

Gregor: Apomicts in the Vegetation of Central Europe

Appendix S2. Taxa with (1) only low amount of apomictic seed production or prove of apomixis unsecured, (2) non-functional apomixis, (3) evidence for apomixis outside Central or Northern Europe, (4) nonspecific or wrong record of apomixis, or (5) apomictic taxa, which only occur as casuals in Central Europe.

Anhang S2. Taxa mit (1) nur einem geringen Ausmaß apomiktischer Samenproduktion oder Apomixis unsicher, (2) nicht-funktionaler Apomixis, (3) Hinweise auf Apomixis außerhalb Mittel- oder Nordeuropas, (4) nichtspezifische oder falsche Angabe von Apomixis oder (5) apomiktische Taxa, die nur als Unbeständige in Mitteleuropa auftreten.

Taxon	References
(1, 3) <i>Achillea</i>	TERZIISKI et al. (1995) observed the development of aposporic and sexual embryo sacs in <i>A. pannonica</i> . Furthermore, they observed nucellar embryony in <i>A. collina</i> , <i>A. millefolium</i> , and <i>A. pannonica</i> . They deduced that the studied <i>Achillea</i> populations consist of sexual and facultative apomictic individuals.
(1, 3) <i>Adenophora liliifolia</i>	SUKATSCHEW (1940) found in crossings of <i>A. liliifolia</i> with <i>A. verticillata</i> Fisch. or <i>A. potani</i> Korsh. only matromorphous progeny. Crossings between <i>A. liliifolia</i> and other <i>Adenophora</i> species and between different "climate types" of <i>A. liliifolia</i> produced heteromorphous offspring.
(2) <i>Adoxa moschatellina</i>	CZAPIK (1976) using cytoembryological methods found in material from Poland sporadic occurrence of unreduced embryo sacs.
(4) <i>Agrostis stolonifera</i>	ELLSTRAND & ROOSE (1987) stated as mode of clonal reproduction "vegetative spread" and "apogamety or agamospermy" citing "WU et al., 1975". WU et al. (1975) gave no indication of apomixis.
(2) <i>Allium oleraceum</i>	ÅSTRÖM & HÆGGSTRÖM (2004) found pentaploids to produce viable pollen and seeds. They consider apomixis to be possible.
(1,3) <i>Allium rotundum</i>	GVALADZE (1976) found some seed formation in emasculated and isolated inflorescences, "which means that <i>A. rotundum</i> is an autonomous apomictic plant".
(4) <i>Allium schoenoprasum</i>	Listed by CHOCHLOV et al. (1978) as diplosporous.
(3) <i>Allium senescens</i>	KIM et al. (1999) reported unreduced embryo sacs and "parthenogenetic embryogenesis" for hexaploid Korean plants.
(4) <i>Alnus incana</i>	Listed by NAUMOVA (1993) as exhibiting adventitious embryony.
(3) <i>Amelanchier</i>	CAMPBELL et al. (1987) found pseudogamous apospory in tetraploid <i>Amelanchier canadensis</i> (L.) Medik. from Maine. This mode of reproduction seems feasible for the tetraploid European taxa <i>Amelanchier spicata</i> and <i>A. lamarkii</i> , which derive from introduction from North America.
(2) <i>Antennaria dioica</i>	HABERLANDT (1923) described, as a rare event, cells of the chalaza region with unusual size, which reminded him of aposporous initials.
(2) <i>Aphanes arvensis</i>	BÖÖS (1924) found indications for apomixis in cytoembryological studies. HJELMQVIST (1959) performed cytoembryological studies with plants from southern Sweden: In 4 out of 36 cases the reduced embryo sac would have probably developed further. IZMAILOV (1999) found tendencies to apomictic processes in cytoembryological studies with material from southern Poland. KLOTZ et al. (2002) listed <i>A. arvensis</i> as an apomict with unknown type of apomixis citing "personal observation in 2002".
(1, 3) <i>Apium graveolens</i>	PLITMANN (2002) found in plants from Israel very few fruits with styles without pollen tubes.
(4) <i>Arabis hirsuta</i>	ROY (1995) found for plants from Colorado/USA fixed heterozygosity typical for autonomous polyploids or pseudogamous apomicts. KLOTZ et al. (2002) interpreted this results as a proof of pseudogamous apomixis.
(2, 4) <i>Aster novae-angliae</i>	DAVIS (1967) deduced apospory from text-figures of CHAMBERLAIN (1895), PALM (1914), and CARANO (1921). PALM (1914) stated no evidence for apomixis. CZAPIK & KOŚCIŃSKA-PAJAŁ (2000) found non-functional gametophytic apomixis.
(4) <i>Bellis perennis</i>	DAVIS (1967) deduced apospory from text-figures of CARANO (1921).
(1, 3) <i>Betula nana</i>	BOGDANOV & STUKOV (1976) reported experiments with isolated female branches in Leningrad. Very few normal fruits developed. For these they presumed apomictic development.
(1, 3) <i>Betula pendula</i>	BOGDANOV & STUKOV (1976) reported experiments with isolated female branches in Leningrad and Saratov. Very few normal fruits developed. For these they presumed apomictic development.
(1, 3) <i>Betula pubescens</i>	BOGDANOV & STUKOV (1976) reported experiments with isolated female branches in Leningrad. Very few normal fruits developed. For these they presumed apomictic development.
(5) <i>Beta trigyna</i>	JASSEM (1990) and JASSEM & JASSEM (1970) reported autonomous apospory and diplospory.
(4) <i>Beta vulgaris</i>	JASSEM (1990) reviewed various reports of apomixis, none seemed reliable.

Taxon	References
(3) <i>Bidens connata</i>	CROWE & PARKER (1981) found no meiosis during microsporogenesis but high pollen and seed fertility in Ontario (Canada).
(3) <i>Bidens frondosa</i>	CROWE & PARKER (1981) found no meiosis during microsporogenesis but high pollen and seed fertility in Ontario (Canada).
(4) <i>Bidens tripartita</i>	DAVIS (1967) deduced apospory from text-figures of DAHLGREN (1920).
(4) <i>Bromus inermis</i>	Listed by NAUMOVA (1993) as exhibiting adventitious embryony.
(3) <i>Bryonia alba</i>	ENGLE (1988) found 26% of the bagged female floral buds in four populations in Washington to produce fruits with seeds.
(1) <i>Bryonia dioica</i>	FOCKE (1890) reported an isolated female plant, which produced fruits. Plants reared from these fruits were female and produced ample female progeny in isolation from male plants. BITTER (1906) claimed to have found male plants derived from parthenogenesis.
(3) <i>Calamagrostis stricta</i>	GREENE (1984) found only diplospory in the polyploid ($2n = 104-123$), North-American <i>Calamagrostis stricta</i> subsp. <i>inexpansa</i> (A Gray) C. W. Greene. NYGREN (1946) found only sexuality in plants from Scandinavia with $2n = 28$.
(4) <i>Calendula officinalis</i>	Listed by PULLAIAH (1984) as aposporous.
(5) <i>Carthamus tinctorius</i>	MAHESWARI DEVI & PULLAIAH (1977) reported apospory.
(2) <i>Centaurea cyanus</i>	BERGMAN (1935) reported non-functional gametophytic apomixis.
(2, 4) <i>Centaurea scabiosa</i>	BERGMAN (1935) reported non-functional gametophytic apomixis. DAVIS (1967) deduced apospory from text-figures of CZAPIK (1954), who reported <i>C. scabiosa</i> as a sexual species.
(2) <i>Centaurea stoebe</i>	CZAPIK & KOŚCIŃSKA-PAJAŁ (2000) found non-functional gametophytic apomixis.
(1) <i>Cichorium intybus</i>	PLUMIER (1960) reported strictly matromorphous progeny of 16 strains of <i>Cichorium intybus</i> var. <i>foliosum</i> (as chicorée-witloof).
(2) <i>Cirsium arvense</i>	ŻABIŃSKA (1977) found non-functional gametophytic apomixis.
(2) <i>Cirsium oleraceum</i>	CZAPIK & KOŚCIŃSKA-PAJAŁ (2000) found non-functional gametophytic apomixis.
(2) <i>Cirsium palustre</i>	CZAPIK & KOŚCIŃSKA-PAJAŁ (2000) found non-functional gametophytic apomixis.
(4) <i>Colchicum autumnale</i>	Listed by NAUMOVA (1993) as exhibiting adventitious embryony.
(1, 3) <i>Conium maculatum</i>	PLITMANN (2002) found in plants from Israel very few fruits with styles without pollen tubes.
(1, 3) <i>Cuscuta campestris</i>	PLITMANN (2002) found seeds in 14% of flowers with cut stigmas. Furthermore, some flowers developed at least two fruits and had only pistils with mostly 1 pollen tube.
(1, 3) <i>Cuscuta europaea</i> .	PLITMANN (1991) found 9% of stigmas of fruiting flowers without pollen tubes.
(1, 3) <i>Cuscuta epithymum</i>	PLITMANN (1991) found 4% of stigmas of fruiting flowers without pollen tubes.
(4) <i>Dactylorhiza incarnata</i>	CHOCHLOV et al. (1978) reported erroneously adventitious embryony citing HAGERUP (1944, 1947), and DAVIS (1966). HAGERUP (1944, 1947) reported haploid parthenogenesis. DAVIS (1966) stated, "Adventive embryony is common in <i>Cephalanthera</i> , <i>Epipactis</i> , <i>Listera</i> , <i>Nigritella</i> , <i>Orchis</i> , and <i>Zeuxine</i> ..." without specifying which of her 128 citations for Orchidaceae contains this information.
(4) <i>Dactylorhiza maculata</i>	CHOCHLOV et al. (1978) reported erroneously adventitious embryony citing HAGERUP (1944, 1947) and DAVIS (1966). HAGERUP (1944, 1947) reported haploid parthenogenesis. DAVIS (1966) stated, "Adventive embryony is common in <i>Cephalanthera</i> , <i>Epipactis</i> , <i>Listera</i> , <i>Nigritella</i> , <i>Orchis</i> , and <i>Zeuxine</i> ..." without specifying which of her 128 citations for Orchidaceae refers to this information.
(1, 3) <i>Daucus carota</i>	PLITMANN (2002) found in plants from Israel and the USA varying numbers of fruits with styles without pollen tubes.
(4) <i>Deschampsia littoralis</i>	CONERT (1987) reported apomictic plants with $2n = 39$ or 49. The source for this statement, repeated by KLOTZ et al. (2002), remained unknown.
(4) <i>Epipactis helleborine</i>	CHOCHLOV et al. (1978) ascribed erroneously adventitious embryony to <i>Epipactis latifolia</i> citing HAGERUP (1945) and DAVIS (1966). HAGERUP (1945) reported haploid parthenogenesis. DAVIS (1966) stated, "Adventive embryony is common in <i>Cephalanthera</i> , <i>Epipactis</i> , <i>Listera</i> , <i>Nigritella</i> , <i>Orchis</i> , and <i>Zeuxine</i> ..." without specifying which of her 128 citations for Orchidaceae refers to this information.
(4) <i>Eragrostis albensis</i>	According to KLOTZ et al. (2002) a pseudogamous facultative apomict citing CONNOR (1979), who stated apospory and pseudogamy for <i>Eragrostis</i> .
(4) <i>Eragrostis cilianensis</i>	According to KLOTZ et al. (2002) a pseudogamous facultative apomict citing CONNOR (1979), who stated apospory and pseudogamy for <i>Eragrostis</i> .

Taxon	References
(5) <i>Eragrostis curvula</i> (Schrad.) Nees	BROWN & EMERY (1958) found in one accession embryo sacs of the 4-nucleate type, which is in Panicoideae a typical feature of apomictic taxa. STREETMAN (1963) found pseudogamous apomixis in cytoembryological studies, while “evidence strongly suggests diplospory”.
(4) <i>Eragrostis minor</i>	According to KLOTZ et al. (2002) a pseudogamous facultative apomict citing CONNOR (1979), who stated apospory and pseudogamy for <i>Eragrostis</i> .
(4) <i>Eragrostis multicaulis</i>	According to KLOTZ et al. (2002) a pseudogamous facultative apomict citing CONNOR (1979), who stated apospory and pseudogamy for <i>Eragrostis</i> .
(4) <i>Eragrostis pilosa</i>	According to KLOTZ et al. (2002) a pseudogamous facultative apomict citing CONNOR (1979), who stated apospory and pseudogamy for <i>Eragrostis</i> .
(4) <i>Eragrostis tef</i>	According to KLOTZ et al. (2002) a pseudogamous facultative apomict citing CONNOR (1979), who stated apospory and pseudogamy for <i>Eragrostis</i> .
(4) <i>Erigeron canadensis</i>	CHOCHLOV (1967) mentioned it among those apomictic species, which have been able to increase their range significantly by migrating to other continents. CHOCHLOV et al. (1978) do not list it as an apomict.
(1, 3) <i>Euonymus europaea</i>	According to NAUMOVA (1970) adventitious embryony occurs if the fertilization of the egg cell fails.
(4) <i>Euphorbia platyphyllos</i>	Listed by NAUMOVA (1993) as exhibiting adventitious embryony.
(1) <i>Euonymus latifolia</i>	STRASBURGER (1878) and ANDERSSON (1931) found adventitious embryony in cytoembryological studies. According to Strasburger the fertilized egg cell matures rarely into an embryo.
(3) <i>Euphorbia esula</i>	SELBO & CARMICHAEL (1999), using plants from North Dakota/USA, found fruit set only in pollinated flowers. As they never found any trace of pollen tubes in the ovule they suggest <i>E. esula</i> to be a pseudogamous apomict.
(1) <i>Festuca pratensis</i>	Mature embryos could be induced by auxin treatment in one strain; it failed in 4 strains (MATZK 1991).
(4) <i>Festuca rubra</i>	ELLSTRAND & ROOSE (1987) stated as mode of clonal reproduction “vegetative spread” and “apogamy or agamospermy” citing “Harberd, 1961”. HARBERD (1961) gave no indication of apomixis in <i>F. rubra</i> .
(3) <i>Festuca rupicola</i>	SHISHKINSKAYA (1983) reported plants from the Russian Caucasus with 38% pollen defectiveness and anomalies in the embryo sac and concluded “that the examined <i>Festuca [rupicola]</i> populations are apomictical”.
(3) <i>Festuca valesiaca</i>	SHISHKINSKAYA (1983) reported plants from the Saratov region/Russia with 21% pollen defectiveness and anomalies in the embryo sac and “concluded that the examined <i>Festuca [valesiaca]</i> populations are apomictical”.
(1) <i>Ficaria verna</i>	According to METCALFE (1954) castrated flowers produced seemingly normal embryos.
(2) <i>Foeniculum vulgare</i>	HÅKANSSON (1923) found non-functional gametophytic apomixis.
(3) <i>Gentiana lutea</i>	RUDENKO (1961) reported adventitious embryony for plants from the Ukrainian Carpathians.
(3) <i>Gentiana lutescens</i>	RUDENKO (1961) reported adventitious embryony for plants from the Ukrainian Carpathians.
(3) <i>Gentiana punctata</i>	RUDENKO (1961) reported adventitious embryony for plants from the Ukrainian Carpathians.
(3) <i>Gentianella amarella</i>	RUDENKO (1961) reported adventitious embryony for <i>G. livonica</i> from the Ukrainian Carpathians.
(4) <i>Gymnadenia conopsea</i>	CHOCHLOV et al. (1978) reported adventitious embryony citing DAVIS (1966). DAVIS (1966: 195) reported polyembryony for <i>Gymnadenia conopsea</i> .
(4) <i>Helianthus annuus</i>	Listed by PULLAIAH (1984) as aposporous.
(4) <i>Hieracium angustifolium</i>	Listed by KLOTZ et al. (2002) as an autonomous apomict citing erroneously NYGREN (1967).
(4) <i>Hieracium echinoides</i>	Listed by KLOTZ et al. (2002) as an autonomous apomict citing erroneously NYGREN (1967).
(4) <i>Hieracium hoppeanum</i>	Listed by Klotz et al. (2002) as an autonomous apomict citing erroneously NYGREN (1967).
(4) <i>Hieracium lactucella</i>	Listed by KLOTZ et al. (2002) as an autonomous apomict citing erroneously NYGREN (1967).
(4) <i>Hieracium peleterianum</i>	Listed by Klotz et al. (2002) as an autonomous apomict citing erroneously NYGREN (1967).
(4) <i>Hieracium sphaerocephalum</i>	Listed by KLOTZ et al. (2002) as an autonomous apomict citing erroneously NYGREN (1967).
(4) <i>Hieracium umbellatum</i>	BIERZYCHUDEK (1985) listed it as the sole apomictic taxon of <i>Hieracium</i> in British Columbia. Listed by KLOTZ et al. (2002) as an autonomous apomict citing erroneously NYGREN (1967).
(1) <i>Hierochloë australis</i>	WEIMARCK (1967, 1971) found unreduced embryo sacs in material from Bavaria and Finland, but apomixis as only of minor importance.

Taxon	References
(1) <i>Humulus lupulus</i>	WETTSTEIN (1925) proved apomixis for an isolated female plant in Gschnitztal (Tyrol/Austria) by isolation experiments and cytoembryological investigations. HOLUBINSKY & SCHLOSS (1939) failed to find apomixis in plants from Ukraine.
(4) <i>Koeleria</i>	UJHELYI (1972) claimed without giving details that among European <i>Koeleria</i> species apomixis occur on a large scale.
(2) <i>Leontodon hispidus</i>	BERGMAN (1935) reported non-functional gametophytic apomixis.
(1) <i>Leontopodium alpinum</i> subsp. <i>alpinum</i>	SOKOŁOWSKA-KULCZYCKA (1959) and MAUGINI (1962) reported diplospory, HÖRANDL et al. (2011) found sexuality.
(4) <i>Leucanthemum vulgare</i> s.l.	DAVIS (1967) deduced apospory from text-figures of GOLDFLUS (1899).
(4) <i>Listera ovata</i>	CHOCHLOV et al. (1978) ascribed erroneously adventitious embryony citing HAGERUP (1944, 1945, 1947) and DAVIS (1966). HAGERUP (1944, 1945) did not deal with the embryology of <i>Listera</i> . HAGERUP (1947) reported haploid parthenogenesis for <i>Listera ovata</i> . DAVIS (1966) stated, "Adventive embryony is common in <i>Cephalanthera</i> , <i>Epipactis</i> , <i>Listera</i> , <i>Nigritella</i> , <i>Orchis</i> , and <i>Zeuxine</i> ..." without specifying which of her 128 citations for Orchidaceae refers to this information.
(1, 4) <i>Melica ciliata</i>	TYLER (2004) found patterns of within-population variation only to be explainable by "apomixis or uncommon patterns of chromosomal segregation".
(1, 4) <i>Melica transsilvanica</i>	TYLER (2004) found patterns of within-population variation only to be explainable by "apomixis or uncommon patterns of chromosomal segregation".
(1) <i>Mercurialis annua</i>	KERNER (1913: 518–519) reported a female plants from Tyrol/Austria, an area outside the normal distribution of <i>M. annua</i> , which set viable seeds in the absence of male plants.
(4) <i>Neottia nidus-avis</i>	CHOCHLOV et al. (1978) reported adventitious embryony citing DOLL (1971). DOLL (1971: 224) cited RUTISHAUSER (1967), who differentiated orchids where the development of the embryo sac is dependent on pollination from those, like <i>Neottia nidus-avis</i> , where the development of the embryo sac is independent of pollination.
(4) <i>Oenothera glazioviana</i>	HABERLANDT (1922) reported nucellus cells of squeezed ovaries, which reminded him of initial cells of adventitious embryos.
(5) <i>Opuntia humifusa</i>	GANONG (1898) reported polyembryony with embryos arising from the nucellus (= adventitious embryony) for <i>Opuntia vulgaris</i> .
(2) <i>Ornithogalum angustifolium</i>	ŻABIŃSKA (1972, for <i>O. gussonei</i>) found aposporic initial cells and young unreduced embryo sacs in plants from Dolnośląskie/Poland.
(4) <i>Ornithogalum umbellatum</i>	CHOCHLOV et al. (1978) and NAUMOVA (1993) listed it as exhibiting adventitious embryony. According to F. Speta (2010, pers. comm.) triploid and pentaploid <i>Ornithogalum</i> set abundantly fertile fruits and may be apomictic.
(4) <i>Oxalis corniculata</i>	KLOTZ et al. (2002) use "LOVETT DOUST et al. (1981)" erroneously as a reference for pseudogamous apomixis.
(3, 4) <i>Oxalis dillenii</i>	LOVETT DOUST et al. (1981) found seed set in <i>O. dillenii</i> subsp. <i>filipes</i> (Small) G. Eiton, which has not been reported from Europe, after emasculation and bagging. Furthermore, about half the progeny of crosses of <i>O. dillenii</i> subsp. <i>filipes</i> with <i>O. stricta</i> , <i>O. corniculata</i> , or <i>O. dillenii</i> subsp. <i>dillenii</i> was matromorphous. KLOTZ et al. (2002) reported pseudogamous apomixis with LOVETT DOUST et al. (1981) as reference.
(4) <i>Oxalis stricta</i>	KLOTZ et al. (2002) use "LOVETT DOUST et al. (1981)" erroneously as a reference for pseudogamous apomixis.
(2) <i>Oxyria digyna</i>	EDMAN (1929) was able to observe unreduced aposporous embryo sacs in cytoembryological studies and deduced very probably apomictic reproduction. LÖVE (1949) found only sexual populations in Scandinavia and Iceland in this diploid (2n = 14) species.
(1, 3) <i>Pastinaca sativa</i>	PLITMANN (2002) found in plants from the USA very few fruits with styles without pollen tubes.
(5) <i>Paspalum dilatatum</i>	Sexual tetraploid and apomictic penta- and hexaploids biotypes occur (BASHAW & HOLT 1958, BURSON et al. 1991, CASA et al. 2002).
(5) <i>Paspalum paspalodes</i>	SRIVASTAVA (1982) reported obligate apospory.
(5) <i>Pennisetum villosum</i>	NARAYAN (1962) reported apospory.
(2) <i>Picris hieracioides</i> .	BERGMAN (1935) reported non-functional gametophytic apomixis.
(3) <i>Poa bulbosa</i>	KORDYUM (1963) reported aposporous embryo sacs. KELLEY et al. (2009) reported autonomous apomixis for two accessions from Turkey and Uzbekistan.
(3) <i>Poa chaixii</i>	KELLEY et al. (2009) reported pseudogamous apomixis for an accession from Greece.

Taxon	References
(3) <i>Potamogeton obtusifolius</i>	TERYOKHIN (1994) reported diplospory for submerged flowering populations.
(1) <i>Potamogeton compressus</i>	TERYOKHIN et al. (2002) reported non opening thecae in submerged inflorescences, no indication of seed set.
(4) <i>Potentilla anserina</i>	According to HESS et al. (1977) hexaploid plants, which occur among the prevailing tetraploids, are probably apomictic. ROUSI (1965) and COBON & MATFIELD (1976) found hexaploids to be seed-sterile.
(4) <i>Potentilla aurea</i>	Listed by KLOTZ et al. (2002) as a pseudogamous apomict citing erroneously MÜNTZING (1928). SHIMOTOMAI (1935) reported matromorphous progeny in a cross between hexaploid <i>P. alpestris</i> as pollen donor and diploid <i>P. aurea</i> .
(1, 2) <i>Potentilla incana</i>	In Scandinavia, hexaploids with apomictic reproduction (ASKER 1986). CZAPIK (1962) found tendencies of apomixis for tetraploids from Poland. Only tetraploids are known to occur in Central Europe.
(1) <i>Potentilla crantzii</i>	MÜNTZING (1928) found matromorphous progeny in hybridization experiments with open pollinated plants originating from Scandinavia. HÅKANSSON (1946) found apomixis in three hexaploid plants from Scandinavia. From Poland only tetraploid, probably sexual plants are known (SKALIŃSKA & CZAPIK 1958; CZAPIK 1961). SMITH (1963) proved pseudogamous apomixis for three populations from Scotland with cytoembryological methods. Apomictic, hexaploid <i>Potentilla crantzii</i> occurs in Central Europe (DOBEŠ & VITEK 2000), but tetraploids are dominant.
(3) <i>Potentilla erecta</i>	FORENBACHER (1913) reported apospory using chromosome counts and cytoembryological investigations.
(4) <i>Potentilla heptaphylla</i>	Listed by KLOTZ et al. (2002) as a pseudogamous apomict citing erroneously Müntzing (1928). Triploid plants (GREGOR & HAND 2006) are probably apomictic.
(5) <i>Potentilla hirta</i>	POPOFF (1935) found matroclinous progeny after fertilization with pollen of <i>P. argentea</i> , <i>P. erecta</i> , and <i>P. recta</i> .
(4) <i>Potentilla multifida</i>	POPOFF (1935) found matroclinous progeny after fertilization with pollen of <i>P. argentea</i> .
(1) <i>Potentilla patula</i>	Hexaploidy is indicative of apomixis in <i>Potentilla</i> .
(4) <i>Potentilla reptans</i>	Listed by NAUMOVA (1993) as exhibiting adventitious embryony.
(4) <i>Potentilla supina</i>	DIKSHIT & PANIGRAHI (1998) indicated it as aposporous.
(1) <i>Potentilla thuringiaca</i>	Hexaploidy is indicative of apomixis in <i>Potentilla</i> .
(1) <i>Ranunculus acris</i>	MARSDEN-JONES & TURRILL (1929, 1935) reported an unpollinated female plant, which produced very few seeds.
(4) <i>Ranunculus bulbosus</i>	HARPER (1957) reported apomixis referring to MARSDEN-JONES & TURRILL (1929, 1935). These references contain no indication of apomixis in <i>R. bulbosus</i> .
(4) <i>Ribes nigrum</i>	Listed by NAUMOVA (1993) as exhibiting adventitious embryony.
(4) <i>Ribes rubrum</i>	Listed by NAUMOVA (1993) as exhibiting adventitious embryony.
(1) <i>Rosa</i> sect. <i>Canina</i>	TÄCKHOLM (1922) assumed apomixis on the basis of castration and hybridization experiments. KROON & ZEILINGA (1974) found in crossings of culture variants of <i>Rosa canina</i> with other <i>Rosa</i> species matromorphous progeny. WISSEMAN & HELLWIG (1997) found in castration experiments in <i>R. canina</i> , <i>R. corymbifera</i> , <i>R. elliptica</i> , <i>R. micrantha</i> , and <i>R. rubiginosa</i> a seed set of about 5 % compared to xenogamy. WERLEMARK et al. (1999) and WERLEMARK (2000) using RAPD-markers and morphological parameters found in about 10% of the progeny of the crosses between <i>R. dumalis</i> and <i>R. rubiginosa</i> no male parental traits. NYBOM et al. (2004) found similar results using sequence-tagged microsatellite sites.
(2, 4) <i>Rubus caesius</i>	BERGER (1953) found reduced and unreduced embryo sacs in plants from Switzerland. Listed by KLOTZ et al. (2002) as a pseudogamous apomict citing erroneously Weber (1995).
(2) <i>Rubus saxatilis</i>	CZAPIK (1981) found in material from Poland in ovules beside reduced embryo sacs initial cells of apomeiotic embryo sacs.
(5) <i>Rudbeckia laciniata</i>	BATTAGLIA (1945, 1946) and FAGERLIND (1946) reported diplospory.
(1) <i>Rumex acetosa</i>	ROTH (1906) obtained few viable seeds from bagged female plants. LÖVE (1942) found in isolated female plants from Scandinavia in about 40% of the plants 1–2% viable seeds.
(1) <i>Rumex arifolius</i>	ROTH (1906) obtained few viable seeds from bagged female plants. LÖVE (1949) found in isolated female plants from Scandinavia in 53% of the plants 2.3% viable seeds.
(1) <i>Rumex nivalis</i>	ROTH (1906) obtained few viable seeds from bagged female plants.
(4) <i>Salix aurita</i>	Listed by CHOCHLOV et al. (1978) as aposporous.

Taxon	References
(4) <i>Salix purpurea</i>	Listed by CHOCHLOV et al. (1978) as aposporous.
(4) <i>Salix viminalis</i>	Listed by CHOCHLOV et al. (1978) as aposporous.
(2) <i>Sambucus nigra</i>	CZAPIK & KOŚCIŃSKA-PAJAŁ (2000) found non-functional gametophytic apomixis.
(2) <i>Sanguisorba minor</i>	NORDBORG (1967) found in cytoembryological investigations a tendency to apospory.
(4) <i>Setaria viridis</i>	According to DOUGLAS et al. (1985) "Agamospermy has also been noted (MULLIGAN & FINDLAY 1970)". MULLIGAN & FINDLAY (1970) gave no information about apomixis. KLOTZ et al. (2002) referring to DOUGLAS et al. (1985) listed <i>S. viridis</i> as an apomict.
(4) <i>Solanum nigrum</i>	Listed by CHOCHLOV et al. (1978) as diplosporous.
(4) <i>Solidago gigantea</i>	DAVIS (1967) deduced apospory from text-figures of PALM (1914), who did not report apomixis in <i>Solidago</i> .
(2) <i>Solidago graminifolia</i>	CZAPIK & KOŚCIŃSKA-PAJAŁ (2000) found non-functional gametophytic apomixis.
(1) <i>Sorbus aria</i>	According to JANKUN (1993) facultative apomixis is known among autopolyploid cytotypes of <i>Sorbus aria</i> agg. LILJEFORS (1953, 1955) found Scandinavian <i>Sorbus aria</i> to be tetraploid and apomictic. According to KUTZELNIGG (1994) <i>S. aria</i> is diploid in Central Europe.
(1) <i>Sorbus chamaespilus</i>	LILJEFORS (1953) found apospory in cytoembryological investigations of a tetraploid plant from Tyrol/Austria. Diploid plants from Bavaria and Tyrol were sexual. JANKUN (1993) using cytoembryological methods found the tetraploid cytotype of <i>Sorbus chamaespilus</i> to be a facultative pseudogamous apomict. <i>S. chamaespilus</i> is predominantly diploid in Central Europe (KUTZELNIGG 1994).
(1) <i>Sorbus graeca</i>	According to WARBURG & KÁRPÁTI (1968) this taxon comprises sexual diploids and polyploid apomicts.
(2, 3) <i>Trifolium pratense</i>	HINDMARSH (1964), using plants from Australia, found an indication to occasional apospory. ALGAN & BAKAR BÜYÜKKARTAL (1999) found some apomictic embryo sac formation in a natural tetraploid variety.
(1) <i>Vincetoxicum hirsutum</i>	KORDYUM (1961) reported pseudogamous adventitious embryony connected with polyembryony. According to CZAPIK & KOŚCIŃSKA-PAJAŁ (2000) A. Ferlińska [Polyembryony in <i>Vincetoxicum officinale</i> Mnch. (Asclepiadaceae), Magister thesis Jagellonian University, Cracow 2000] found adventitious embryony.

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