 4.69% and 4.01%, respectively, using Solanum as standard and LB01.

2C = 0.91 ± 0.001 pg, PI FCM. Chile, Biobío, Concepción, University of Concepción campus, 36°49′46.8″S, 73°02′04.1″W, 17 Jan 2023, *J.I. Márquez-Corro & al. 19JMC23* (CONC, UPOS).

The CVs of sample and internal standard were 3.74% and 2.66%, respectively, using Solanum as standard and GPB.

2C = 0.90 ± 0.003 pg, PI FCM. Chile, Biobío, Polcura, Laja River valley, road between Polcura and Salto del Abanico, 37°18′

18.7″S, 71°38′59.5″W, 20 Jan 2023, *P. Muñoz-Schüler & al. 59.PMS.ENE* (CONC, UPOS).

Carex manuelbarrosii Jim.Mejías, Donadío, Muñoz-Schüler & A.Mor.Alonso

The CVs of sample and internal standard were 3.47% and 2.08%, respectively, using *Solanum* as standard and GPB.

2C = 0.89 ± 0.008 pg, PI FCM. Chile, Araucanía, Malleco, Pino Hachado, slopes immediately south of the international pass, 38°39′49.5″S, 70°53′57.7″W, 21 Jan 2023, *P. Jiménez-Mejías & al. 19PJM-CL23* (CONC, UPOS).

Carex patagonica Speg.

The CVs of sample and internal standard were 4.29% and 2.78%, respectively, using *Solanum* as standard and LB01.

2C = 0.79 ± 0.009 pg, PI FCM. Chile, Ñuble, Chillán, between Chillán and Termas de Chillán, Las Trancas Valley, near Renegado stream, 36°55′00.1″S, 71°27′11.8″W, 18 Jan 2023, *S. Martín-Bravo & al. 22SMB23* (CONC, UPOS).

Carex pungens Boeckeler

The CVs of sample and internal standard were 4.30% and 3.24%, respectively, using *Solanum* as standard and LB01.

2C = 0.95 ± 0.002 pg, PI FCM. Chile, Ñuble, San Fabián, Los Huemules de Niblinto National Reserve, near the lodge "El Principal", on the bank of the Ñuble River, 36°39′50.2″S, 71°19′10.8″W, 25 Jan 2023, *M. Sanz-Arnal & al. 25MSA-CL23*, cultivated in Diego N. Penneckamp's private garden (CONC, UPOS).

The CVs of sample and internal standard were 4.50% and 4.12%, respectively, using *Solanum* as standard and LB01.

2C = 0.89 ± 0.003 pg, PI FCM. Chile, Santiago, Farellones, Valle Nevado ski resort, Tres Puntas, 33°21′23.4″S, 70°15′16.8″W, 16 Jan 2023, *P. Jiménez-Mejías & al. 13PJM-CL23* (CONC, UPOS).

Carex recondita Muñoz-Schüler, Martín-Bravo & Jim.Mejías

The CVs of sample and internal standard were 4.34% and 4.12%, respectively, using *Solanum* as standard and LB01.

2C = 0.83 ± 0.008 pg, PI FCM. Chile, Santiago, Farellones, Valle Nevado ski resort, Tres Puntas, 33°21′23.4″S, 70°15′16.8″W, 16 Jan 2023, *P. Jiménez-Mejías & al. 12PJM-CL23* (CONC, UPOS).

Carex reicheana Boeckeler

The CVs of sample and internal standard were 4.42% and 3.80%, respectively, using *Solanum* as standard and LB01.

2C = 1.19 ± 0.023 pg, PI FCM. Chile, Araucanía, Malleco, Nahuelbuta National Park, 37°48′07.3″S, 73°01′02.6″W, 21 Jan 2023, *S. Martín-Bravo & al. 38SMB23* (CONC, UPOS).

Carex setifolia Kunze ex Kunth

The CVs of sample and internal standard were 4.42% and 2.25%, respectively, using *Solanum* as standard and LB01.

2C = 0.98 ± 0.016 pg, PI FCM. Chile, Coquimbo, Fray Jorge National Park, 30°38′47.8″S, 71°40′51.3″W, 12 Jan 2023, *P. Muñoz-Schüler & al. 06.PMS.ENE* (CONC, UPOS).

Carex trichodes Steud ex Boott

The CVs of sample and internal standard were 3.73% and 2.86%, respectively, using *Solanum* as standard and LB01.

2C = 1.18 ± 0.002 pg, PI FCM. Chile, Los Ríos, Ranco Lake, Cordillera del Caulle, 40°25′03.30″S, 72°19′41.51″W, 16 Apr 2021, *D. Penneckamp & H. Lobos 607* (CONC, UPOS).

Carex vallis-pulchrae Phil. subsp. *vallis-pulchrae*

The CVs of sample and internal standard were 3.35% and 2.97%, respectively, using *Solanum* as standard and LB01.

2C = 1.04 ± 0.002 pg, PI FCM. Chile, Coquimbo, Doña Ana Range, Minera El Indio, 29°48′54.8″S, 70°01′19.6″W, 13 Jan 2023, *P. Muñoz-Schüler & al. 19.PMS.ENE* (CONC, UPOS).

The CVs of sample and internal standard were 4.20% and 3.20%, respectively, using *Solanum* as standard and LB01.

2C = 1.14 ± 0.006 pg, PI FCM. Chile, Santiago, Farellones, Valle Nevado ski resort, Tres Puntas, 33°19′40.5″S, 70°14′54.6″W, 16 Jan 2023, *P. Jiménez-Mejías & al. 06PJM-CL23* (CONC, UPOS).

Carex via-montana A.Mor.Alonso & Jim.Mejías

The CVs of sample and internal standard were 4.20% and 2.53%, respectively, using *Solanum* as standard and LB01.

2C = 0.98 ± 0.006 pg, PI FCM. Ecuador, Pichincha, path to Cerro Corazón, 00°34′08.4″S, 78°39′52.6″W, 04 Aug 2022, *A. Morales-Alonso & al. 94ECU-AMA22* (UPOS).

Curvula Clade

Carex curvula All. subsp. *curvula*

The CVs of sample and internal standard were 3.10% and 3.62%, respectively, using *Oryza* as standard and GPB.

2C = 1.97 ± 0.001 pg, PI FCM. Switzerland, Canton of Valais, Fieschertal, Vordersee, Märjalen-Stausee trail, 46°26′35.0″N, 08°06′35.0″E, 16 Aug 2023, *R. Sánchez-Villegas & M. Luceño 19RSV23* (UPOS).

The CVs of sample and internal standard were 2.60% and 2.96%, respectively, using *Oryza* as standard and GPB.

2C = 2.19 ± 0.024 pg, PI FCM. Switzerland, Canton of Valais, Bellwald, Spilsee, 46°27′40.0″N, 08°09′52.0″E, 20 Aug 2023, *R. Sánchez-Villegas & M. Luceño 42RSV23* (UPOS).

IV. *Carex* subg. *Siderosticta* Waterway *Carex* sect. *Siderostictae* Franch. ex Ohwi

Carex ciliatomarginata Nakai

The CVs of sample and internal standard were 3.52% and 3.52%, respectively, using *Solanum* as standard and GPB.

2C = 1.61 ± 0.006 pg, PI FCM. China, Zhejiang, Changhua, Zhelinkeng, 30°16′07.6″N, 119°06′41.3″E, 01 May 2008, *Qian & al. 105*, cultivated in ZJFC herbarium (ZJFC).

The CVs of sample and internal standard were 3.94% and 3.66%, respectively, using *Solanum* as standard and GPB.

2C = 1.59 ± 0.016 pg, PI FCM. China, Anhui, Huangshan, 30°07′21.9″N, 118°10′13.1″E, 02 Jun 2023, *P. Jiménez-Mejías & al. 71PJM-CN23* (UPOS, ZJFC).

The CVs of sample and internal standard were 4.26% and 2.92%, respectively, using *Solanum* as standard and GPB.

2C = 1.59 ± 0.001 pg, PI FCM. China, Anhui, Jiuhuashan, Jiuhua Mountain, 30°27′57.9″N, 117°49′01.1″E, 03 Jun 2023, *P. Jiménez-Mejías & al. 83PJM-CN23* (UPOS, ZJFC).

V. *Carex* subg. *Uncinia* (Pers.) Peterm. *Carex* sect. *Leucocephalae* Holm

Carex fraseriana Ker Gawl.

The CVs of sample and internal standard were 4.07% and 3.26%, respectively, using *Petroselinum* as standard and GPB.

2C = 3.50 ± 0.022 pg, PI FCM. United States of America, Michigan, Washtenaw Co., 42°18′06.4″N, 83°43′54.4″W, 10 Aug 2025, *A.A. Reznicek 12933*, cultivated in Ann Arbor, 890 Wickfield Court (MICH).

Carex sect. *Phyllostachyae* Tuck. ex Kük.

Carex jamesii Schwein.

The CVs of sample and internal standard were 2.96% and 2.02%, respectively, using *Petroselinum* as standard and GPB.

2C = 2.59 ± 0.002 pg, PI FCM. United States of America, Michigan, Wayne Co., Lower Huron Metropark, T3S R8E, 42°10′49.1″N, 83°25′26.8″W, 24 May 1991, *A.A. Reznicek & al. 8759*, cultivated in Ann Arbor, 890 Wickfield Court (MICH).

Carex juniperorum Catling, Reznicek & Crins

The CVs of sample and internal standard were 3.14% and 2.49%, respectively, using *Petroselinum* as standard and GPB.

2C = 2.64 ± 0.008 pg, PI FCM. United States of America, Ohio, Adams Co., Tiffin Township, Adams Lake State Park, Adams Lake prairie, 38°49′02.4″N, 83°30′59.3″W, 06 May 1991, *A.A. Reznicek & al. 8742* (MICH).

Carex latebracteata Waterf.

The CVs of sample and internal standard were 4.04% and 3.24%, respectively, using *Petroselinum* as standard and GPB.

2C = 2.93 ± 0.085 pg, PI FCM. United States of America, Arkansas, Howard Co., Route 4 crossing of the Cossatot River, 33°47′31.7″N, 94°09′13.4″W, 11 Jun 1991, *A.A. Reznicek 8792*, cultivated in Ann Arbor, 890 Wickfield Court (MICH).

Carex sect. *Psilocarpae* Kük.

Carex sellowiana Schltdl.

The CVs of sample and internal standard were 12.99% and 4.68%, respectively, using *Petroselinum* as standard and GPB. This measurement was performed on a sample dried in silica gel.

2C = 3.08 pg, PI FCM. Brazil, Paraná, Prudentópolis, 25°18′37.3″S, 51°05′57.9″W, 19 Oct 2018, *L. Pereira-Silva & al. 344* (UPOS).

Carex sect. *Seticulmes* (Kük.) Jim.Mejías & García-Moro

Carex seticulmis Boeckeler

The CVs of sample and internal standard were 8.75% and 3.45%, respectively, using *Petroselinum* as standard and GPB. This measurement was performed on a sample dried in silica gel.

2C = 3.40 pg, PI FCM. Brazil, Rio de Janeiro, Itatiaia National Park, trail to Cachoeira do Taquaral, 22°26′43.1″S, 44°36′36.8″W, 15 Oct 2018, *P. Jiménez-Mejías & al. 6B-PJM18* (UPOS).

Carex sect. *Uncinia* (Pers.) Baill.

Carex astricta K.A.Ford

The CVs of sample and internal standard were 2.71% and 2.56%, respectively, using *Petroselinum* as standard and GPB.

2C = 3.40 ± 0.003 pg, PI FCM. New Zealand, North Island, Wellington Land District, Tararua Range, Mt Holdsworth, above Powell Hut, 40°53′00.2″S, 175°25′23.8″E, 31 Jan 2023, *K. Ford & al. KF 1135/23*, cultivated in CHR greenhouse (CHR).

Carex crispa K.A.Ford

The CVs of sample and internal standard were 4.49% and 3.18%, respectively, using *Petroselinum* as standard and GPB.

2C = 3.22 ± 0.007 pg, PI FCM. New Zealand, South Island, Tasman District, 1000 Acre Plateau, Matiri Valley, 41°36′37.6″S, 172°20′17.9″E, 07 Feb 2024, *A. Morales-Alonso & al. 131NZ-AMA24* (CHR, UPOS).

Carex cyanea K.A.Ford

The CVs of sample and internal standard were 4.61% and 4.50%, respectively, using *Petroselinum* as standard and GPB.

2C = 3.22 ± 0.005 pg, PI FCM. New Zealand, South Island, Tasman District, Waikari Reserve, Waikari, 41°24′32.3″S, 173°02′22.1″E, 09 Feb 2024, *A. Morales-Alonso & al. 154NZ-AMA24* (CHR, UPOS).

Carex de-la-costa (Steud.) Kuntze

The CVs of sample and internal standard were 2.69% and 3.72%, respectively, using *Solanum* as standard and LB01.

2C = 3.02 ± 0.003 pg, PI FCM. Chile, Los Ríos, Cordillera Pelada, Alerce Costero National Park, 40°10′04.7″S, 73°30′28.9″W, 01 Feb 2023, *J.I. Márquez-Corro & al. 66JMC23* (CONC, UPOS).

The CVs of sample and internal standard were 2.18% and 3.29%, respectively, using *Solanum* as standard and LB01.

2C = 3.00 ± 0.009 pg, PI FCM. Chile, Los Lagos, Puyehue National Park, 40°44′57.7″S, 72°19′03.7″W, 26 Jan 2023, *J.I. Márquez-Corro & al. 53JMC23* (CONC, UPOS).

The CVs of sample and internal standard were 2.71% and 3.09%, respectively, using *Solanum* as standard and LB01.

2C = 3.03 ± 0.009 pg, PI FCM. Chile, Los Lagos, Alerce Andino National Park, Sargazo sector, near the park entrance, 41°30′35.2″S, 72°36′52.3″W, 28 Jan 2023, *M. Sanz-Arnal & al. 39MSA-CL23* (CONC, UPOS).

The CVs of sample and internal standard were 3.49% and 4.29%, respectively, using *Solanum* as standard and GPB.

2C = 2.92 ± 0.034 pg, PI FCM. Chile, Los Ríos, Río Bueno, 40°37′32.7″S, 72°37′40.9″W, 26 Jan 2023, *J.I. Márquez-Corro & al. 42JMC23* (CONC, UPOS).

The CVs of sample and internal standard were 3.48% and 3.80%, respectively, using *Solanum* as standard and GPB.

2C = 2.91 ± 0.004 pg, PI FCM. Chile, Araucanía, Malleco, Nahuelbuta National Park, Estero de los Gringos trail, 37°48′45.2″S, 73°00′45.8″W, 22 Jan 2023, *S. Martín-Bravo & al. 45SMB23* (CONC, UPOS).

The CVs of sample and internal standard were 3.73% and 4.32%, respectively, using *Solanum* as standard and GPB.

2C = 2.91 ± 0.023 pg, PI FCM. Chile, Los Lagos, Chiloé, Piuchué Range, San Pedro, 42°19′24.2″S, 73°53′42.3″W, 30 Jan 2023, *P. Muñoz-Schüler & al. 91.PMS.ENE* (CONC, UPOS).

The CVs of sample and internal standard were 2.48% and 3.72%, respectively, using *Solanum* as standard and GPB.

2C = 2.94 ± 0.024 pg, PI FCM. Chile, Araucanía, Malleco, Lonquimay, Alaska waterfall, La Cascada stream, 38°30′16.8″S, 71°24′45.2″W, 22 Jan 2023, *P. García-Moro & al. 02pgm23* (CONC, UPOS).

The CVs of sample and internal standard were 3.46% and 3.86%, respectively, using *Solanum* as standard and GPB.

2C = 2.99 ± 0.007 pg, PI FCM. Chile, Los Ríos, Corral, 39°56′54.6″S, 73°27′35.1″W, 23 Jan 2023, *J.I. Márquez-Corro & al. 29JMC23* (CONC, UPOS).

Carex dolichophylla J.R.Starr

The CVs of sample and internal standard were 2.42% and 3.77%, respectively, using *Solanum* as standard and LB01.

2C = 3.20 ± 0.006 pg, PI FCM. Chile, Los Ríos, Cordillera Pelada, Alerce Costero National Park, forest along the road between

Hueicolla and La Unión, 36°44′50.9″S, 72°54′40.1″W, 01 Feb 2023, *J.I. Márquez-Corro & al. 79JMC23* (CONC, UPOS).

Carex drucei (Hamlin) K.A.Ford

The CVs of sample and internal standard were 4.53% and 3.33%, respectively, using *Petroselinum* as standard and GPB.

2C = 3.19 ± 0.003 pg, PI FCM. New Zealand, South Island, Nelson Land District, Kahurangi National Park, Mount Brilliant, Shelter Rock Basin, 41°22′47.7″S, 172°17′51.5″E, 08 Feb 2021, *K. Ford KF 890/21*, cultivated in CHR greenhouse (CHR-674561).

Carex ecuadorensis (G.A.Wheeler & Goetgh.) J.R.Starr

The CVs of sample and internal standard were 2.71% and 2.78%, respectively, using *Petroselinum* as standard and LB01.

2C = 3.38 ± 0.005 pg, PI FCM. Ecuador, Imbabura, road to the antennas of Cotacachi, Cotacachi National Park, 00°19′47.7″N, 78° 20′32.3″W, 07 Aug 2022, *A. Morales-Alonso & al. 117ECU-AMA22* (UPOS).

The CVs of sample and internal standard were 3.44% and 4.28%, respectively, using *Solanum* as standard and OXPRO.

2C = 2.91 ± 0.064 pg, PI FCM. Ecuador, Imbabura, road to the antennas of Cotacachi, Cotacachi National Park, 00°19′47.7″N, 78° 20′32.3″W, 07 Aug 2022, *A. Morales-Alonso & al. 117ECU-AMA22* (UPOS).

Carex edura K.A.Ford

The CVs of sample and internal standard were 3.41% and 3.58%, respectively, using *Petroselinum* as standard and GPB.

2C = 3.20 ± 0.021 pg, PI FCM. New Zealand, South Island, Otago Land District, The Remarkables–Rastus Burn Ski Field, Queenstown, 45°03′23.4″S, 168°48′56.8″E, 29 Jan 2024, *A. Morales-Alonso & al. 38NZ-AMA24* (CHR, UPOS).

Carex edura K.A.Ford × *Carex horizontalis* (Colenso) K.A.Ford

The CVs of sample and internal standard were 3.98% and 3.56%, respectively, using *Petroselinum* as standard and GPB.

2C = 3.24 ± 0.025 pg, PI FCM. New Zealand, South Island, Otago Land District, The Remarkables–Rastus Burn Ski Field, Queenstown, 45°03′23.4″S, 168°48′56.8″E, 29 Jan 2024, *A. Morales-Alonso & al. 39NZ-AMA24* (CHR, UPOS).

Carex egmontiana (Hamlin) K.A.Ford

The CVs of sample and internal standard were 4.31% and 3.52%, respectively, using *Petroselinum* as standard and GPB.

2C = 3.18 ± 0.011 pg, PI FCM. New Zealand, South Island, Southland Land District, West Dome, 45°33′03.3″S, 168°11′08.9″E, 29 Jan 2024, *A. Morales-Alonso & al. 34NZ-AMA24* (CHR, UPOS).

Carex erinacea Cav.

The CVs of sample and internal standard were 2.76% and 3.48%, respectively, using *Solanum* as standard and LB01.

2C = 3.29 ± 0.008 pg, PI FCM. Chile, Biobío, Antuco, Los Ángeles, Q-45 road, Diuto stream, 37°25′30.5″S, 72°04′34.5″W, 20 Jan 2023, *M. Sanz-Arnal & al. 16MSA-CL23* (CONC, UPOS).

The CVs of sample and internal standard were 2.77% and 3.45%, respectively, using *Solanum* as standard and LB01.

2C = 3.24 ± 0.005 pg, PI FCM. Chile, Los Ríos, Santa Elvira, hill between Santa Elvira and Cayumapu, 39°44′54.1″S, 73°09′22.9″W, 23 Jan 2023, *P. Muñoz-Schüler & al. 76.PMS.ENE* (CONC, UPOS).

The CVs of sample and internal standard were 3.21% and 3.96%, respectively, using *Solanum* as standard and LB01.

2C = 3.32 ± 0.018 pg, PI FCM. Chile, Los Lagos, Llanquihue, cove north of Punta Metri, 41°35′23.9″S, 72°42′09.3″W, 27 Jan 2023, *P. Jiménez-Mejías & al. 28PJM-CL23* (CONC, UPOS).

The CVs of sample and internal standard were 2.16% and 3.28%, respectively, using *Solanum* as standard and LB01.

2C = 3.14 ± 0.009 pg, PI FCM. Chile, Araucanía, Malleco, Nahuelbuta National Park, recreation area by the Purén River, 37° 49′42.0″S, 73°00′37.4″W, 22 Jan 2023, *S. Martín-Bravo & al. 51SMB23* (CONC, UPOS).

The CVs of sample and internal standard were 3.20% and 2.80%, respectively, using *Solanum* as standard and GPB.

2C = 3.21 ± 0.003 pg, PI FCM. Chile, Los Ríos, Valdivia, Chaihuín–La Unión, road to Hueicolla from Chaihuín, 39°59′47.0″S, 73°39′24.9″W, 24 Jan 2023, *P. García-Moro & al. 20pgm23* (CONC, UPOS).

The CVs of sample and internal standard were 3.05% and 3.57%, respectively, using *Solanum* as standard and GPB.

2C = 3.08 ± 0.019 pg, PI FCM. Chile, Los Lagos, Alerce Andino National Park, Sargazo sector, path to Laguna Sargazo, 41°30′ 58.3″S, 72°36′16.9″W, 28 Jan 2023, *M. Sanz-Arnal & al. 29MSA-CL23* (CONC, UPOS).

The CVs of sample and internal standard were 3.54% and 4.87%, respectively, using *Solanum* as standard and GPB.

2C = 3.08 ± 0.011 pg, PI FCM. Chile, Los Ríos, Corral, 39°58′ 22.7″S, 73°24′19.9″W, 23 Jan 2023, *J.I. Márquez-Corro & al. 27JMC23* (CONC, UPOS).

The CVs of sample and internal standard were 3.40% and 3.47%, respectively, using *Solanum* as standard and GPB.

2C = 3.11 ± 0.006 pg, PI FCM. Chile, Los Ríos, Ranco, Lago Ranco, Quillín Forest, 40°17′27.9″S, 72°32′29.4″W, 25 Jan 2023, *M. Sanz-Arnal & al. 18MSA-CL23* (CONC, UPOS).

Carex erythrovaginata K.A.Ford

The CVs of sample and internal standard were 3.16% and 2.76%, respectively, using *Petroselinum* as standard and GPB.

2C = 3.22 ± 0.003 pg, PI FCM. New Zealand, South Island, Southland Land District, between Mossburn and Te Anau, Wilderness Scientific Reserve, 45°32′00.3″S, 167°51′12.0″E, 08 Feb 2020, *S. Martín-Bravo & K. Ford 115SMB-NZ* (CHR).

The CVs of sample and internal standard were 3.03% and 2.31%, respectively, using *Petroselinum* as standard and GPB.

2C = 3.34 ± 0.006 pg, PI FCM. New Zealand, South Island, Marlborough Land District, Clarence River, not far downstream of the Ouse stream, true right, 41°59′24.2″S, 173°50′55.6″E, 07 Nov 2021, *K. Ford KF 982/21*, cultivated in CHR greenhouse (CHR-674620).

Carex fernandesiana (Nees ex Boeckeler) J.R.Starr

The CVs of sample and internal standard were 3.27% and 2.77%, respectively, using *Petroselinum* as standard and OXPRO.

2C = 3.03 ± 0.034 pg, PI FCM. Chile, Islas Juan Fernández, Robinson Crusoe Island, Archipiélago de Juan Fernández National Park, Carbonera de Torres sector, 33°38′45.4″S, 78°50′37.3″W, 25 Jan 2023, *M. Sanz-Arnal & al. 21MSA-CL23*, cultivated in Diego N. Penneckamp's private garden (CONC, UPOS).

Carex firmula (Kük.) J.R.Starr

The CVs of sample and internal standard were 3.72% and 4.59%, respectively, using *Solanum* as standard and LB01.

2C = 2.83 ± 0.030 pg, PI FCM. Chile, Los Lagos, Puyehue National Park, 40°43′54.5″S, 72°18′40.5″W, 26 Jan 2023, *J.I. Márquez-Corro & al. 47JMC23* (CONC, UPOS).

The CVs of sample and internal standard were 3.11% and 3.78%, respectively, using *Solanum* as standard and LB01.

2C = 2.70 ± 0.012 pg, PI FCM. Chile, Araucanía, Malleco, Nahuelbuta National Park, Estero de los Gringos trail, 37°48′46.8″S, 73°00′42.3″W, 22 Jan 2023, *S. Martín-Bravo & al. 50SMB23* (CONC, UPOS).

The CVs of sample and internal standard were 2.87% and 3.16%, respectively, using *Solanum* as standard and GPB.

2C = 2.70 ± 0.009 pg, PI FCM. Chile, Los Lagos, Puyehue National Park, 40°46′58.1″S, 72°13′47.6″W, 26 Jan 2023, *J.I. Márquez-Corro & al. 54JMC23* (CONC, UPOS).

The CVs of sample and internal standard were 3.82% and 4.31%, respectively, using *Solanum* as standard and GPB.

2C = 2.71 ± 0.016 pg, PI FCM. Chile, Los Ríos, Río Bueno, 40° 37′32.7″S, 72°37′40.9″W, 26 Jan 2023, *J.I. Márquez-Corro & al. 43JMC23* (CONC, UPOS).

The CVs of sample and internal standard were 3.83% and 4.17%, respectively, using *Solanum* as standard and GPB.

2C = 2.66 ± 0.008 pg, PI FCM. Chile, Los Ríos, Cordillera Pelada, Alerce Costero National Park, 40°10′04.7″S, 73°30′28.9″W, 01 Feb 2023, *J.I. Márquez-Corro & al. 68JMC23* (CONC, UPOS).

The CVs of sample and internal standard were 3.20% and 3.58%, respectively, using *Solanum* as standard and GPB.

2C = 2.70 ± 0.024 pg, PI FCM. Chile, Los Ríos, Valdivia, Chaihuín, Alerce Costero National Park, road to Gayana Ecolodge, Chaihuoque stream, 39°57′35.1″S, 73°32′02.8″W, 24 Jan 2023, *P. García-Moro & al. 13pgm23* (CONC, UPOS).

Carex hamata Sw.

The CVs of sample and internal standard were 4.70% and 4.46%, respectively, using *Solanum* as standard and OXPRO.

2C = 2.92 ± 0.010 pg, PI FCM. Ecuador, Pichincha, Quito–Gualea road, El Pahuma, 00°01′34.2″N, 78°37′56.8″W, 10 Aug 2022, *A. Morales-Alonso & al. 137ECU-AMA22* (UPOS).

The CVs of sample and internal standard were 2.47% and 3.83%, respectively, using *Solanum* as standard and LB01.

2C = 2.81 ± 0.008 pg, PI FCM. Ecuador, Pichincha, Andean Snipe trail, Yanacocha Biological Reserve, 00°07′06.8″S, 78°35′09.3″ W, 10 Aug 2022, *A. Morales-Alonso & al. 141ECU-AMA22* (UPOS).

The CVs of sample and internal standard were 2.13% and 2.33%, respectively, using *Petroselinum* as standard and LB01.

2C = 3.09 ± 0.015 pg, PI FCM. Ecuador, Pichincha, Andean Snipe trail, Yanacocha Biological Reserve, 00°07′06.8″S, 78°35′09.3″W, 10 Aug 2022, *A. Morales-Alonso & al. 141ECU-AMA22* (UPOS).

Carex hamlinii K.A.Ford

The CVs of sample and internal standard were 3.64% and 3.02%, respectively, using *Petroselinum* as standard and GPB.

2C = 3.32 ± 0.017 pg, PI FCM. New Zealand, South Island, Southland Land District, Lake Monk, Cameron Mountains, Fiordland, 46°00′51.0″S, 166°56′30.5″E, 11 Feb 2020, *K. Ford KF 699/20*, cultivated in CHR greenhouse (CHR-666515).

Carex horizontalis (Colenso) K.A.Ford

The CVs of sample and internal standard were 3.68% and 3.77%, respectively, using *Petroselinum* as standard and GPB.

2C = 3.27 ± 0.016 pg, PI FCM. New Zealand, South Island, Tasman Land District, Ella Range, Jameson Ridge track, 41°57′ 25.7″S, 172°34′14.3″E, 02 Jan 2020, *S. Martín-Bravo & K. Ford 45SMB-NZ* (CHR).

The CVs of sample and internal standard were 3.76% and 3.25%, respectively, using *Petroselinum* as standard and GPB.

2C = 3.30 ± 0.010 pg, PI FCM. New Zealand, South Island, Southland Land District, Mirror Lakes, Eglinton Valley, 45°01′ 45.7″S, 168°00′40.4″E, 09 Feb 2020, *K. Ford KF 698/20*, cultivated in CHR greenhouse (CHR-666513).

The CVs of sample and internal standard were 3.39% and 3.09%, respectively, using *Petroselinum* as standard and GPB.

2C = 3.34 ± 0.017 pg, PI FCM. New Zealand, South Island, Marlborough Land District, Puhi Station, Happy Valley Stream, 42°11′07.3″S, 173°43′53.2″E, 05 Jan 2021, *K. Ford KF 856/21*, cultivated in CHR greenhouse (CHR-674532).

Carex imbecilla K.A.Ford

The CVs of sample and internal standard were 4.75% and 3.77%, respectively, using *Petroselinum* as standard and GPB.

2C = 3.25 ± 0.001 pg, PI FCM. New Zealand, South Island, Tasman Land District, 1000 Acre Plateau, Matiri Valley, 41°36′ 14.1″S, 172°19′37.7″E, 07 Feb 2024, *A. Morales-Alonso & al. 118NZ-AMA24* (CHR, UPOS).

Carex koyamae (Gómez-Laur.) J.R.Starr

The CVs of sample and internal standard were 2.89% and 2.81%, respectively, using *Petroselinum* as standard and LB01.

2C = 3.13 ± 0.009 pg, PI FCM. Ecuador, Pichincha, Papallacta Lagoon, 00°22′27.5″S, 78°09′54.5″W, 05 Aug 2022, *A. Morales-Alonso & al. 103ECU-AMA22* (UPOS).

Carex laegaardii J.R.Starr

The CVs of sample and internal standard were 1.88% and 2.90%, respectively, using *Solanum* as standard and LB01.

2C = 2.91 ± 0.010 pg, PI FCM. Ecuador, Pichincha, path to Cerro Corazón, 00°19′28.0″S, 78°12′03.2″W, 04 Aug 2022, *A. Morales-Alonso & al. 95ECU-AMA22* (UPOS).

The CVs of sample and internal standard were 2.18% and 2.58%, respectively, using *Petroselinum* as standard and LB01.

2C = 3.09 ± 0.014 pg, PI FCM. Ecuador, Pichincha, path to Cerro Corazón, 00°19′28.0″S, 78°12′03.2″W, 04 Aug 2022, *A. Morales-Alonso & al. 95ECU-AMA22* (UPOS).

Carex lectissima K.A.Ford

The CVs of sample and internal standard were 3.82% and 3.16%, respectively, using *Petroselinum* as standard and GPB.

2C = 3.11 ± 0.010 pg, PI FCM. New Zealand, South Island, Southland Land District, Fiordland, Cameron Mountains, Lake Monk, 46°00′51.0″S, 166°56′30.5″E, 11 Feb 2020, *K. Ford KF 701/20*, cultivated in CHR greenhouse (CHR-666516).

The CVs of sample and internal standard were 3.81% and 2.85%, respectively, using *Petroselinum* as standard and GPB.

2C = 3.12 ± 0.039 pg, PI FCM. New Zealand, South Island, Tasman Land District, Ella Range, Jameson Ridge track, 41°58′ 22.4″S, 172°32′33.4″E, 02 Jan 2020, *S. Martín-Bravo & K. Ford 47SMB-NZ*, cultivated in CHR greenhouse (CHR).

Carex macrotrichoides J.R.Starr

The CVs of sample and internal standard were 3.12% and 3.20%, respectively, using *Solanum* as standard and LB01.

2C = 2.97 ± 0.014 pg, PI FCM. Chile, Araucanía, Malleco, Curacautín (between Lonquimay and Curacautín), Malalcahuello

National Reserve, Lake Pehuenco, 38°25′46.1″S, 71°31′58.9″W, 22 Jan 2023, *P. García-Moro & al. 10pgm23* (CONC, UPOS).

Carex madida J.R.Starr

The CVs of sample and internal standard were 2.86% and 2.57%, respectively, using *Petroselinum* as standard and LB01.

2C = 3.17 ± 0.006 pg, PI FCM. Ecuador, Pichincha, close to a small floodable lagoon on the ascent to Cerro Guamaní, Cayambe-Coca National Park, 00°19′28.0″S, 78°12′03.2″W, 04 Aug 2022, *A. Morales-Alonso & al. 96ECU-AMA22* (UPOS).

Carex megalepis K.A.Ford

The CVs of sample and internal standard were 3.63% and 3.33%, respectively, using *Petroselinum* as standard and GPB.

2C = 3.25 ± 0.028 pg, PI FCM. New Zealand, South Island, Southland Land District, Kepler Track, near Waiau River, 45°29′23.6″S, 167°38′42.5″E, 30 Jan 2024, *A. Morales-Alonso & al. 59NZ-AMA24* (CHR, UPOS).

Carex minor (Kük.) K.A.Ford

The CVs of sample and internal standard were 4.21% and 3.24%, respectively, using *Petroselinum* as standard and GPB.

2C = 3.17 ± 0.002 pg, PI FCM. New Zealand, South Island, Southland Land District, Eglinton Valley, Lake Gunn, 44°53′38.3″S, 168°04′58.8″E, 09 Feb 2020, *K. Ford s.n*., cultivated in CHR greenhouse (CHR).

Carex multifaria (Nees ex Boott) J.R.Starr

The CVs of sample and internal standard were 2.64% and 3.74%, respectively, using *Solanum* as standard and LB01.

2C = 3.03 ± 0.012 pg, PI FCM. Chile, Los Lagos, Puyehue National Park, 40°44′15.6″S, 72°18′27.7″W, 26 Jan 2023, *J.I. Márquez-Corro & al. 49JMC23* (CONC, UPOS).

The CVs of sample and internal standard were 2.53% and 3.57%, respectively, using *Solanum* as standard and LB01.

2C = 3.01 ± 0.011 pg, PI FCM. Chile, Los Ríos, Valdivia, Chaihuín–La Unión, road to Hueicolla from Chaihuín, 39°59′47.0″S, 73°39′24.9″W, 24 Jan 2023, *P. García-Moro & al. 19pgm23* (CONC, UPOS).

The CVs of sample and internal standard were 3.41% and 3.91%, respectively, using *Solanum* as standard and GPB.

2C = 2.89 ± 0.005 pg, PI FCM. Chile, Los Ríos, Corral, 39°58′24.4″S, 73°24′21.2″W, 23 Jan 2023, *J.I. Márquez-Corro & al. 28JMC23* (CONC, UPOS).

The CVs of sample and internal standard were 3.65% and 4.52%, respectively, using *Solanum* as standard and GPB.

2C = 2.85 ± 0.032 pg, PI FCM. Chile, Los Ríos, Ranco, Lago Ranco, Quillín Forest, 40°17′27.9″S, 72°32′29.4″W, 25 Jan 2023, *M. Sanz-Arnal & al. 20MSA-CL23* (CONC, UPOS).

Carex negeri (Kük.) J.R.Starr

The CVs of sample and internal standard were 3.21% and 3.12%, respectively, using *Solanum* as standard and LB01.

2C = 3.03 ± 0.001 pg, PI FCM. Chile, Araucanía, Malleco, Nahuelbuta National Park, parking lot at Piedra del Águila viewpoint, 37°49′21.4″S, 73°02′07.6″W, 21 Jan 2023, *S. Martín-Bravo & al. 41SMB23* (CONC, UPOS).

The CVs of sample and internal standard were 2.86% and 3.64%, respectively, using *Solanum* as standard and LB01.

2C = 3.11 ± 0.016 pg, PI FCM. Chile, Los Lagos, Puyehue National Park, 40°46′30.6″S, 72°11′54.3″W, 26 Jan 2023, *J.I. Márquez-Corro & al. 57JMC23* (CONC, UPOS).

The CVs of sample and internal standard were 3.53% and 3.98%, respectively, using *Solanum* as standard and GPB.

2C = 2.93 ± 0.003 pg, PI FCM. Chile, Araucanía, Malleco, Curacautín (between Lonquimay and Curacautín), Malalcahuello National Reserve, Lake Pehuenco, 38°25′46.1″S, 71°31′58.9″W, 22 Jan 2023, *P. García-Moro & al. 09pgm23* (CONC, UPOS).

Carex parvispica K.A.Ford

The CVs of sample and internal standard were 3.32% and 3.00%, respectively, using *Petroselinum* as standard and GPB.

2C = 2.82 ± 0.029 pg, PI FCM. New Zealand, South Island, Otago Land District, Old Man Range, 45°21′14.7″S, 169°12′46.2″E, 30 Jan 2024, *A. Morales-Alonso & al. 55NZ-AMA24* (CHR, UPOS).

Carex penalpina K.A.Ford

The CVs of sample and internal standard were 4.64% and 4.34%, respectively, using *Petroselinum* as standard and GPB.

2C = 3.20 ± 0.056 pg, PI FCM. New Zealand, South Island, Tasman Land District, Red Hills, Wairau Valley, next to Wairau River, Nelson, 41°44′02.4″S, 172°59′25.7″E, 08 Feb 2024, *A. Morales-Alonso & al. 144NZ-AMA24* (CHR, UPOS).

Carex phleoides Cav.

The CVs of sample and internal standard were 2.75% and 2.57%, respectively, using *Solanum* as standard and GPB.

2C = 2.93 ± 0.004 pg, PI FCM. Chile, Los Lagos, Chiloé, Puñihuil Penguin Beach, rocky promontory facing the beach, 41°55′39.5″S, 74°02′13.4″W, 29 Jan 2023, *P. Jiménez-Mejías & al. 36PJM-CL23* (CONC, UPOS).

The CVs of sample and internal standard were 2.75% and 3.03%, respectively, using *Solanum* as standard and GPB.

2C = 2.88 ± 0.017 pg, PI FCM. Chile, Los Ríos, Corral, 39°55′12.2″S, 73°15′00.8″W, 23 Jan 2023, *J.I. Márquez-Corro & al. 21JMC23* (CONC, UPOS).

The CVs of sample and internal standard were 2.77% and 2.83%, respectively, using *Solanum* as standard and GPB.

2C = 2.93 ± 0.023 pg, PI FCM. Chile, Los Ríos, Ranco, Lago Ranco, Quillín Forest, 40°17′27.9″S, 72°32′29.4″W, 25 Jan 2023, *M. Sanz-Arnal & al. 19dMSA-CL23* (CONC, UPOS).

The CVs of sample and internal standard were 2.65% and 3.03%, respectively, using *Solanum* as standard and GPB.

2C = 2.90 ± 0.015 pg, PI FCM. Chile, Los Ríos, Ranco, Lago Ranco, Quillín Forest, 40°17′27.9″S, 72°32′29.4″W, 25 Jan 2023, *M.Sanz-Arnal & al. 19cMSA-CL23* (CONC, UPOS).

The CVs of sample and internal standard were 3.92% and 3.56%, respectively, using *Solanum* as standard and GPB.

2C = 3.01 ± 0.013 pg, PI FCM. Chile, Los Ríos, Ranco, Lago Ranco, Quillín Forest, 40°17′27.9″S, 72°32′29.4″W, 25 Jan 2023, *M. Sanz-Arnal & al. 19bMSA-CL23* (CONC, UPOS).

The CVs of sample and internal standard were 3.57% and 4.32%, respectively, using *Solanum* as standard and GPB.

2C = 2.94 ± 0.003 pg, PI FCM. Chile, Los Ríos, Ranco, Lago Ranco, Quillín Forest, 40°17′27.9″S, 72°32′29.4″W, 25 Jan 2023, *M. Sanz-Arnal & al. 19MSA-CL23* (CONC, UPOS).

The CVs of sample and internal standard were 3.35% and 3.09%, respectively, using *Solanum* as standard and GPB.

2C = 2.96 ± 0.005 pg, PI FCM. Chile, Biobío, Polcura, Laja River valley, road between Polcura and Salto del Abanico, 37°18′18.7″S, 71°38′59.5″W, 20 Jan 2023, *P. Muñoz-Schüler & al. 60.PMS.ENE* (CONC, UPOS).

The CVs of sample and internal standard were 3.29% and 2.56%, respectively, using *Solanum* as standard and GPB.

2C = 2.92 ± 0.010 pg, PI FCM. Chile, Araucanía, Malleco, Curacautín, Manchuria, Route 181 at the exit of Manchuria, parallel to the Indio River, 38°27′49.3″S, 71°45′56.3″W, 22 Jan 2023, *P. García-Moro & al. 12pgm23* (CONC, UPOS).

The CVs of sample and internal standard were 3.62% and 4.04%, respectively, using *Solanum* as standard and GPB.

2C = 2.96 ± 0.025 pg, PI FCM. Chile, Los Lagos, Alerce Andino National Park, Sargazo sector, path between the "El Abuelo" alerce and the alerce stand, 41°30′36.7″S, 72°36′19.6″W, 28 Jan 2023, *M. Sanz-Arnal & al. 36MSA-CL23* (CONC, UPOS).

The CVs of sample and internal standard were 3.64% and 4.25%, respectively, using *Solanum* as standard and GPB.

2C = 2.82 ± 0.005 pg, PI FCM. Chile, Los Ríos, Pelchuquín, Cudico River, 39°38′48.1″S, 73°07′43.0″W, 23 Jan 2023, *P. Muñoz-Schüler & al. 69.PMS.ENE* (CONC, UPOS).

The CVs of sample and internal standard were 3.97% and 4.34%, respectively, using *Solanum* as standard and GPB.

2C = 2.90 ± 0.008 pg, PI FCM. Chile, Los Lagos, Puyehue, road near Río Pescadero, 40°43′00.1″S, 72°24′09.2″W, 26 Jan 2023, *J.I. Márquez-Corro & al. 44JMC23* (CONC, UPOS).

The CVs of sample and internal standard were 3.86% and 4.15%, respectively, using *Solanum* as standard and GPB.

2C = 2.83 ± 0.024 pg, PI FCM. Chile, Los Ríos, Río Bueno, 40° 37′32.7″S, 72°37′40.9″W, 26 Jan 2023, *J.I. Márquez-Corro & al. 41JMC23* (CONC, UPOS).

The CVs of sample and internal standard were 4.05% and 4.34%, respectively, using *Solanum* as standard and GPB.

2C = 2.79 ± 0.025 pg, PI FCM. Chile, Los Ríos, Santa Elvira, hill between Santa Elvira and Cayumapu, 39°44′54.1″S, 73°09′22.9″W, 23 Jan 2023, *P. Muñoz-Schüler & al. 77.PMS.ENE* (CONC, UPOS).

The CVs of sample and internal standard were 3.22% and 3.88%, respectively, using *Solanum* as standard and GPB.

2C = 2.80 ± 0.008 pg, PI FCM. Chile, Biobío, Antuco, Los Ángeles, Q-45 road, Diuto stream, 40°17′27.9″S, 72°32′29.4″W, 20 Jan 2023, *M. Sanz-Arnal & al. 17MSA-CL23* (CONC, UPOS).

The CVs of sample and internal standard were 3.12% and 4.02%, respectively, using *Solanum* as standard and GPB.

2C = 2.90 ± 0.001 pg, PI FCM. Chile, Los Ríos, Cayumapu, uphill road toward Santa Elvira, 39°44′32.1″S, 73°08′27.1″W, 23 Jan 2023, *P. Muñoz-Schüler & al. 75.PMS.ENE* (CONC, UPOS).

Carex potens K.A.Ford

The CVs of sample and internal standard were 4.56% and 4.59%, respectively, using *Petroselinum* as standard and GPB.

2C = 3.17 ± 0.017 pg, PI FCM. New Zealand, South Island, Tasman Land District, Ella Range, below Mole Hut, 41°57′43.9″S, 172° 34′04.2″E, 02 Jan 2020, *S. Martín-Bravo & K. Ford 36SMB-NZ* (CHR).

Carex punicea K.A.Ford

The CVs of sample and internal standard were 3.74% and 2.97%, respectively, using *Petroselinum* as standard and GPB.

2C = 3.18 ± 0.007 pg, PI FCM. New Zealand, South Island, Tasman Land District, Ella Range, below Mole Hut, 41°57′31.7″S, 172°34′25.9″E, 02 Jan 2020, *S. Martín-Bravo & K. Ford 40SMB-NZ*, cultivated in CHR greenhouse (CHR).

Carex quinquin Jim.Mejías & Dorr

The CVs of sample and internal standard were 2.33% and 3.07%, respectively, using *Solanum* as standard and LB01.

2C = 2.96 ± 0.017 pg, PI FCM. Chile, Biobío, Concepción, "El Caracol" Hill, native forest of the University of Concepción, 36° 50′13.7″S, 73°01′29.9″W, 03 Jan 2023, *J.I. Márquez-Corro & P. Muñoz-Schüler, 05JMC23* (CONC, UPOS).

The CVs of sample and internal standard were 3.62% and 4.05%, respectively, using *Solanum* as standard and GPB.

2C = 2.90 ± 0.011 pg, PI FCM. Chile, Biobío, Polcura, road from Polcura to San Antonio, 37°16′53.4″S, 71°43′18.0″W, 20 Jan 2023, *M. Sanz-Arnal & al. 02MSA-CL23* (CONC, UPOS).

Carex salticola J.R.Starr

The CVs of sample and internal standard were 3.72% and 4.60%, respectively, using *Solanum* as standard and LB01.

2C = 3.12 ± 0.008 pg, PI FCM. Chile, Los Lagos, Llanquihue, Lenca, Alerce Andino National Park, ascent to Triángulo Lagoon, 41°34′26.8″S, 72°32′15.7″W, 28 Jan 2023, *P. García-Moro & al. 25pgm23* (CONC, UPOS).

The CVs of sample and internal standard were 3.24% and 4.14%, respectively, using *Solanum* as standard and LB01.

2C = 3.14 ± 0.012 pg, PI FCM. Chile, Los Lagos, Puyehue National Park, 40°46′55.7″S, 72°12′46.8″W, 26 Jan 2023, *J.I. Márquez-Corro & al. 65JMC23* (CONC, UPOS).

The CVs of sample and internal standard were 3.19% and 3.93%, respectively, using *Solanum* as standard and LB01.

2C = 2.91 ± 0.003 pg, PI FCM. Chile, Araucanía, Malleco, Nahuelbuta National Park, Piedra del Águila viewpoint, 37°49′31.9″S, 73°02′06.7″W, 21 Jan 2023, *S. Martín-Bravo & al. 39SMB23* (CONC, UPOS).

The CVs of sample and internal standard were 4.19% and 4.24%, respectively, using *Solanum* as standard and LB01.

2C = 2.99 ± 0.003 pg, PI FCM. Chile, Biobío, Polcura, Polcura Range, road to Frutillar, 37°16′09.1″S, 71°44′03.0″W, 20 Jan 2023, *P. Muñoz-Schüler & al. 51.PMS.ENE* (CONC, UPOS).

The CVs of sample and internal standard were 2.83% and 4.20%, respectively, using *Solanum* as standard and LB01.

2C = 3.01 ± 0.029 pg, PI FCM. Chile, Araucanía, Malleco, Lonquimay, Alaska waterfall, La Cascada stream, 38°30′16.8″S, 71°24′ 45.2″W, 22 Jan 2023, *P. García-Moro & al. 1pgm23* (CONC, UPOS).

Carex strictissima (Kük.) K.A.Ford

The CVs of sample and internal standard were 3.00% and 4.30%, respectively, using *Solanum* as standard and GPB.

2C = 2.90 ± 0.024 pg, PI FCM. New Zealand, South Island, Southland, Hokonui Hills, near Otapiri Peak, 45°51′39.0″S, 168° 26′55.8″E, 01 Mar 2022, *J. Bythell s.n.*, cultivated in CHR greenhouse (CHR-695392).

Carex subsacculata (G.A.Wheeler & Goetgh.) J.R.Starr

The CVs of sample and internal standard were 3.02% and 4.60%, respectively, using *Solanum* as standard and OXPRO.

2C = 2.67 ± 0.022 pg, PI FCM. Ecuador, Pichincha, Andean Snipe trail, Yanacocha Biological Reserve, 00°07′06.8″S, 78°35′ 09.3″W, 10 Aug 2022, *A. Morales-Alonso & al. 146ECU-AMA22* (UPOS).

Carex subviridis K.A.Ford

The CVs of sample and internal standard were 4.62% and 3.69%, respectively, using *Petroselinum* as standard and GPB.

2C = 3.20 ± 0.067 pg, PI FCM. New Zealand, South Island, Tasman Land District, Red Hills, Wairau Valley, next to Wairau

River, Nelson, 41°44′02.4″S, 172°59′25.7″E, 08 Feb 2024, *A. Morales-Alonso & al. 145NZ-AMA24* (CHR, UPOS).

The CVs of sample and internal standard were 3.98% and 2.81%, respectively, using *Petroselinum* as standard and GPB.

2C = 3.59 ± 0.005 pg, PI FCM. New Zealand, South Island, Westland Land District, Copland River, near Scott Creek, Welcome Flat, 43°38′20.7″S, 169°58′42.2″E, 09 Jul 2021, *K. Ford KF 961/21*, cultivated in CHR greenhouse (CHR-674570).

Carex turbaria J.R.Starr

The CVs of sample and internal standard were 3.40% and 4.54%, respectively, using *Solanum* as standard and LB01.

2C = 2.92 ± 0.030 pg, PI FCM. Chile, Los Lagos, Puyehue National Park, 40°46′51.5″S, 72°12′39.6″W, 26 Jan 2023, *J.I. Márquez-Corro & al. 60JMC23* (CONC, UPOS).

Carex uncinata L.f.

The CVs of sample and internal standard were 4.69% and 4.20%, respectively, using *Petroselinum* as standard and GPB.

2C = 3.23 ± 0.014 pg, PI FCM. New Zealand, South Island, Tasman Land District, Matiri Valley, mountain forest, track descending the mountain, 41°37′56.3″S, 172°19′26.3″E, 07 Feb 2024, *A. Morales-Alonso & al. 136NZ-AMA24* (CHR, UPOS).

Carex zotovii (Hamlin) K.A.Ford

The CVs of sample and internal standard were 4.31% and 3.54%, respectively, using *Petroselinum* as standard and GPB.

2C = 3.13 ± 0.015 pg, PI FCM. New Zealand, South Island, Southland Land District, Lake Gunn, Eglinton Valley, 44°53′38.3″S, 168°04′58.8″E, 09 Feb 2020, *K. Ford KF 696/20*, cultivated in CHR greenhouse (CHR-666512, UPOS).

The CVs of sample and internal standard were 4.69% and 3.87%, respectively, using *Petroselinum* as standard and GPB.

2C = 3.19 ± 0.021 pg, PI FCM. New Zealand, South Island, Tasman Land District, Matiri Valley, mountain forest, track descending the mountain, 41°37′56.3″S, 172°19′26.3″E, 07 Feb 2024, *A. Morales-Alonso & al. 134NZ-AMA24* (CHR, UPOS).

VI. *Carex* subg. *Vignea* (P.Beauv. ex T.Lestib.) Heer *Carex* sect. *Ammoglochin* Dumort.

Carex praecox Schreb.

The CVs of sample and internal standard were 4.61% and 4.18%, respectively, using *Solanum* as standard and GPB.

2C = 0.74 ± 0.003 pg, PI FCM. Spain, Barcelona, Guillerías Range, Vilanova de Sau, between Camping el Pont and Malafogassa bridge, 41°56′07.2″N, 02°24′36.4″E, 28 Apr 2023, *J. Jurado & M. Luceño 4JJS23* (UPOS).

The CVs of sample and internal standard were 4.66% and 3.56%, respectively, using *Solanum* as standard and GPB.

2C = 0.76 ± 0.013 pg, PI FCM. Spain, Barcelona, Guillerías Range, Vilanova de Sau, between Camping el Pont and Malafogassa bridge, 41°56′07.2″N, 02°24′36.4″E, 28 Apr 2023, *J. Jurado & M. Luceño 4JJS23* (UPOS).

Carex sect. *Bracteosae* Pax

Carex bracteosa Kunze

The CVs of sample and internal standard were 4.76% and 3.15%, respectively, using *Solanum* as standard and LB01.

2C = 0.97 ± 0.015 pg, PI FCM. Chile, Biobío, Concepción, University of Concepción campus, 36°49′40.5″S, 73°02′08.2″W, 17 Jan 2023, *J.I. Márquez-Corro & al. 18JMC23* (CONC, UPOS).

The CVs of sample and internal standard were 4.21% and 2.98%, respectively, using *Solanum* as standard and LB01.

2C = 0.97 ± 0.009 pg, PI FCM. Chile, Araucanía, Malleco, Lonquimay, Alaska waterfall, La Cascada stream, 38°30′16.8″S, 71°24′45.2″W, 22 Jan 2023, *P. García-Moro & al. 03pgm23* (CONC, UPOS).

Carex sect. *Cyperoideae* G.Don

Carex bonplandii Kunth

The CVs of sample and internal standard were 3.27% and 3.15%, respectively, using *Solanum* as standard and OXPRO.

2C = 1.53 ± 0.010 pg, PI FCM. Ecuador, Pichincha, Lower Lagoon, Cayambe-Coca National Park, 00°19′41.7″S, 78°12′02.0″W, 04 Aug 2022, *A. Morales-Alonso & al. 97ECU-AMA22* (UPOS).

The CVs of sample and internal standard were 3.68% and 4.24%, respectively, using *Solanum* as standard and OXPRO.

2C = 1.55 ± 0.011 pg, PI FCM. Ecuador, Pichincha, entrance to Cayambe-Coca National Park, 00°19′45.6″S, 78°12′06.4″W, 04 Aug 2022, *A. Morales-Alonso & al. 100ECU-AMA22* (UPOS).

The CVs of sample and internal standard were 3.32% and 2.52%, respectively, using *Petroselinum* as standard and OXPRO.

2C = 1.76 ± 0.006 pg, PI FCM. Ecuador, Pichincha, entrance to Cayambe-Coca National Park, 00°19′45.6″S, 78°12′06.4″W, 04 Aug 2022, *A. Morales-Alonso & al. 100ECU-AMA22* (UPOS).

Carex leporina L.

The CVs of sample and internal standard were 3.85% and 3.01%, respectively, using *Solanum* as standard and GPB.

2C = 0.68 ± 0.002 pg, PI FCM. France, Eastern Pyrénées Department, road from Mont-Louis to La Bollosa reservoir, path to Estany Largo, Estany del Racó, 42°33′20.3″N, 02°00′33.8″E, 17 Jul 2023, *S. Martín-Bravo & al. 112SMB23* (UPOS).

The CVs of sample and internal standard were 4.53% and 3.38%, respectively, using *Solanum* as standard and LB01.

2C = 0.69 ± 0.002 pg, PI FCM. Chile, Los Lagos, Puyehue National Park, 40°43′54.5″S, 72°18′40.5″W, 26 Jan 2023, *J.I. Márquez-Corro & al. 48JMC23* (CONC, UPOS).

The CVs of sample and internal standard were 4.97% and 2.16%, respectively, using *Solanum* as standard and GPB.

2C = 0.76 ± 0.008 pg, PI FCM. Chile, Araucanía, Malleco, Curacautín, Route 181, 38°27′40.2″S, 71°42′23.0″W, 21 Jan 2023, *P. Jiménez-Mejías & al. 17PJM-CL23* (CONC, UPOS).

The CVs of sample and internal standard were 4.74% and 2.99%, respectively, using *Solanum* as standard and LB01.

2C = 0.73 ± 0.003 pg, PI FCM. Chile, Los Lagos, Puyehue National Park, 40°46′51.5″S, 72°12′39.6″W, 26 Jan 2023, *J.I. Márquez-Corro & al. 59JMC23* (CONC, UPOS).

Carex longii Mack.

The CVs of sample and internal standard were 2.75% and 2.82%, respectively, using *Petroselinum* as standard and LB01.

2C = 6.46 ± 0.055 pg, PI FCM. Ecuador, Pichincha, exit of the "Culunco" formation, path around Pondoña Hill, Pululahua Geobotanical Reserve, 00°03′31.9″N, 78°29′37.0″W, 08 Aug 2022, *A. Morales-Alonso & al. 131ECU-AMA22* (UPOS).

The CVs of sample and internal standard were 2.71% and 2.45%, respectively, using *Petroselinum* as standard and LB01.

2C = 6.56 ± 0.055 pg, PI FCM. Ecuador, Pichincha, exit of the "Culunco" formation, path around Pondoña Hill, Pululahua

Geobotanical Reserve, 00°03′31.9″N, 78°29′37.0″W, 08 Aug 2022, *A. Morales-Alonso & al. 131ECU-AMA22* (UPOS).

The CVs of sample and internal standard were 2.28% and 3.79%, respectively, using *Solanum* as standard and LB01.

2C = 5.87 ± 0.026 pg, PI FCM. Ecuador, Pichincha, exit of the "Culunco" formation, path around Pondoña Hill, Pululahua Geobotanical Reserve, 00°03′31.9″N, 78°29′37.0″W, 08 Aug 2022, *A. Morales-Alonso & al. 131ECU-AMA22* (UPOS).

The CVs of sample and internal standard were 3.42% and 3.59%, respectively, using *Solanum* as standard and LB01.

2C = 5.95 ± 0.059 pg, PI FCM. Ecuador, Pichincha, exit of the "Culunco" formation, path around Pondoña Hill, Pululahua Geobotanical Reserve, 00°03′31.9″N, 78°29′37.0″W, 08 Aug 2022, *A. Morales-Alonso & al. 131ECU-AMA22* (UPOS).

Carex macloviana d'Urv.

The CVs of sample and internal standard were 4.64% and 4.25%, respectively, using *Solanum* as standard and LB01.

2C = 0.78 ± 0.006 pg, PI FCM. Chile, Santiago, Farellones, Valle Nevado ski resort, Tres Puntas, 33°19′34.0″S, 70°14′30.2″W, 16 Jan 2023, *P. Jiménez-Mejías & al. 8PJM-CL23* (CONC, UPOS).

The CVs of sample and internal standard were 4.98% and 3.29%, respectively, using *Solanum* as standard and LB01.

2C = 0.81 ± 0.009 pg, PI FCM. Chile, Santiago, Farellones, Valle Nevado ski resort, Tres Puntas, 33°19′34.0″S, 70°14′30.2″W, 16 Jan 2021, *P. Jiménez-Mejías & al. 9PJM-CL23* (CONC, UPOS).

The CVs of sample and internal standard were 4.71% and 3.56%, respectively, using *Solanum* as standard and GPB.

2C = 0.72 ± 0.002 pg, PI FCM. Chile, Ñuble, Chillán, between Chillán and Termas de Chillán, Las Trancas Valley, near Renegado stream, 36°55′00.1″S, 71°27′11.8″W, 18 Jan 2023, *S. Martín-Bravo & al. 23SMB23* (CONC, UPOS).

The CVs of sample and internal standard were 4.43% and 2.06%, respectively, using *Solanum* as standard and GPB.

2C = 0.73 ± 0.002 pg, PI FCM. Chile, Ñuble, Chillán, Termas de Chillán, Aguascalientes Valley, 36°54′23.5″S, 71°22′30.5″W, 18 Jan 2023, *S. Martín-Bravo & al. 12SMB23* (CONC, UPOS).

The CVs of sample and internal standard were 3.90% and 2.22%, respectively, using *Solanum* as standard and GPB.

2C = 0.72 ± 0.006 pg, PI FCM. Chile, Ñuble, Chillán, Termas de Chillán, Aguascalientes Valley, 36°54′15.7″S, 71°22′35.0″W, 18 Jan 2023, *S. Martín-Bravo & al. 04SMB23* (CONC, UPOS).

Carex sect. *Gibbae* Kük.

Carex gibba Wahlenb.

The CVs of sample and internal standard were 3.78% and 2.91%, respectively, using *Solanum* as standard and GPB.

2C = 1.00 ± 0.003 pg, PI FCM. China, Anhui, Huangshan, 30° 06′22.1″N, 118°10′08.0″E, 02 Jun 2023, *P. Jiménez-Mejías & al. 77PJM-CN23* (UPOS, ZJFC).

The CVs of sample and internal standard were 3.78% and 3.12%, respectively, using *Solanum* as standard and GPB.

2C = 1.03 ± 0.003 pg, PI FCM. China, Zhejiang, Taohua Island, 29°49′12.5″N, 122°17′32.3″E, 05 Jun 2023, *P. Jiménez-Mejías & al. 100PJM-CN23* (UPOS, ZJFC).

The CVs of sample and internal standard were 3.88% and 2.83%, respectively, using *Solanum* as standard and GPB.

2C = 1.04 ± 0.003 pg, PI FCM. China, Anhui, Qiyunshan, 29° 48′30.2″N, 118°02′05.3″E, 01 Jun 2023, *P. Jiménez-Mejías & al. 58PJM-CN23* (UPOS, ZJFC).

Carex sect. *Glareosae* G.Don

Carex canescens L.

The CVs of sample and internal standard were 4.50% and 3.00%, respectively, using *Solanum* as standard and GPB.

2C = 0.88 ± 0.011 pg, PI FCM. France, Eastern Pyrénées Department, road from Mont-Louis to La Bollosa reservoir, path to Estany Largo, Estany del Racó, 42°33′20.3″N, 02°00′33.8″E, 17 Jul 2023, *S. Martín-Bravo & al. 113SMB23* (UPOS).

The CVs of sample and internal standard were 4.96% and 3.52%, respectively, using *Solanum* as standard and LB01.

2C = 0.93 ± 0.010 pg, PI FCM. Chile, Los Lagos, Puyehue National Park, 40°46′51.5″S, 72°12′39.6″W, 26 Jan 2023, *J.I. Márquez-Corro & al. 58JMC23* (CONC, UPOS).

The CVs of sample and internal standard were 4.44% and 3.88%, respectively, using *Solanum* as standard and LB01.

2C = 0.83 ± 0.001 pg, PI FCM. Chile, Araucanía, Malleco, Nahuelbuta National Park, 37°48′07.0″S, 73°01′04.7″W, 21 Jan 2023, *S. Martín-Bravo & al. 25SMB23* (CONC, UPOS).

The CVs of sample and internal standard were 3.09% and 2.37%, respectively, using *Solanum* as standard and GPB.

2C = 0.85 ± 0.002 pg, PI FCM. Chile, Los Lagos, Chiloé, Piuchué Range, San Pedro, 42°19′24.2″S, 73°53′42.3″W, 30 Jan 2023, *P. Muñoz-Schüler & al. 97.PMS.ENE* (CONC, UPOS).

The CVs of sample and internal standard were 4.37% and 2.42%, respectively, using *Solanum* as standard and GPB.

2C = 0.88 ± 0.006 pg, PI FCM. Chile, Araucanía, Malleco, Pino Hachado, 38°39′17.5″S, 70°55′14.7″W, 21 Jan 2023, *P. Jiménez-Mejías & al. 22PJM-CL23* (CONC, UPOS).

The CVs of sample and internal standard were 4.18% and 2.36%, respectively, using *Solanum* as standard and GPB.

2C = 0.87 ± 0.004 pg, PI FCM. Switzerland, Canton of Valais, Blatten, path from Blatten to the Massaweg gorge, 46°21′45.0″N, 07°59′35.0″E, 17 Aug 2023, *R. Sánchez-Villegas & M. Luceño 29RSV23* (UPOS).

Carex furva Webb

The CVs of sample and internal standard were 3.70% and 2.93%, respectively, using *Solanum* as standard and GPB.

2C = 0.91 ± 0.002 pg, PI FCM. Spain, Granada, Laguna Aguas Verdes, 37°02′55.1″N, 03°22′5.2″W, 03 Aug 2022, *R. Sánchez-Villegas & al. 146RSV22* (UPOS-16956).

Carex lachenalii Schkuhr

The CVs of sample and internal standard were 4.32% and 3.65%, respectively, using *Solanum* as standard and GPB.

2C = 0.95 ± 0.012 pg, PI FCM. New Zealand, South Island, Otago Land District, Old Woman Range, 45°15′41.2″S, 169°04′ 04.7″E, 08 Apr 2021, *K. Ford & A.Purves 957/21* (CHR).

The CVs of sample and internal standard were 4.08% and 2.96%, respectively, using *Solanum* as standard and GPB.

2C = 0.91 ± 0.004 pg, PI FCM. Switzerland, Canton of Valais, Fieschertal, Märjelensee, Märjalen-Stausee trail, 46°26′23.0″N, 008°05′49.0″E, 16 Aug 2023, *R. Sánchez-Villegas & M. Luceño, 25RSV23* (UPOS).

Carex sect. *Heleoglochin* Dumort.

Carex paniculata subsp. *lusitanica* (Willd.) Maire

The CVs of sample and internal standard were 3.99% and 3.48%, respectively, using *Solanum* as standard and GPB.

2C = 0.85 ± 0.004 pg, PI FCM. Spain, Ávila, El Barco de Ávila, banks of the Tormes River, 40°20′41.2″N, 05°31′55.9″W, 01 Apr 2022, *M. Luceño & al. s.n*. (UPOS).

The CVs of sample and internal standard were 4.55% and 3.83%, respectively, using *Solanum* as standard and GPB.

2C = 0.83 ± 0.005 pg, PI FCM. Spain, Ávila, El Barco de Ávila, road to Navatejares, near the bridge over the Aravalle River, 40°21′ 06.7″N, 05°32′08.4″W, 19 Aug 2023, *S. Martín-Bravo & A. Rodríguez Saéz 127SMB23* (UPOS).

Carex paniculata L. subsp. *paniculata*

The CVs of sample and internal standard were 4.53% and 3.58%, respectively, using *Solanum* as standard and GPB.

2C = 0.87 ± 0.003 pg, PI FCM. Switzerland, Canton of Valais, Grächen, Zumsee, 46°11′46.5″N, 07°50′43.3″E, 26 Aug 2023, *R. Sánchez-Villegas & M. Luceño 59RSV23* (UPOS).

***Carex* sect. *Inversae* Kük.**

Carex colensoi Boott

The CVs of sample and internal standard were 4.50% and 3.50%, respectively, using *Solanum* as standard and GPB.

2C = 0.61 ± 0.003 pg, PI FCM. New Zealand, South Island, Canterbury Land District, Cass Field Station, 43°02′07.9″S, 171° 45′06.1″E, 14 Jan 2022, *K.A. Ford, KF 1339/22*, cultivated in CHR greenhouse (CHR-695393).

Carex inversa R.Br.

The CVs of sample and internal standard were 4.69% and 3.76%, respectively, using *Solanum* as standard and GPB.

2C = 0.62 ± 0.001 pg, PI FCM. New Zealand, South Island, Canterbury Land District, Christchurch, base of Huntsbury Hill, empty section off a lane in Endicott Place, front of section no. 7, 43°34′11.1″S, 172°38′44.9″E, 15 Nov 2021, *K. Ford KF 986/21*, cultivated in CHR greenhouse (CHR-666748).

The CVs of sample and internal standard were 4.22% and 2.64%, respectively, using *Solanum* as standard and GPB.

2C = 0.67 ± 0.002 pg, PI FCM. New Zealand, South Island, Nelson Land District, Matiri River, flats just above Lake Jeanette, 41°31′00.9″S 172°22′58.0″E, 09 Apr 2022, *C. Morse KF 1056/22*, cultivated in CHR greenhouse (CHR-666749).

Carex kirkii Petrie

The CVs of sample and internal standard were 3.33% and 4.54%, respectively, using *Solanum* as standard and GPB.

2C = 1.63 pg, PI FCM. New Zealand, South Island, Otago Land District, Pisa Range, above Lake McKay, 44°50′54.4″S, 169°12′ 40.9″E, 12 Feb 2020, *K. Ford KF 707/20*, cultivated in CHR greenhouse (CHR-666736).

The CVs of sample and internal standard were 3.98% and 2.61%, respectively, using *Petroselinum* as standard and GPB.

2C = 1.81 ± 0.014 pg, PI FCM. New Zealand, South Island, Otago Land District, Pisa Range, above Lake McKay, 44°50′54.4″ S, 169°12′40.9″E, 12 Feb 2020, *K. Ford KF 707/20*, cultivated in CHR greenhouse (CHR-666736).

Carex kirkii Petrie × *C. pterocarpa* Petrie

The CVs of sample and internal standard were 3.89% and 3.87%, respectively, using *Solanum* as standard and GPB.

2C = 1.68 ± 0.005 pg, PI FCM. New Zealand, South Island, Otago Land District, Old Man Range, near Obelisk, at the head of Conroys Creek, 45°19′10.9″S, 169°12′47.7″E, 07 Dec 2022, *K. Ford KF 1103/22*, cultivated in CHR greenhouse (CHR-666740).

Carex maackii Maxim.

The CVs of sample and internal standard were 4.29% and 3.03%, respectively, using *Solanum* as standard and GPB.

2C = 0.70 ± 0.002 pg, PI FCM. China, Zhejiang, Ningbo, Hangzhou Bay, 30°21′54.4″N, 121°10′31.1″E, 04 Jun 2023, *P. Jiménez-Mejías & al. 86PJM-CN23* (UPOS, ZJFC).

Carex muelleri Petrie

The CVs of sample and internal standard were 4.82% and 4.58%, respectively, using *Solanum* as standard and GPB.

2C = 1.54 ± 0.008 pg, PI FCM. New Zealand, South Island, Canterbury Land District, Bush Stream Basin Tarns, Sinclair Range, 43°43′41.8″S, 170°45′31.9″E, 23 Feb 2020, *K. Ford KF 746/20*, cultivated in CHR greenhouse (CHR-667241).

The CVs of sample and internal standard were 4.70% and 3.54%, respectively, using *Petroselinum* as standard and GPB.

2C = 1.66 ± 0.014 pg, PI FCM. New Zealand, South Island, Canterbury Land District, Bush Stream Basin Tarns, Sinclair Range, 43°43′41.8″S, 170°45′31.9″E, 23 Feb 2020, *K. Ford KF 746/20*, cultivated in CHR greenhouse (CHR-667241).

The CVs of sample and internal standard were 4.27% and 4.40%, respectively, using *Solanum* as standard and GPB.

2C = 1.54 ± 0.007 pg, PI FCM. New Zealand, South Island, Canterbury Land District, Bush Stream Basin Tarns, Sinclair Range, 43°43′41.8″S, 170°45′31.9″E, 23 Feb 2020, *K. Ford KF 746/20*, cultivated in CHR greenhouse (CHR-667241).

Carex resectans Cheeseman

The CVs of sample and internal standard were 4.22% and 2.98%, respectively, using *Solanum* as standard and GPB.

2C = 0.66 ± 0.011 pg, PI FCM. New Zealand, South Island, Canterbury Land District, Lake Heron, above Harrisons Bight, small drainage channel off the terrace crest, 43°28′39.4″S, 171°12′14.3″E, 20 Jan 2022, *K. Ford KF 1008/22*, cultivated in CHR greenhouse (CHR-695387).

Carex trachycarpa Cheeseman

The CVs of sample and internal standard were 3.94% and 2.08%, respectively, using *Petroselinum* as standard and GPB.

2C = 1.79 ± 0.017 pg, PI FCM. New Zealand, South Island, Nelson Land District, Mt Arthur, summit, 41°13′07.8″S, 172°40′ 55.4″E, 02 Jan 2019, *K. Ford KF 634/19*, cultivated in CHR greenhouse (CHR-666555).

The CVs of sample and internal standard were 4.56% and 4.65%, respectively, using *Solanum* as standard and GPB.

2C = 1.63 pg, PI FCM. New Zealand, South Island, Nelson Land District, Mt Arthur, summit, 41°13′07.8″S, 172°40′55.4″E, 02 Jan 2019, *K. Ford KF 634/19*, cultivated in CHR greenhouse (CHR-666555).

***Carex* sect. *Macrocephalae* Kük.**

Carex kobomugi Ohwi

The CVs of sample and internal standard were 4.74% and 2.34%, respectively, using *Solanum* as standard and GPB.

2C = 0.76 ± 0.010 pg, PI FCM. China, Zhejiang, Taohua Island, 29°49′12.5″N, 122°17′32.3″E, 05 Jun 2023, *P. Jiménez-Mejías & al. 92PJM-CN23* (UPOS, ZJFC).

Carex sect. *Phaestoglochin* Dumort.

Carex divulsa Stokes

The CVs of sample and internal standard were 4.70% and 3.62%, respectively, using *Solanum* as standard and GPB.

2C = 0.94 ± 0.003 pg, PI FCM. New Zealand, South Island, Canterbury Land District, Lincoln Landcare Research, Lincoln, 43°38′27.3″S, 172°28′37.8″E, 25 Jan 2024, *A. Morales-Alonso & P. Jiménez-Mejías 1NZ-AMA24* (CHR, UPOS).

The CVs of sample and internal standard were 4.70% and 3.43%, respectively, using *Solanum* as standard and GPB.

2C = 0.98 ± 0.003 pg, PI FCM. New Zealand, South Island, Canterbury Land District, Lincoln Landcare Research, Lincoln, 43°38′27.3″S, 172°28′37.8″E, 25 Jan 2024, *A. Morales-Alonso & P. Jiménez-Mejías 1NZ-AMA24* (CHR, UPOS).

The CVs of sample and internal standard were 4.00% and 3.39%, respectively, using *Solanum* as standard and GPB.

2C = 0.94 ± 0.007 pg, PI FCM. New Zealand, South Island, Canterbury Land District, track beside the river beginning at Princess Margaret Hospital, Christchurch, 43°34′17.3″S, 172°37′04.8″E, 26 Jan 2024, *A. Morales-Alonso & P. Jiménez-Mejías 2NZ-AMA24* (CHR, UPOS).

The CVs of sample and internal standard were 3.68% and 3.47%, respectively, using *Solanum* as standard and GPB.

2C = 0.95 ± 0.004 pg, PI FCM. New Zealand, South Island, Canterbury Land District, track beside the river beginning at Princess Margaret Hospital, Christchurch, 43°34′17.3″S, 172°37′04.8″E, 26 Jan 2024, *A. Morales-Alonso & P. Jiménez-Mejías 2NZ-AMA24* (CHR, UPOS).

Carex muricata L.

The CVs of sample and internal standard were 5.76% and 3.64%, respectively, using *Solanum* as standard and GPB.

2C = 0.99 ± 0.003 pg, PI FCM. Switzerland, Canton of Valais, Lax, 46°23′44.9″N, 008°07′13.4″E, 17 Aug 2023, *R. Sánchez-Villegas & M.Luceño 27RSV23* (UPOS).

The CVs of sample and internal standard were 4.66% and 3.39%, respectively, using *Solanum* as standard and GPB.

2C = 0.98 ± 0.001 pg, PI FCM. New Zealand, South Island, Canterbury Land District, Claverley, Conway River, 42°36′07.8″S, 173°27′10.8″E, 08 Jun 2024, *M. Giller KF 1254/24*, cultivated in CHR greenhouse (CHR).

Carex otrubae Podp.

The CVs of sample and internal standard were 3.92% and 3.00%, respectively, using *Solanum* as standard and GPB.

2C = 1.33 ± 0.002 pg, PI FCM. Spain, Sevilla, Dos Hermanas, UPO campus, UPO lagoons, 37°21′24.9″N, 05°56′03.5″W, 20 Jul 2023, *S. Martín-Bravo & P. Jiménez-Mejías 117SMB23* (UPOS).

The CVs of sample and internal standard were 4.70% and 4.36%, respectively, using *Solanum* as standard and GPB.

2C = 0.95 ± 0.002 pg, PI FCM. New Zealand, South Island, Tasman Land District, Richmond marsh, 41°17′13.8″S, 173°07′36.5″E, 08 Feb 2024, *A. Morales-Alonso & al. 149bisNZ-AMA24* (CHR, UPOS).

Carex pairae F.W.Schultz

The CVs of sample and internal standard were 4.21% and 2.79%, respectively, using *Solanum* as standard and GPB.

2C = 0.99 ± 0.005 pg, PI FCM. France, Eastern Pyrénées Department, Latour de Carol, Serra Blanca de la Tor, path to Sant Pere de Sedret, 42°27′11.5″N, 01°53′19.2″E, 16 Jul 2023, *S. Martín-Bravo & al. 81SMB23* (UPOS).

Carex spicata Huds.

The CVs of sample and internal standard were 3.24% and 2.20%, respectively, using *Solanum* as standard and GPB.

2C = 0.91 ± 0.000 pg, PI FCM. Switzerland, Canton of Valais, Grächen, Eggeri–Suon path, 46°11′24.0″N, 07°50′38.0″E, 26 Aug 2023, *R. Sánchez-Villegas & M. Luceño 60RSV23* (UPOS).

Carex sect. *Phleoideae* Meinsh.

Carex neurocarpa Maxim.

The CVs of sample and internal standard were 4.61% and 3.03%, respectively, using *Solanum* as standard and GPB.

2C = 0.55 ± 0.003 pg, PI FCM. China, Anhui, Jiusha village, 29°49′33.5″N, 118°35′54.2″E, 31 May 2023, *P. Jiménez-Mejías & al. 47PJM-CN23* (UPOS, ZJFC).

Carex sect. *Physoglochin* Neck. ex Dumort.

Carex davalliana Sm.

The CVs of sample and internal standard were 3.88% and 3.30%, respectively, using *Solanum* as standard and GPB.

2C = 1.26 ± 0.001 pg, PI FCM. Switzerland, Canton of Valais, Zermatt, descent from the foot of the Matterhorn to Zermatt via Schwarzsee station, 45°59′34.8″N, 07°42′19.2″E, 23 Aug 2023, *R. Sánchez-Villegas & M. Luceño 53RSV23* (UPOS).

Carex sect. *Remotae* C.B.Clarke

Carex rochebrunei Franch. & Sav.

The CVs of sample and internal standard were 5.17% and 2.99%, respectively, using *Solanum* as standard and GPB.

2C = 0.82 ± 0.009 pg, PI FCM. China, Zhejiang, Tianmushan, Xitianmu Natural Reserve, 30 May 2023, 30°20′28.1″N, 119°26′41.5″E, *P. Jiménez-Mejías & al. 27PJM-CN23* (UPOS, ZJFC).

Annectens Clade

Carex brongniartii Kunth

The CVs of sample and internal standard were 3.79% and 3.16%, respectively, using *Solanum* as standard and LB01.

2C = 0.84 ± 0.010 pg, PI FCM. Chile, Biobío, Hualpén, Hualpén Peninsula, Terrestrial Biology Station, 36°47′50.0″S, 73°09′30.6″W, 04 Jan 2023, *P. Muñoz-Schüler & al. 02.PMS.ENE* (CONC, UPOS).

The CVs of sample and internal standard were 4.92% and 2.94%, respectively, using *Solanum* as standard and LB01.

2C = 1.00 ± 0.017 pg, PI FCM. Chile, Biobío, Concepción, University of Concepción campus, 36°49′40.5″S, 73°02′08.2″W, 17 Jan 2023, *J.I. Márquez-Corro & al. 16JMC23* (CONC, UPOS).

The CVs of sample and internal standard were 4.69% and 2.77%, respectively, using *Solanum* as standard and GPB.

2C = 0.99 ± 0.003 pg, PI FCM. Chile, Biobío, Polcura, Polcura Range, road to Frutillar, 37°16′23.0″S, 71°45′37.1″W, 20 Jan 2023, *P. Muñoz-Schüler & al. 48.PMS.ENE* (CONC, UPOS).

The CVs of sample and internal standard were 4.45% and 1.93%, respectively, using *Solanum* as standard and GPB.

2C = 0.93 ± 0.008 pg, PI FCM. Chile, Los Ríos, Corral, 39°56′59.5″S, 73°18′50.2″W, 23 Jan 2023, *J.I. Márquez-Corro & al. 24JMC23* (CONC, UPOS).

The CVs of sample and internal standard were 4.07% and 2.66%, respectively, using *Solanum* as standard and GPB.

2C = 0.92 ± 0.001 pg, PI FCM. Chile, Biobío, Polcura, road from Polcura to San Antonio, 37°16′53.4″S, 71°43′18.0″W, 20 Jan 2023, *M. Sanz-Arnal & al. 06MSA-CL23* (CONC, UPOS).

Carex diandra Schrank × *Carex secta* Boott.

The CVs of sample and internal standard were 4.20% and 3.89%, respectively, using *Solanum* as standard and GPB.

2C = 0.92 ± 0.002 pg, PI FCM. New Zealand, South Island, Canterbury Land District, Lees Valley, 43°04′39.4″S, 172°15′28.6″E, 22 Nov 2021, *J. Butt KF 994/21*, cultivated in CHR greenhouse (CHR-674612).

Carex firmicaulis Kalela

The CVs of sample and internal standard were 4.23% and 3.52%, respectively, using *Solanum* as standard and LB01.

2C = 1.05 ± 0.009 pg, PI FCM. Chile, Biobío, Antuco, Laguna del Laja National Park, Los Barros sector, 37°27′43.8″S, 71°19′07.0″W, 20 Jan 2023, *P. Muñoz-Schüler & al. 63.PMS.ENE* (CONC, UPOS).

The CVs of sample and internal standard were 4.93% and 3.34%, respectively, using *Solanum* as standard and GPB.

2C = 0.90 ± 0.017 pg, PI FCM. Chile, Ñuble, Chillán, Termas de Chillán, Aguascalientes Valley, 36°54′23.5″S, 71°22′30.5″W, 18 Jan 2023, *S. Martín-Bravo & al. 10SMB23* (CONC, UPOS).

Carex gayana Desv.

The CVs of sample and internal standard were 5.00% and 3.39%, respectively, using *Solanum* as standard and LB01.

2C = 0.82 ± 0.003 pg, PI FCM. Chile, Santiago, Farellones, Valle Nevado ski resort, Tres Puntas, 33°19′34.0″S, 70°14′30.2″W, 16 Jan 2023, *P. Jiménez-Mejías & al. 11PJM-CL23* (CONC, UPOS).

The CVs of sample and internal standard were 4.11% and 3.61%, respectively, using *Solanum* as standard and LB01.

2C = 0.80 ± 0.000 pg, PI FCM. Chile, Coquimbo, Tulahuén, Río Grande valley, before Cuesta del Toro, 30°57′24.6″S, 70°31′39.1″W, 15 Jan 2023, *P. Muñoz-Schüler & al. 41.PMS.ENE* (CONC, UPOS).

The CVs of sample and internal standard were 4.49% and 2.84%, respectively, using *Solanum* as standard and LB01.

2C = 0.90 ± 0.025 pg, PI FCM. Chile, Coquimbo, Doña Ana Range, Minera El Indio, 29°48′54.8″S, 70°01′19.6″W, 13 Jan 2023, *P. Muñoz-Schüler & al. 18.PMS.ENE* (CONC, UPOS).

The CVs of sample and internal standard were 4.61% and 2.72%, respectively, using *Solanum* as standard and GPB.

2C = 1.06 ± 0.009 pg, PI FCM. Chile, Araucanía, Malleco, Pino Hachado, 38°39′17.5″S, 70°55′14.7″W, 21 Jan 2023, *P. Jiménez-Mejías & al. 26PJM-CL23* (CONC, UPOS).

The CVs of sample and internal standard were 5.25% and 2.82%, respectively, using *Solanum* as standard and GPB.

2C = 0.96 ± 0.007 pg, PI FCM. Chile, Ñuble, Chillán, Termas de Chillán, Aguascalientes Valley, 36°54′23.5″S, 71°22′30.5″W, 18 Jan 2023, *S. Martín-Bravo & al. 13SMB23* (CONC, UPOS).

Carex stipata Muhl. ex Willd.

The CVs of sample and internal standard were 2.65% and 2.71%, respectively, using *Raphanus* as standard and Otto I-II buffer.

2C = 0.78 ± 0 pg, PI FCM. South Korea, Seonjaryeong, Daegwallyeong Maru-gil, Daegwallyeong-myeon, Pyeongchang-gun, Gangwon-do, 37°41′26.8″N, 128°45′26.7″E, 29 Jun 2022, *Y. Cho & S. Kim 2022-013* (SWU0054347).

Appressa Clade

Carex appressa R.Br.

The CVs of sample and internal standard were 5.05% and 4.73%, respectively, using *Solanum* as standard and GPB.

2C = 0.87 ± 0.004 pg, PI FCM. New Zealand, South Island, Southland Land District, east end of Colac Bay, near Riverton, 46° 21′41.6″S, 167°56′55.3″E, 28 Jan 2024, *A. Morales-Alonso & al. 16NZ-AMA24* (CHR, UPOS).

Carex secta Boott

The CVs of sample and internal standard were 4.26% and 4.61%, respectively, using *Solanum* as standard and GPB.

2C = 0.86 ± 0.008 pg, PI FCM. New Zealand, South Island, West Coast, Westland Land District, near Paroa Beach, road to Hokitika, 42°31′11.2″S, 171°09′47.6″E, 03 Feb 2024, *A. Morales-Alonso & P. Jiménez-Mejías 84NZ-AMA24* (CHR, UPOS).

The CVs of sample and internal standard were 4.50% and 3.73%, respectively, using *Solanum* as standard and GPB.

2C = 0.96 ± 0.000 pg, PI FCM. New Zealand, South Island, Canterbury Land District, Castle Hill Basin, Prebble Hill, 43°13′03.1″S, 171°44′25.2″E, 29 Feb 2024, *A. Morales-Alonso & K. Ford 172NZ-AMA24* (CHR, UPOS).

Carex tenuiculmis (Petrie) Heenan & de Lange

The CVs of sample and internal standard were 3.71% and 2.30%, respectively, using *Solanum* as standard and GPB.

2C = 0.76 ± 0.001 pg, PI FCM. New Zealand, South Island, Canterbury Land District, Lake Coleridge area, Acheron River gorge, 43°21′38.5″S, 171°37′28.7″E, 07 Mar 2020, *S. Martín-Bravo, 228SMB-NZ* (CHR, UPOS).

The CVs of sample and internal standard were 4.49% and 3.00%, respectively, using *Solanum* as standard and GPB.

2C = 0.77 ± 0.001 pg, PI FCM. New Zealand, South Island, Canterbury Land District, Ashburton Lakes, Hakatere Conservation Area, Spider Lake, 43°36′24.9″S, 171°07′10.0″E, 05 Mar 2020, *S. Martín-Bravo & K. Ford 220SMB-NZ* (CHR, UPOS).

The CVs of sample and internal standard were 4.69% and 3.59%, respectively, using *Solanum* as standard and GPB.

2C = 0.79 ± 0.001 pg, PI FCM. New Zealand, South Island, Canterbury Land District, Lake Coleridge area, Acheron River gorge, 43°21′38.5″S, 171°37′28.7″E, 07 Mar 2020, *S. Martín-Bravo & K. Ford 228SMB-NZ* (CHR, UPOS).

Disticha Clade

Carex maritima Gunnerus

The CVs of sample and internal standard were 3.94% and 3.33%, respectively, using *Solanum* as standard and GPB.

2C = 0.85 ± 0.005 pg, PI FCM. Switzerland, Canton of Valais, Zermatt, Matterhorn glacier, 45°58′26.9″N, 07°41′49.3″E, 23 Aug 2023, *R. Sánchez-Villegas & M. Luceño 47RSV23* (UPOS).

Carex melanocystis É.Desv.

The CVs of sample and internal standard were 4.57% and 3.32%, respectively, using *Solanum* as standard and LB01.

2C = 0.85 ± 0.009 pg, PI FCM. Chile, Coquimbo, Doña Ana Range, Minera El Indio, 29°48′54.8″S, 70°01′19.6″W, 13 Jan 2023, *P. Muñoz-Schüler & al. 24.PMS.ENE* (CONC, UPOS).

Echinata Clade

Carex echinata Murray

The CVs of sample and internal standard were 4.58% and 4.26%, respectively, using *Solanum* as standard and GPB.

2C = 1.01 ± 0.001 pg, PI FCM. New Zealand, South Island, West Coast, Westland Land District, Arthur's Pass Road, 42° 54′26.6″S, 171°33′33.9″E, 05 Feb 2024, *A. Morales-Alonso & P.Jiménez-Mejías 115NZ-AMA24* (CHR, UPOS).

The CVs of sample and internal standard were 5.39% and 3.68%, respectively, using *Solanum* as standard and GPB.

2C = 1.07 ± 0.008 pg, PI FCM. New Zealand, South Island, Tasman Land District, 1000 Acre Plateau, Matiri alley, 41°36′23.8″ S, 172°20′20.6″E, 07 Feb 2024, *A. Morales-Alonso & al. 129NZ-AMA24* (CHR, UPOS).

The CVs of sample and internal standard were 4.09% and 3.84%, respectively, using *Solanum* as standard and GPB.

2C = 0.88 ± 0.002 pg, PI FCM. Switzerland, Canton of Valais, Fieschertal, Märjelensee, Märjalen-Stausee trail, 46°26′23.0″N, 08° 05′49.0″E, 16 Aug 2023, *R. Sánchez-Villegas & M. Luceño 24RSV23* (UPOS).

Carex foetida All.

The CVs of sample and internal standard were 4.58% and 4.55%, respectively, using *Solanum* as standard and GPB.

2C = 0.96 ± 0.004 pg, PI FCM. Switzerland, Canton of Valais, Fieschertal, Vordersee, Märjalen-Stausee trail, 46°26′35.0″N, 008° 06′35.0″E, 16 Aug 2023, *R. Sánchez-Villegas & M. Luceño 18RSV23* (UPOS).

IAPT chromosome data 46/2

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Plant material for karyological study was obtained both from seeds germinated under laboratory conditions at the A. Takhtajan Institute of Botany NAS RA, and from seedlings cultivated in the living collection of wild ornamental plants at the Yerevan Botanical Garden.

* Rare in Armenia. Included in the Red Data Book of Armenia (2010) under the category VU.

ASPARAGACEAE

Bellevalia pycnantha (K.Koch) Losinsk.

2*n* = 16, CHN. Armenia, Selim Pass, alpine meadow, in marshy areas, 2400 m, 15 May 2014, *E.Tz. Gabrielyan s.n*. (ERE 192587).

ASTERACEAE

Centaurea cheiranthifolia Willd.

2*n* = 18, CHN. Armenia, Kotayk Province, vicinity of Fantan village, north-eastern slope of Mount Gutanasar, 2042 m, 40°54′ 41″N, 44°25′46″E, 09 Jun 2024, *A.G. Ghukasyan, Zh.H. Hovakimyan s.n*. (ERE 202738); Armenia, Shirak Province, vicinity of Ardenis village, along the Ardenis to Aghvorik road, moist meadow, 2000 m, 41°03′45″N, 43°45′45″E, 09 Jul 2025, *A.G. Ghukasyan, Zh.H. Hovakimyan s.n*. (ERE 203284).

Centaurea triumfettii All.

2*n* = 18, CHN. Armenia, Aragatsotn Province, vicinity of Yernjatap village, Mount Ara, north-east slope, 1996 m, 40°25′18″N, 44° 25′46″E, 09 Jun 2024, *A.G. Ghukasyan s.n*. (ERE 202740).

Cirsium arvense (L.) Scop.

2*n* = 34, CHN. Armenia, Gegharkunik Province, vicinity of Madina village, meadow, 2000 m, 40°04′15″N, 44°16′05″E, 10 Jun 2021, *A.G. Ghukasyan, G.M. Fayvush s.n*. (ERE 203278).

Leucanthemum vulgare Lam.

2*n* = 18, CHN. Armenia, Kotayk Province, vicinity of Fantan village, north-eastern slope of Mount Gutanasar, 2042 m, 40°54′ 41″N, 44°25′46″E, 09 Jun 2024, *A.G. Ghukasyan, Zh.H. Hovakimyan s.n*. (ERE 202741).

**Psephellus erivanensis* Lipsky

2*n* = 32, CHN. Armenia, Ararat Province, Erebuni State Reserve, 1300 m, 40°08′53.24″N, 44°35′58.42″ E, 26 Jun 2024, *A.V. Harutyunyan s.n*. (ERE 203276).

EUPHORBIACEAE

Euphorbia heteradena Jaub. & Spach

2*n* = 28, CHN. Armenia, Ararat region, near Narek village, road to Gelaysor, dry slopes, 1300 m, 04 Aug 2022, *J.A. Akopian, A.G. Ghukasyan, L.Yu. Martirosyan s.n*. (ERE 203282).

LAMIACEAE

Nepeta betonicifolia C.A.Mey.

2*n* = 18, CHN. Armenia, Aragatsotn Province, vicinity of Yernjatap village, Mount Ara, north-east slope, 1930 m, 40°25′10″N, 44° 25′49″E, 27 Jun 2023, *A.G. Ghukasyan s.n*. (ERE 203243); Armenia, Kotayk Province, vicinity of Fantan village, north-eastern slope of Mount Gutanasar, 2042 m, 40°54′41″N, 44°25′46″E, 09 Jun 2024, *A.G. Ghukasyan, Zh.H. Hovakimyan s.n*. (ERE 203244, 203245).

Salvia hydrangea DC. ex Benth.

2*n* = 14, CHN. Armenia, Ararat Province, vicinity of Vedi town, road to Mount Erakh, 1200 m, 44°42′36″N, 44°42′36″E, 11 Jun 2025, *A.G. Ghukasyan, Zh.H. Hovakimyan s.n.* (ERE 203280, 203281).

Salvia limbata C.A.Mey.

2*n* = 22, CHN. Armenia, Ararat Province, vicinity of Vedi town, road to Mount Erakh, 1200 m, 44°42′36″N, 44°42′36″E, 11 Jun 2025, *A.G. Ghukasyan, Zh.H. Hovakimyan s.n.* (ERE 203255, 203256, 203257).

Salvia verbascifolia M.Bieb.

2*n* = 22, CHN. Armenia, Lori Province, vicinity of Shirakamut village, 1820 m, 40°47′47″N, 44°23′03″E, 21 May 2025, *A.G. Ghukasyan, Zh.H. Hovakimyan, L.Yu. Martirosyan s.n*. (ERE 203270).

Salvia verticillata L.

2*n* = 16, CHN. Armenia, Lori Province, vicinity of Urasar village, foot of Mount Urasar, 1635 m, 41°01′51″N, 44°14′56″E,

03 Jul 2025, *A.G. Ghukasyan, Zh.H. Hovakimyan, L.Yu. Martirosyan s.n*. (ERE 203269).

LINACEAE

Linum nervosum Waldst. & Kit.

2*n* = 18, CHN. Armenia, Aragatsotn Province, vicinity of Yernjatap village, Mount Ara, north-east slope, 1930 m, 40°25′10″N, 44°25′49″E, 29 May 2023, *A.G. Ghukasyan s.n*. (ERE 202742, 202743).

Linum hypericifolium Salisb. ex Steud.

2*n* = 16, CHN. Armenia, Lori Province, vicinity of Urasar village, foot of Mount Urasar, 1635 m, 41°01′51″N, 44°14′56″E, 03 Jul 2025, *A.G. Ghukasyan, Zh.H. Hovakimyan, L.Yu. Martirosyan s.n*. (ERE 203254).

POACEAE

Briza elatior Sm.

2*n* = 14, CHN. Armenia, Lori Province, vicinity of Urasar village, foot of Mount Urasar, 1635 m, 41°01′51″N, 44°14′56″E, 03 Jul 2025, *A.G. Ghukasyan, Zh.H. Hovakimyan, L.Yu. Martirosyan s.n*. (ERE 203263).

PRIMULACEAE

Lysimachia vulgaris L.

2*n* = 42, CHN. Armenia, Gegharkunik Province, Dzknaget river gorge, 1990 m, 40°38′36″N, 44°54′53″E, 16 Jun 2023, *A.G. Ghukasyan, L.Yu. Martirosyan s.n*. (ERE 203253).

IAPT chromosome data 46/3: Uniform chromosome number in *Anastatica hierochuntica*: Evidence from 32 worldwide populations

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Supporting information can be found online in the supplementary Appendix.

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BRASSICACEAE

Anastatica hierochuntica L.

2*n* = 22, Algeria, Hoggar, Oued Majrouren, 23°01′45.9″N, 05°25′45.8″E, 2024, *C. Chatelain, S. Benhouhou, F. Mombrial, M. Mesbah, S. Baa, N. Benghanem s.n*. (PRA 24463), cultivation code AL11; Egypt, Giza, Giza Necropolis, 29°58′28.7″N, 31°07′10.5″E, 2025, *V. Zeisek s.n*. (PRA 23942), cultivation code EG1; Iran, Hormozgan Province, Bandar Hameyran, 26°43′10″N, 55°09′02″E, 2024, *A. Talebi s.n*. (PRA 23961), cultivation code IR1; Israel, Southern District, HaMeishar, 30°23′24″N, 34°57′00″E, 2017, *Z. Münzbergová s.n*. (PRA 24464), cultivation code IS1; Israel, Southern District, Arod stream, 30°20′34.9″N, 34°55′44.6″E, 2024, *N. Krintza s.n*. (PRA 23933), cultivation code IS3; Israel, Southern District, Shacharut, 29°55′27.3″N, 34°59′27.8″E, 2024, *N. Krintza s.n*. (PRA 23934), cultivation code IS4; Israel, Southern District, Kasuy, 29°59′7.7″N, 34°58′47.8″E, 2024, *N. Krintza s.n*. (PRA 23932), cultivation code IS5; Israel, Southern District, Lotan, 30°02′06.0″N, 35°05′47.6″E, 2024, *N. Krintza s.n*. (PRA 23935), cultivation code IS9; Israel, Southern District, Paran, 30°23′12.5″N, 35°09′31.9″E, 2024, *N. Krintza s.n*. (PRA 23936), cultivation code IS12; Israel, Southern District, Timna, 29°46′41.3″N, 35°00′03.4″E, 2024, *N. Krintza s.n*. (PRA 23937), cultivation code IS19; Israel, Southern District, Ramon, 30°36′23.8″N, 34°51′27.6″E, 2023, *N. Krintza s.n*. (PRA 23938), cultivation code IS20; Israel, Southern District, Tamar stream, 30°59′19.1″N, 35°19′47.1″E, 2023, *N. Krintza s.n*. (PRA 23939), cultivation code IS21; Morocco, Souss-Massa Region, El Borj, 28°39′57.7″N, 09°52′07.1″W, 2024, *V. Zeisek, M. Mairal s.n*. (PRA 23951), cultivation code MO5; Morocco, Drâa-Tafilalet Region, Ouarzazate, 30°55′57.5″N, 06°51′30.7″W, 2024, *Z. Münzbergová, V. Zeisek, M. Mairal s.n*. (PRA 23943), cultivation code MO6; Morocco, Drâa-Tafilalet Region, Tafdroust, 30°28′22.8″N, 05°56′01.7″W, 2024, *Z. Münzbergová, V. Zeisek, M. Mairal s.n*. (PRA 23944), cultivation code MO8; Morocco, Drâa-Tafilalet Region, Rhessouane, 29°53′59.6″N, 05°37′07.6″W, 2024, *Z. Münzbergová, V. Zeisek, M. Mairal s.n*. (PRA 23945), cultivation code MO13; Morocco, Drâa-Tafilalet Region, Ksar Nquiba, 30°02′47.3″N, 06°36′25.6″W, 2024, *Z. Münzbergová, V. Zeisek, M. Mairal s.n*. (PRA 23946), cultivation code MO16; Morocco, Souss-Massa Region, Aït-Ouabelli, 29°14′21.4″N, 08°34′16.4″W, 2024, *Z. Münzbergová, V. Zeisek, M. Mairal s.n*. (PRA 23952), cultivation code MO17; Morocco, Souss-Massa Region, Ait Illoul, 29°05′30.0″N, 09°16′01.3″W, 2024, *Z. Münzbergová, V. Zeisek, M. Mairal s.n*. (PRA 23953), cultivation code MO20; Morocco, Souss-Massa Region, Agouliz, 29°41′52.9″N, 08°07′52.6″W, 2024, *Z. Münzbergová, V. Zeisek, M. Mairal s.n*. (PRA 23954), cultivation code MO22; Morocco, Drâa-Tafilalet Region, Ghallil Ait Isfoul, 31°27′14.1″N, 05°21′01.5″W, 2024, *Z. Münzbergová, V. Zeisek s.n*. (PRA 23947), cultivation code MO24; Morocco, Drâa-Tafilalet Region, Ksar Touroug, 31°32′51.5″N, 04°41′00.6″W, 2024, *Z. Münzbergová, V. Zeisek s.n*. (PRA 23948), cultivation code MO26; Morocco, Drâa-Tafilalet Region, Ait yahya, 30°54′35.9″N, 05°20′44.5″W, 2024, *Z. Münzbergová, V. Zeisek s.n*. (PRA 23949), cultivation code MO30; Morocco, Drâa-Tafilalet Region, Tazzarine, 30°45′26.2″N, 05°33′16.9″W, 2024, *Z. Münzbergová, V. Zeisek s.n*. (PRA 23950), cultivation code MO32; Oman, Muscat Governorate, Falaj Ash-Sham, 23°29′22.9″N, 58°20′41.0″E, 2025, *Z. Münzbergová s.n*. (PRA 23955), cultivation code OM4; Oman, Ad Dakhiliyah Governorate, An Nahdah, 23°04′17.8″N, 57°16′44.4″E, 2025, *Z. Münzbergová s.n*. (PRA 23956), cultivation code OM6; Palestinian Territories, West Bank, Mitzpe Shalem, 31°34′14.4″N, 35°24′44.3″E, 2024, *N. Krintza s.n*. (PRA 23940), cultivation code IS17; Saudi Arabia, Al Madinah Province, Al-Wajh-Prince MBS Royal Reservé, 26°22′24.8″N, 36°23′04.5″E, 2024, *A. Ortega s.n*. (PRA 23959), cultivation code SA7; Saudi Arabia, Riyadh Province, Riyadh Airport, 25°01′02.2″N, 46°32′27.9″E, 2024,

A. Ortega s.n. (PRA 23960), cultivation code SA8; Spain, Canary Islands, Fuerteventura, Las Playitas, 28°13′42.8″N, 14°00′04.3″W, 2024, *S. Scholz s.n*. (PRA 23941), cultivation code SP1; United Arab Emirates, Sharjah, Nazwa, 24°59′29.3″N, 55°39′43.4″E, 2025, *Z. Münzbergová s.n*. (PRA 23958), cultivation code AE7; United Arab Emirates, Dubai, Hatta, 24°48′50.0″N, 56°08′58.7″E, 2025, *Z. Münzbergová s.n*. (PRA 23957), cultivation code AE9. [suppl. Fig. S1A–AF]

IAPT chromosome data 46/4

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Supporting information can be found online in the supplementary Appendix.

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*First report of a new cytotype for the species.
#First chromosome count for the species at world level.

AMARYLLIDACEAE

**Proiphys amboinensis* (L.) Herb.
n = 30, CHN. India, Jammu and Kashmir, Sopore, 34°19′41.258″N, 74°28′34.026″E, 1583 m, 15 Jun 2018, *P. Rani s.n*. (PUN 63570) [suppl. Fig. S2A].

ARACEAE

**Ariopsis peltata* Nimmo
n = 20, CHN. India, Uttarakhand, Mussoorie, 30°28′52.356″N, 78°02′59.064″E, 2015 m, 02 Jun 2018, *P. Rani s.n*. (PUN 63567) [suppl. Fig. S2B].

**Aglaonema modestum* Schott ex Engl.
n = 60, CHN. India, Punjab, Patiala, 30°21′36.072″N, 76°27′06.372″E, 256 m, 14 Jul 2021, *P. Rani s.n*. (PUN 63535) [suppl. Fig. S2].

ASPHODELACEAE

**Dianella tasmanica* Hook.f.
n = 24, CHN. India, Punjab, Patiala, 30°21′36.072″N, 76°27′06.372″E, 256 m, 11 Apr 2018, *P. Rani s.n*. (PUN 63534) [suppl. Fig. S2D].

JUNCACEAE

**Juncus concinnus* D.Don
n ~ 50, CHN. India, Himachal Pradesh, Rohtang, 32°22′15.612″N, 77°14′46.569″E, 3722 m, 02 Sep, 2021, *P. Rani s.n*. (PUN 63539) [suppl. Fig. S2E].

LILIACEAE

**Gagea reticulata* (Pall.) Schult. & Schult.f.
n ~ 24, CHN. India, Himachal Pradesh, Kangra, 32°06′34.2″N, 76°32′08.88″E, 491 m, 21 Sep 2018, *P. Rani s.n*. (PUN 63578) [suppl. Fig. S2F].

MALVACEAE

#*Sida keralensis* E.S.S.Kumar, Shailaj., A.K.Sreekala, B.Parthipan & Prakashk.
n = 14, CHN. India, Punjab, Anandpur Sahib, 31°13′58.166″N, 76°28′48.570″E, 311 m, 02 Sep 2017, *S. Kaur s.n*. (PUN 63625); India, Punjab, Anandpur Sahib, 31°13′58.166″N, 76°29′49.571″E, 311 m, 02 Sep 2017, *S. Kaur s.n*. (PUN 63626); India, Punjab, Anandpur Sahib, 31°13′57.641″N, 76°29′50.456″E, 311 m, 02 Sep 2017, *S. Kaur s.n*. (PUN 63627) [suppl. Fig. S2G].

IAPT chromosome data 46/5

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Supporting information can be found online in the supplementary Appendix.

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POACEAE

Subfamily Panicoideae, Tribe Paspaleae

Paspalum almum Chase
2*n* = 12, CHN. Argentina, Province of Chaco, Primero de Mayo, Colonia Benítez, 27.34294°S, 58.93506°W, 09 Nov 2022, *A.I. Honfi 2697* (MNES); Argentina, Province of Corrientes, Capital, Campus of Agronomy Faculty, Universidad Nacional del Nordeste, 27.45880°S, 58.82263°W, 23 Oct 2009, *A.I. Honfi 1446* (MNES); Argentina, Province of Corrientes, Capital, near Perichón, 27.43516°S, 58.74857°W, 08 Apr 2010, *A.I. Honfi 1457 #1,2,3,4,5* (MNES); Province of Corrientes, San Cosme, on National Route n° 12, 27.40335°S, 58.63702°W, 15 Apr 2019, *A.I. Honfi 2274* (MNES) [suppl. Fig. S3A]; Argentina, Province of Corrientes, Capital, Perichón, 27.44297°S, 58.74950°W, 24 Mar 2019, *A.I. Honfi 2491* (MNES); Argentina, Province of Corrientes, Itatí, on National Route n° 12, Bailey bridge, 27.32383°S, 57.97491°W, 14 Apr 2019, *A.I. Honfi 2492* (MNES); Argentina, Province of Corrientes, Itatí, km 1091 on National Route n° 12, 27.34367°S, 58.22264°W, 15 Apr 2019, *A.I. Honfi 2503* (MNES); Argentina, Province of Corrientes, Paso de los Libres, on Provincial Route n° 123, Miriñay stream bank, 29.56140°S, 57.51084°W, 24 May 2022, *A.I. Honfi 2687* (MNES); Argentina, Province of Corrientes, Mercedes, 29.18458°S, 58.07357°W, 24 May 2022, *A.I. Honfi 2688* (MNES); Argentina, Province of Corrientes, Mercedes, 29.28560°S, 57.93509°W, 24 May 2022, *A.I. Honfi 2689* (MNES); Argentina, Province of Corrientes, 9.6 km before San Miguel, on Provincial Route n° 118, 28.02942°S, 57.66941°W, 29 Nov 2022, *A.I. Honfi 2715* (MNES); Argentina, Province of Corrientes, Gral. Paz, 8.2 km before Lomas de Vallejos, on Provincial Route n° 5, 27.76001°S, 57.86929°W, 29 Nov 2022, *A.I. Honfi 2717* (MNES); Argentina, Province of Corrientes, Capital, 12 km from Corrientes, on National Route n° 12, 27.42916°S, 58.72472°W, 25 Sep 2023, *A.I. Honfi 2726* (MNES). Argentina, Province of Misiones, Capital, Villa Lanús, Zaimán river wetlands, 27.43194°S, 55.90822°W,

14 Mar 2022, *A.I. Honfi 2275* (MNES); Argentina, Province of Misiones, Apóstoles, Puerto Azara, 28.09897°S, 55.65008°W, 22 Mar 2019, *A.I. Honfi 2478* (MNES).

2*n* = 24, CHN. Argentina, Province of Chaco, San Fernando, Basail, on National Route nº 11, 27.89112°S, 59.27646°W, 09 Nov 2022, *A.I. Honfi 2694* (MNES); Argentina, Chaco, Libertad, Colonia Benítez access, 27.31364°S, 58.99474°W, 09 Nov 2022, *A.I. Honfi 2696* (MNES); Argentina, Province of Chaco, heading to Gral. San Martín, on Provincial Route nº 90, 26.76022°S, 59.17494°W, 09 Nov 2022, *A.I. Honfi 2698* (MNES); Argentina, Province of Chaco, 6.6 km before Gral. San Martín, on Provincial Route nº 90, 26.58338°S, 59.31561°W, 09 Nov 2022, *A.I. Honfi 2699* (MNES); Argentina, Province of Chaco, Bermejo, heading to Antequera, 27.42837°S 58.86904°W, 09 Nov 2022, *A.I. Honfi 2702* (MNES); Argentina, Province of Chaco, Presidencia de la Plaza, km 124 on National Route nº 16, 26.97989°S, 59.92897°W, 24 Sep 2023, *A.I. Honfi 2723* (MNES); Argentina, Province of Corrientes, San Cosme, on National Route nº 12, 27.40335°S, 58.63702°W, 15 Apr 2019, *A.I. Honfi 2274* (MNES); Argentina, Province of Corrientes, Paso de Los Libres, 29.70081°S, 57.08564° W, 08 Apr 2010, *A.I. Honfi 1461* (MNES); Argentina, Province of Corrientes, Monte Caseros, campo San Antonio, 16 km from Curuzú Cuatiá, 29.90986°S, 57.96539°W, 23 Mar 2019, *A.I. Honfi 2487* (MNES); Argentina, Province of Corrientes, Curuzú Cuatiá, on Provincial Route nº 127, 20 km from "La Hierra", 30.25202°S, 58.21733°W, 23 Mar 2019, *A.I. Honfi 2489* (MNES); Argentina, Province of Corrientes, Itatí, on National Route nº 12, Bailey bridge, 27.32383°S, 57.97491°W, 14 Apr 2019, *A.I. Honfi 2492* (MNES); Argentina, Province of Corrientes, Itatí, km 1091 on National Route nº 12, 27.34367°S, 58.22264°W, 15 Apr 2019, *A.I. Honfi 2503* (MNES); Argentina, Province of Corrientes, Berón de Astrada, Cruz del Peregrino, 27.43131°S, 57.61608°W, 15 Apr 2019, *A.I. Honfi 2506* (MNES); Argentina, Province of Corrientes, Gral. Paz, km 1192 on National Route nº 12, 27.48900°S, 57.27906°W, 15 Apr 2019, *A.I. Honfi 2507* (MNES); Argentina, Province of Corrientes, Ituzaingó, on National Route nº 12, Colonia Pellegrini access, 27.61855°S, 56.39658°W, 15 Apr 2019, *A.I. Honfi 2509* (MNES); Argentina, Province of Corrientes, Santo Tomé, on National Route nº 120, 27.94133°S, 56.02969°W, 16 Apr 2022, *A.I. Honfi 2680* (MNES); Argentina, Province of Corrientes, Santo Tomé, km 754 on National Route nº 14, 27.98839°S, 56.02082°W, 16 Apr 2022, *A.I. Honfi 2681* (MNES); Argentina, Province of Corrientes, Santo Tomé, Virasoro, 28.06317°S, 56.01499°W, 16 Apr 2022, *A.I. Honfi 2682* (MNES); Argentina, Province of Corrientes, Paso de los Libres, on Provincial Route nº 123, Miriñay stream bank, 29.56140°S, 57.51084°W, 24 May 2022, *A.I. Honfi 2687* (MNES); Argentina, Province of Corrientes, 7.8 km from Empedrado, on National Route nº 12, 28.02279°S, 58.80531°W, 29 Nov 2022, *A.I. Honfi 2703* (MNES); Argentina, Province of Corrientes, Saladas, 4.4 km from San Lorenzo, on National Route nº 12, 28.16828°S, 58.74411°W, 29 Nov 2022, *A.I. Honfi 2706* (MNES); Argentina, Province of Corrientes, 9.6 km before San Miguel, on Provincial Route nº 118, 28.02942°S, 57.66941°W, 29 Nov 2022, *A.I. Honfi 2715* (MNES); Argentina, Province of Corrientes, Gral. Paz, 8.2 km before Lomas de Vallejos, on Provincial Route nº 5, 27.76001°S, 57.86929°W, 29 Nov 2022, *A.I. Honfi 2717* (MNES); Argentina, Province of Corrientes, Capital, 12 km from Corrientes, on National Route nº 12, 27.42916°S, 58.72472°W, 25 Sep 2023, *A.I. Honfi 2726* (MNES); Argentina, Province of Misiones, Capital, Villa Lanús, Zaimán River wetlands, 27.43194°S, 55.90822°W, 19 Mar 2008, *A.I. Honfi 1351 #1,2,3* (MNES); Argentina, Province of Misiones, Capital, Villa Lanús, Zaimán River wetlands, 27.43194°S, 55.90822°W, 09 Apr 2009, *A.I. Honfi 1443* (MNES); Argentina, Province of Misiones, Capital, Villa Lanús, Zaimán River wetlands, 27.43194°S, 55.90822°W, 13 Mar 2008, *A.I. Honfi 1352* (MNES); Argentina, Province of Misiones, Iguazú, National Route nº 12, km 1594, near Wanda City, 26 Aug 2010, 25.95947°S, 54.57828°W, *A.I. Honfi 1471* (MNES); Argentina, Province of Misiones, Apóstoles, Azara City, 28.06608°S, 55.68694°W, *A.I. Honfi 2095* (MNES); Argentina, Province of Misiones, Capital, Botanic Garden "A. Roth", 27.41388°S, 55.89833°W, 07 Nov 2018, *C.A. Sartor 02* (MNES); Argentina, Province of Misiones, Capital, Garupá, 27.41388°S, 55.89833°W, 12 Aug 2017, *A.I. Honfi 2259* (MNES); Argentina, Province of Misiones, Capital, Villa Lanús, Zaimán River wetlands, 27.43194°S, 55.90822°W, 14 Mar 2022, *A.I. Honfi 2275* (MNES); Argentina, Province of Misiones, Capital, km 29 on National Route nº 105, 27.69739°S, 55.80311°W, 20 Mar 2019, *A.I. Honfi 2472* (MNES); Argentina, Province of Misiones, Apóstoles, Puerto Azara, 28.09897°S, 55.65008°W, 22 Mar 2019, *A.I. Honfi 2478* (MNES); Argentina, Province of Misiones, El Dorado, 5 Km from Pozo Azul, on Provincial Route nº 17, 26.35101°S, 54.19030°W, 03 Apr 2021, *A.I. Honfi 2548* (MNES); Argentina, Province of Misiones, Apóstoles, 27.79211°S, 55.77160°W, 15 Jan 2022, *A.I. Honfi 2648* (MNES); Argentina, Province of Misiones, Cainguás, 2 de Mayo, 27.04436° S, 54.68464°W, 09 Mar 2022, *A.I. Honfi 2660* (MNES); Argentina, Province of Misiones, Guaraní, on National Route nº 14, INTA San Vicente access, 26.91803°S, 54.42761°W, 09 Mar 2022, *A.I. Honfi 2661* (MNES); Argentina, Province of Misiones, San Pedro, on National Route nº 14, 24 km from San Pedro, 26.73941°S, 54.25580°W, 09 Mar 2022, *A.I. Honfi 2662* (MNES); Argentina, Province of Misiones, Candelaria, Profundidad, 27.47162°S, 55.74550°W, 14 Mar 2022, *A.I. Honfi 2677* (MNES); Argentina, Province of Santa Fe, Vera, 18 km from Tartagal, 28.76000°S, 59.81944°W, 15 Oct 2018, *C.A. Sartor 01* (MNES) [suppl. Fig. S3B]; Argentina, Province of Santa Fe, Gral. Obligado, 3.6 km from Reconquista's port, on National Route A009, 29.21517°S, 59.61011°W, 26 May 2018, *C.A. Sartor 03* (MNES); Argentina, Province of Santa Fe, Vera, 20 km from Tartagal, 28.78528°S, 59.79853°W, 27 May 2018, *C.A. Sartor 04* (MNES); Argentina, Province of Santa Fe, Gral. Obligado, Paraje Hardy, 28.14644°S, 59.26263°W, 09 Nov 2022, *A.I. Honfi 2695* (MNES); Paraguay, Dept. Cordillera, 3.5 km from Tobatí to Arroyos, 25.23728°S, 57.09248°W, 03 Apr 2021, *A.I. Honfi 2535* (MNES); Paraguay, Dept. Central, Villeta, Paraguay River bank, 25.51065°S 57.54968°W, 12 Aug 2024, *A.I. Honfi 2855* (MNES); Paraguay, Dept. Misiones, 5 km before San Miguel, on National Route nº 1, 26.49682°S, 57.06253°W, 12 Aug 2024, *A.I. Honfi 2858* (MNES).

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Supporting information can be found online in the supplementary Appendix.

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* First chromosome count for the species.

FABACEAE

Chamaecrista calycioides (DC. ex Collad.) Greene

2*n* = 16, CHN. Brazil, Maranhão, Caxias, 04°59′01″S, 43°03′44″W, 22 May 2023, *L.P. Felix 19830* (EAN 30891) [suppl. Fig. S4A].

Chamaecrista diphylla (L.) Greene

*2*n* = 28, CHN. Brazil, Rio Grande do Norte, Nisia Floresta, 05°29′28″S, 35°50′01″W, 20 Jun 2024, *L.P. Felix* 20199 (EAN 31355) [suppl. Fig. S4B].

Chamaecrista flexuosa (L.) Greene

2*n* = 16, CHN. Brazil, Piauí, Teresina, 05°03′33″S, 42°53′33″W, 22 May 2023, *L.P. Felix 19829* (EAN 30890) [suppl. Fig. S4C].

Chamaecrista nictitans (L.) Moench

2*n* = 32, CHN. Brazil, Paraíba, Areia, 06°58′12″S, 35°42′57″W, 28 Apr 2023, *K.M. Silva 13* (EAN 30026) [suppl. Fig. S4D].

Chamaecrista pilosa var. *luxurians* (Benth.) H.S.Irwin & Barneby

*2*n* = 14, CHN. Brazil, Ceará, Pedra Branca, 05°26′27″S, 42°11′11″W, 28 May 2023, *L.P. Felix 19966* (EAN 31018) [suppl. Fig. S4E].

Chamaecrista rotundifolia (Pers.) Greene

2*n* = 16, CHN. Brazil, Piauí, Cocal de Telha, 04°33′44″S, 41°58′35″W, 25 May 2023, *L.P. Felix 19902* (EAN 30023) [suppl. Fig. S4F].

Chamaecrista tenuisepala (Benth.) H.S.Irwin & Barneby

*2*n* = 16, CHN. Brazil, Piauí, Campo Maior, 04°54′36″S, 42°11′11″W, 24 May 2023, *L.P. Felix 19872* (EAN 31010) [suppl. Fig. S4G].