

Appendix to Global Age Distribution of Granitic Pegmatites

The Canadian Mineralogist, 2014

by Andrew McCauley and Dwight Bradley

REFERENCES CITED IN TABLE A1

- Acaster, M., & Bickford, M.E. (1999): Geochronology and geochemistry of Putnam-Nashoba terrane metavolcanic and plutonic rocks, eastern Massachusetts: Constraints on the early Paleozoic evolution of eastern North America. *Geological Society of America Bulletin* **111**(2), 240-253.
- Adetunji, A., & Ocan, O.O. (2010): Characterization and mineralization potentials of granitic pegmatites of Komu area, southwestern Nigeria. *Resource Geology* **60**, 87-97.
- Aldrich, L.T., Wetherill, G.W., & Davis, G.L. (1957): Occurrence of 1350-million-year-old granitic rocks in western United States: *Geological Society of America Bulletin* **68**, 655-656.
- Alviola R., Manttari, I., Makitie, H., & Vaasjoki, M. (2001): Svecofennian rare-element granitic pegmatites of the Ostrobothnia region, western Finland; their metamorphic environment and time of intrusion. *Geological Survey of Finland Special Paper* **30**, 9-29.
- Amato, J.M., Bogar, M.J., Gehrels, G.E., Farmer, G.L., & McIntosh, W.C. (2007): The Tlikakila complex in southern Alaska: A suprasubduction-zone ophiolite between the Wrangellia Composite terrane and North America. *Geological Society of America Special Paper* **431**, 227-252.
- Anczkiewicz, R., Oberli, F., Burg, J.P., Villa, I.M., Gunther, D., & Meier, M. (2001): Timing of normal faulting along the Indus Suture in Pakistan Himalaya and a case of major $^{231}\text{Pa}/^{235}\text{U}$ initial disequilibrium in zircon. *Earth and Planetary Science Letters* **191**, 101-114.
- Anderson, S.D., Jamieson, R.A., Reynolds, P.H., & Dunning, G.R. (2001): Devonian extension in Northwestern Newfoundland: $^{40}\text{Ar}/^{39}\text{Ar}$ and U-Pd data from the Ming's bight area, Baie Verte Peninsula. *The Journal of Geology* **109**, 191-211.
- Ansdell, K.M. & Norman, A.R. (1995): U-Pb geochronology and tectonic development of the southern flank of the Kisseynew Domain, Trans-Hudson Orogen, Canada. *Precambrian Research* **72**, 147-167.
- Applegate, J.D.R., Walker, J.D., & Hodges, K.V. (1992): Late Cretaceous extensional unroofing in the Funeral Mountains metamorphic core complex, California. *Geology* **20**, 519-522.
- Araujo, M.N.C., Vasconcelos, P.M., Alves da Silva, F.C., Jardim de Sa, E.F., & Sa, J.M. (2005): $^{40}\text{Ar}/^{39}\text{Ar}$ geochronology of gold mineralization in Brasiliano strike-slip shear zones in the Borborema province, NE Brazil. *Journal of South American Earth Sciences* **19**, 445-460.
- Aurisicchio, C., De Vito, C., Ferrini, V., & Orlandi, P. (2002): Nb and Ta oxides in the Fonte del Prete granitic pegmatite dike, Island of Elba, Italy: *The Canadian Mineralogist* **40**, 799-814.
- Baadsgaard, H., & Cerny, P. (1993): Geochronological studies in the Winnipeg River pegmatite populations, southeastern Manitoba. *Geol. Assoc. Canada Annual Meeting Abs.*, A-15.
- Barbá, K.E., Nelson, E.P., Misantoni, D., Hitzman, M.W., & Layer, P.W. (2005): Structural controls on mineralized veins in the Sweet Home mine, Alma district, Colorado, in Rhoden, H.N., Steininger, R.C., and Vikre, P.G., eds., Geological Society of Nevada Symposium 2005: Window to the World, Reno Nevada, May 2005, 689-708.
- Barbeau Jr., D.L., Gombosi, D.J., Zahid, K.M., Bizimis, M., Swanson-Hysell, N., Valencia, V., & Gehrels, G.E. (2009): U-Pb zircon constraints on the age and provenance of the Rocas Verdes basin fill, Tierra del Fuego, Argentina. *Geochemistry Geophysics Geosystems* **10** (12) 11p.
- Barnes, E.M. (2010): The rare element Little Nahanni Pegmatite Group, NWT: studies of emplacement, and magmatic evolution from geochemical and Li isotopic evidence: Ph.D. dissertation, University of British Columbia, Vancouver, British Columbia, 247 p.
- Barth, A.P., Wooden, J.L., Tosda, R.M., Morrison, J., Dawson, D.L., and Hernly, B.M. (1995): Origin of gneisses in the aureole of the San Gabriel anorthosite complex and implications for the Proterozoic crustal evolution of southern California. *Tectonics* **14**, 736-752.
- Baumgartner, R., Romer, R.L., Moritz, R., Sallet, R., & Chiaradia, M. (2006): Columbite-tantalite-bearing granitic pegmatites from the Serido belt, northeastern Brazil: Genetic constraints from U-Pb dating and Pb isotopes. *The Canadian Mineralogist* **44**, 69-86.
- Beal, K.L., Lentz, D.R., Hall, D.C., & Dunning, G. (2010): Mineralogical, geochronological, and geochemical characterization of Early Devonian aquamarine-bearing dykes of the Zealand Station beryl and molybdenite deposit, west central New Brunswick. *Canadian Journal of Earth Science* **47**, 859-874.

- Berger, A., Gnos, E., Schreurs, G., Fernandez, A., & Rakotondrazafy, M. (2006): Late Neoproterozoic, Ordovician and Carboniferous events recorded in monazites from southern-central Madagascar. *Precambrian Research* **144**, 278-296.
- Berger, M., & Braun, I. (1997): Pb-Pb dating of apatite by a stepwise dissolution technique. *Chemical Geology* **142**, 23-40.
- Bertrand, J.M., Roddick, J.C., Van Kranendonk, M.J., & Ermanovics, I. (1993): U-Pb geochronology of deformation and metamorphism across a central transect of the Early Proterozoic Torngat Orogen, North River map area, Labrador. *Canadian Journal of Earth Sciences* **30**, 1470-1489.
- Bethune, K.M., Villeneuve, M.E., & Bleeker, W. (1998): Laser $^{40}\text{Ar}/^{39}\text{Ar}$ thermochronology of Archean rocks in Yellowknife Domain, southwestern Slave Province: insights into the cooling history of an Archean granite-greenstone terrane. *Canadian Journal of Earth Science* **36**, 1189-1206.
- Bibikova, E.V., Bogdanova, S.V., Glebovitsky, V.A., Claesson, S., & Skiold, T. (2004): Evolution of the Belomorian Belt: NORDSIM U-Pb zircon dating of the Chupa paragneisses, magmatism, and metamorphic stages. *Petrology* **12**, 195-210.
- Bickford, M.E., Mock, T.D., Steinhart III, W.E., Collerson, K.D., & Lewry, J.F. (2005): Origin of the Archean Sask craton and its extent within the Trans-Hudson orogen: evidence from Pb and Nd isotopic compositions of basement rocks and post-orogenic intrusions. *Canadian Journal of Earth Science* **42**, 659-684.
- Bickford, M.E., Soegaard, K., Nielsen, K.C., & Mclelland, J.M. (2000): Geology and geochronology of Grenville-age rocks in the Van Horn and Franklin Mountains area, west Texas: Implications for the tectonic evolution of Laurentia during the Grenville. *Geological Society of America Bulletin* **112**, 1134-1148.
- Bingen, B., Stein, H.J., Bogaerts, M., Bolle, O., & Mansfeld, J. (2006): Molybdenite Re-Os dating constrains gravitational collapse of the Sveconorwegian orogen, SW Scandinavia. *Lithos* **87**, 328-346.
- Black, L.P., Harris, L.B., & Delor, C.P. (1992): Reworking of Archaean and Early Proterozoic components during a progressive, Middle Proterozoic tectonothermal event in the Albany Mobile Belt, Western Australia. *Precambrian Research* **59**, 95-123.
- Black, L.P., James, P.R., & Harley, S.L. (1983): Geochronology and geological evolution of metamorphic rocks in the Field Islands area, East Antarctica. *Journal of Metamorphic Geology* **1**, 277-303.
- Bloem, E.J.M., McNaughton, N.J., Groves, D.I., & Ridley, J.R. (1995): An indirect lead isotope age determination of gold mineralization at the Corinthia mine, Yilgarn Block, Western Australia. *Australian Journal of Earth Sciences* **42**, 447-451.
- Bradley, D.C., Buchwaldt, R., Shea, E., Bowring, S., O'Sullivan, P., Benowitz, J., McCauley, A., & Bradley, L.M. (2013): Geochronology and orogenic context of Northern Appalachian lithium-cesium-tantalum pegmatites: *Geol. Soc. Amer. Abs.* **45**(1), 108.
- Braun, I., Montel, J.M., and Nicollet, C. (1998): Electron microprobe dating of monazites from high-grade gneisses and pegmatites of the Kerala Khondalite Belt, southern India. *Chemical Geology* **146**, 65-85.
- Braun, I., & Kriegsman, L.M. (2003): Proterozoic crustal evolution of southernmost India and Sri Lanka. *Geological Society, London, Special Publications* **206**, 169-202.
- Braun, I., Montel, J.M., & Nicollet, C. (1998): Electron microprobe dating of monazites from high-grade gneisses and pegmatites of the Kerala Khondalite Belt, southern India. *Chemical Geology* **146**, 65-85.
- Breaks, F.W. & Moore, J.M. (1992): The Ghost Lake Batholith, Superior Province of Northwestern Ontario: A fertile, S-type, peraluminous granite – rare element pegmatite system: *The Canadian Mineralogist* **30**, 835-875.
- Breaks, T.W., Tindle, A.G., & Smith, S.R. (1999): Geology, mineralogy, and exploration potential of the Big Mack pegmatite system: a newly discovered western extension of the Separation Rapids pegmatite group, northwest Ontario: *Ontario Geological Survey Miscellaneous Paper* **6000**, 25-1 to 254-13.
- Breaks, F.W., & Tindle, A.G. (2002): Rare-element mineralization of the Separation Lake area, northwest Ontario: characteristics of a new discovery of complex-type, petalite-subtype, Li-Rb-Cs-Ta pegmatite, In S. Dunlop and G.J. Simandl, Industrial Minerals in Canada: *Canadian Institute of Mining, Metallurgy and Petroleum, Special Volume* **53**, 159-178.
- Breiter, K., Müller, A., Leichmann, J., & Gabašová, A. (2005): Textural and chemical evolution of a fractionated granitic system: the Podlesí stock, Czech Republic. *Lithos* **80**, 323-345.
- Broccardo, L., Kinnauld, J.A., & Nex, P.A.M. (2011): Preliminary fluid inclusion results from the Rubicon pegmatite, Karibib, Namibia: PEG2011 Argentina, Contributions to the 5th International Symposium on Granitic Pegmatites, *Asociación Geológica Argentina, Publicación Especial* **14**, 45-48.

- Bruguier, O., Bosch, D., Pidgeon, R.T., Byrne, D.I., & Harris, L.B. (1999): U-Pb chronology of the Northampton Complex, Western Australia – evidence for Grenvillian sedimentation, metamorphism and deformation and geodynamic implications. *Contributions to Mineralogy and Petrology* **136**, 258-272.
- Bucci, L.A., McNaughton, N.J., Fletcher, I.R., Groves, D.I., Kositsin, N., Stein, H.J., & Hagemann, S.G. (2004): Timing and duration of high-temperature gold mineralization and spatially associated granitoid magmatism at Chalice, Yilgarn Craton, Western Australia. *Economic Geology* **99**, 1123-1144.
- Buick, I.S., Storkey, A., & Williams, I.S. (2008): Timing relationships between pegmatite emplacement, metamorphism and deformation during the intra plate Alice-Springs orogeny, central Australia. *Journal of Metamorphic Geology* **26**, 915-936.
- Burtt, A.C., & Phillips, D. (2003): $^{40}\text{Ar}/^{39}\text{Ar}$ dating of muscovite from a pegmatite in Kinchuna Quarry, near Murray Bridge. *MESA Journal* **28**, 50-53.
- Camacho, A., Baadsgaard, H., Davis, D. W., & Černý, P (2012): Radiogenic isotope systematics of the Tanco and Silverleaf granitic pegmatites, Winnipeg River District, Manitoba: *The Canadian Mineralogist* **50**, 1775-1792.
- Carson, C.J., Ague, J.J., Grove, M., Coath, C.D., & Harrison, T.M. (2002): U-Pb isotopic behavior of zircon during upper-amphibolite facies fluid infiltration in the Napier Complex, east Antarctica. *Earth and Planetary Science Letters* **199**, 287-310.
- Carson, C.J., Boger, S.D., Fanning C.M., Wilson, C.J.L., & Thost, D.E. (2000): SHRIMP U-Pb geochronology from Mount Kirby, northern Prince Charles Mountains, East Antarctica. *Antarctic Science* **12**(4) 429-442.
- Cawood, P.A., Dunning, G.R., Lux, D., & van Gool, J.A.M. (1994): Timing of peak metamorphism and deformation along the Appalachian margin on Laurentia in Newfoundland: Silurian, not Ordovician. *Geology* **22**, 399-402.
- Chamberlain, C.P., Zeitler, P.K., & Cooper, A.F. (1995): Geochronologic constraints of the uplift and metamorphism along the Alpine Fault, South Island, New Zealand. *New Zealand Journal of Geology and Geophysics* **38**, 515-523.
- Charoy, B., Noronha, F., & Lima, A. (2001): Spodumene – petalite – eucryptite: mutual relationships and pattern of alteration in Li-rich aplite-pegmatite dykes from northern Portugal: *The Canadian Mineralogist* **39**, 729-746.
- Cheilletz, A., Archibald, D.A., Cuney, M., & Charoy, B. (1992): Ages $^{40}\text{Ar}/^{39}\text{Ar}$ du leucogranite à topaze - lépidolite de Beauvoir et des pegmatites sodolitiques de Chedeville (Nord du Massif Central, France): Signification pétrologique et géodynamique: *C.R. Acad. Sci. Paris* **315**, 326-336.
- Chew, D. M., Flowerdew, M. J., Page, L. M., Crowley, Q. G., Daly, J. S., Cooper, M., & Whitehouse, M. J. (2008): The tectonothermal evolution and provenance of the Tyrone Central Inlier, Ireland: Grampian imbrication of an outboard Laurentian microcontinent?. *Journal of the Geological Society*, **165**, 675-685.
- Christoffel, C.A., Connelly, J.N., & Ahall, K.I. (1999): Timing and characterization of recurrent Sveconorwegian metamorphism and deformation in the Varberg-Halmstad region of SW Sweden. *Precambrian Research* **98**, 173-195.
- Clark, D.J., Hensen, B.J., & Kinny, P.D. (2000): Geochronological constraints for a two-stage history of the Albany – Fraser Orogen, Western Australia. *Precambrian Research* **102**, 155-183.
- Cliff, R.A., Yardley, B.W.D., & Bussy, F.R. (1996): U-Pb and Rb-Sr geochronology of magmatism and metamorphism in the Dalradian of Connemara, western Ireland. *Journal of the Geological Society, London* **153**, 109-120.
- Connors, K.A., & Page, R.W. (1995): Relationships between magmatism, metamorphism and deformation in the western Mount Isa Inlier, Australia. *Precambrian Research* **71**, 131-153.
- Corfu, F., & Easton, R.M. (2000): U-Pb evidence for polymetamorphic history of Huronian rocks within the Grenville front tectonic zone east of Sudbury, Ontario, Canada. *Chemical Geology* **172**, 149-171.
- Corfu, F., Gerber, M., Andersen, T.B., Torsvik, T.H., & Ashwal, T.D. (2011): Age and significance of Grenvillian and Silurian orogenic events in the Finnmarkian Caledonides, northern Norway. *Canadian Journal of Earth Science* **48**, 419-440.
- Corkery, M.T., Davis, D.W., & Lenton, P.G. (1992): Geochronological constraints on the development of the Cross lake greenstone belt, northwest Superior Province, Manitoba. *Canadian Journal of Earth Science* **29**, 2171-2185.
- Crowley, J.L. (1999): U-Pb geochronologic constraints on Paleoproterozoic tectonism in the Monashee complex, Canadian Cordillera: Elucidating an overprinted geologic history. *Geological Society of America Bulletin* **111**, 560-577.

- Crowley, J.L., Brown, R.L., Gervais, F., & Gibson, H.D. (2008): Assessing inheritance of zircon and monazite in granitic rocks from the Monashee Complex, Canadian Cordillera. *Journal of Petrology* **49**, 1915-1929.
- Dahl, S.P., Hamilton, M.A., Wooden, J.L., Foland, K.A., Frei, R., McCombs, J.A., & Holm, D.K. (2006): 2480 Ma mafic magmatism in the northern Black Hills, South Dakota: a new link connecting the Wyoming and Superior cratons. *Canadian Journal of Earth Science* **43**, 1579-1600.
- Dallmeyer, R.D., Handler, R., Neubauer, F., & Fritz, H. (1998): Sequence of thrusting within a thick-skinned tectonic wedge: Evidence from $^{40}\text{Ar}/^{39}\text{Ar}$ and Rb-Sr ages from the Austroalpine Nappe Complex of the Eastern Alps. *The Journal of Geology* **106**, 71-86.
- Dallmeyer, R.D., & Nance, R.D. (1992): Tectonic implications of $^{40}\text{Ar}/^{39}\text{Ar}$ mineral ages from late Precambrian - Cambrian plutons, Avalon composite terrane, southern New Brunswick, Canada. *Canadian Journal of Earth Science* **29**, 2445-2462.
- Daly J.S., Balagansky, V.V., Timmerman, M.J., & Whitehouse, M.J. (2006): The Lapland-Kola orogen: Palaeoproterozoic collision and accretion of the northern Fennoscandian lithosphere. In Gee, D.G., and Stephenson, R.A. (eds.) European Lithosphere Dynamics. *Geological Society, London, Memoirs* **32**, 579-598.
- Daly, J.S. (1996): Pre-Caledonian history of the Annagh Gneiss Complex, North-Western Ireland, and correlation with Laurentia- Baltica. *Irish Journal of Earth Sciences* **15**, 5-18.
- Derbyshire, D.P.F., & Shepherd, T.J. (1985): Chronology of granite magmatism and associated mineralization, SW England: *Journal of the Geological Society* **142**, 1159-1177.
- David, J., Godin, L., Stevenson, R., O'Neil, J., & Francis, D. (2009): U-Pb ages (3.8-2.7 Ga) and Nd isotope data from the newly identified Eoarchean Nuvvuagittuq supracrustal belt, Superior Craton, Canada. *Geological Society of America Bulletin* **121**, 150-163.
- Delor, C., Lahondère, D., Egal, E., Lafon, J.-M., Cocherie, A., Guerrot, C., Rossi, P., Truffert, C., Théveniaut, H., Phillips, D., & Avelar, V.G. (2003): Transamazonian crustal growth and reworking as revealed by the 1:500,000-scale geological map of French Guiana (2nd edition). *Géologie de la France*, n° 2-3-4, 5-57.
- Diehl, B.J.M., & Schneider, G.I.C. (1990): Geology and mineralisation of the Rubicon Pegmatite, Namibia. *Geological Survey of Namibia open file report*.
- Dilworth, K.M., Mortensen, J.K., Ebert, S., Tosdal, R.M., Smith, M.T., & Roberts, P. (2007): Cretaceous reduced granitoids in the Goodpaster Mining District, east central Alaska. *Canadian Journal of Earth Science* **44**, 1347-1373.
- Ducharme, Y., Stevenson, R.K. & Machado, N. (1997): Sm/Nd geochemistry and U-Pb geochronology of the Preissac and Lamotte leucogranites, Abitibi Subprovince: *Canadian Journal of Earth Sciences* **34**, 1059-1071.
- Easton, R.M., & Kamo, S.L. (2008): New U-Pb zircon ages reveal a long-lived magmatic history for the Harvey-Cardiff domain of the composite arc belt of the Grenville Province in Ontario. *Geological Society of America, Abstracts with Programs* **40** (6) 228.
- Eby, G.N., & Vasconcelos, P. (2009): Geochronology of the Arkansas Alkaline Province, southeastern United States. *The Journal of Geology* **117**, 615-626.
- Eliasson, T., & Schöberg, H. (1991): U-Pb dating of the post-kinematic Sveconorwegian (Grenvillian) Bohus granite, SW Sweden: evidence of restitic zircon. *Precambrian Research* **51**, 337-350.
- Emon, K.A., Jackson, V.A., & Dunning, V.R. (1999): Geology and U-Pb geochronology of rocks of the Eokuk uplift: a pre 2.8 Ga basement inlier in the northwestern Slave Province, Nunavut, Canada. *Canadian Journal of Earth Sciences* **36**, 1061-1082.
- Ertl, A., Schuster, R., Prowatke, S., Brandstatter, F., Ludwig, T., Bernhardt, H.J., Koller, F., & Hughes, J.M. (2004): Mn-rich tourmaline and flourapatite in a Variscan pegmatite from Eibenstein an der Thaya, Bohemian massif, Lower Austria. *European Journal of Mineralogy* **16**, 551-560.
- Faure, G., & Felder, R.P. (1984): Lithium-bearing pegmatite and bismuth-antimony-lead-copper-bearing veinlets on Mount Madison, Byrd Glacier area: *Antarctic Journal of the U.S.* **19** (5), 13-14.
- Fetherston, J.M. (2004): Tantalum in Western Australia: *Western Australia Geological Survey, Mineral Resources Bulletin* **22**, 1-162.
- Finch, A.A., Mansfeld, J., & Andersen, T. (2001): U-Pb radiometric age of Nunarsuit pegmatite, Greenland: constraints on the timing of Gardar magmatism. *Bulletin of the Geological Society of Denmark* **48**, 1-7.

- Fisher, J. (2002): Gem and rare element pegmatites of Southern California. *The Mineralogical Record* **33**(5) 363-407.
- Flowers, R.M., Bowring, S.A., & Williams, M.L. (2006): Timescales and significance of high-pressure, high-temperature metamorphism and mafic dike anatexis, Snowbird tectonic Zone, Canada. *Contributions to Mineralogy and Petrology* **151**, 558-581.
- Foord, E.E., & Cook, R.B. (1989): Mineralogy and paragenesis of the McAllister Sn-Ta-bearing pegmatite, Coosa County, Alabama: *The Canadian Mineralogist* **27**, 93-105.
- Foster, D.A., Schafer, C., Fanning, M.C., & Hyndman, D.W. (2001): Relationships between crustal partial melting, plutonism, orogeny, and exhumation: Idaho-Bitterroot batholith. *Tectonophysics* **342**, 313-350.
- Francis, C.A., Lange, D.E., & Peterson, R.C. (1999): Rare-element mineralogy of the J.C. Gole pegmatite, Muchison Township, Madawaska district, Ontario. *The Canadian Mineralogist* **37**, 814.
- Fuertes-Fuente, M., Martin-Izard, A., Boiron, M.C., & Mangas, J. (2000): Fluid evolution of rare-element and muscovite granitic pegmatites from central Galicia, NW Spain: *Mineralium Deposita* **35**, 332-345.
- Gallien, F., Mogessie, A., Bjerg, E., Delpino, S., Castro de Machuca, B., Thöni, M., & Klötzli, U. (2010): Timing and rate of granulite facies metamorphism and cooling from multi-mineral chronology on migmatitic gneisses, Sierras de La Huerta and Valle Fértil, NW Argentina. *Lithos* **114**, 229-252.
- Garde, A.A., Hamilton, M.A., Chadwick, B., Grocott, J., & McCaffrey, K.J.W. (2002): The Ketilidian orogen of South Greenland: geochronology, tectonics, magmatism, and fore-arc accretion during Palaeoproterozoic oblique convergence. *Cadian Journal of Earth Science* **39**, 765-793.
- Glodny, J., Grauert, B., Fiala, J., Vejnar, Z., & Krohe, A. (1998): Metapegmatites in the western Bohemian massif: ages of crystallisation and metamorphic overprint, as constrained by U-Pb zircon, monazite, garnet, columbite and Rb-Sr muscovite data. *Geologische Rundschau* **87** (1) 124-134.
- Galliski, M.A., & Marquez-Zavalía, M.F. (2011): Granitic pegmatites of the San Luis Ranges: Field Trip Guidebook, 5th International Symposium on Granitic Pegmatites (PEG2011 Argentina), 44 p.
- Göd, R. (1989): The spodumene deposit at "Weinebene", Koralpe: *Mineralium Deposita* **24**, 270-278.
- Goscombe, B., Gray, D., Armstrong, R., Foster, D.A., & Vogl, J. (2005): Event geochronology of the Pan-African Kaoko Belt, Namibia. *Precambrian Research* **140**, 103.e1-103.e41.
- Grafe, F., Stanek, K.P., Baumann, A., Maresch, W.V., Hames, W.E., Grevel, C., & Millan, G. (2001): Rb-Sr and $^{40}\text{Ar}/^{39}\text{Ar}$ mineral ages of granitoid intrusives in the Mabujina unit, Central Cuba: Thermal exhumation history of the Escambray Massif. *The Journal of Geology* **109**, 615-631.
- Grantham, G.H., Macy, P.H., Ingram, B.A., Roberts, M.P., Armstrong, M.A., Hokada, T., Shiraishi, K., Jackson, C., Bisnath, A., & Manhica, V. (2008): Terrane correlation between Antarctica, Mozambique, and Sri Lanka; comparisons of geochronology, lithology, structure and metamorphism and possible implications for the geology of southern Africa and Antarctica. *Geological Society, London, Special Publications* **308**, 91-119.
- Graupner, T., Melcher, F., Gäbler, H.-E., Sitnikova, M., Brätz, H., & Bahr, A. (2010): Rare earth element geochemistry of columbite-group minerals: LA-ICP-MS data. *Mineralogical Magazine* **74**, 691-713.
- Guastoni, A., Diella, V. & Pezzotta, F. (2008): Vigezzite and associated oxides of Nb-Ta from emerald-bearing pegmatites of the Vigezzo Valley, western Alps, Italy. *Can. Mineral.* **46**, 619-633.
- Gunn, A.G., Pitfield, P.E.J., McKervey, J.A., Key, R.M., Waters, C.N., & Barnes, R.P. (2004): Notice explicative des cartes géologiques et gîtologiques à 1/200 000 et 1/500,000 du Sud de la Mauritanie. Volume 2 – Potentiel Minier. DMG, Ministère des Mines et de l'Industrie, Nouakchott.
- Habler, G., Thöni, M., & Miller, C. (2007): Major and trace element chemistry and Sm-Nd age correlation of magmatic pegmatite garnet overprinted by eclogite-facies metamorphism: *Chemical Geology* **241**, 4-22.
- Hand, M., Mawby, J., Kinny, P., and Foden, J. (1999): U-Pb ages from the Harts Range, central Australia: evidence for early Ordovician extension and constraints on Carboniferous metamorphism. *Journal of the Geological Society, London*, **156**, 715-730.
- Hanley, J.B., Heinrich, E.W., & Page, L.R. (1950): Pegmatite investigations in Colorado, Wyoming, and Utah, 1942-1944: *U.S. Geological Survey Professional Paper* **227**, 125 p.
- Hanmer, S., Hamilton, M.A., & Crowley, J.L. (2002): Geochronological constraints on Paleoarchean thrust-nappe and Neoarchean accretionary tectonics in southern West Greenland. *Tectonophysics* **350**, 255-271.
- Hanson, R.E. (2003): Proterozoic geochronology and tectonic evolution of southern Africa. *Geological Society, London, Special Publications* **206**, 427-463.

- Hauzenberger, C.A., Sommer, H., Fritz, H., Bauernhofer, A., Kroner, A., Hoinkes, G., Wallbrecher, E., & Thoni, M. (2007): SHRIMP U-Pb zircon and Sm-Nd garnet ages from the granulite-facies basement of SE Kenya: evidence for Neoproterozoic polycyclic assembly of the Mozambique belt. *Journal of the Geological Society, London* **164**, 189-201.
- Hawkins, D.P., Bowring, S.A., Ilg, B.R., Karlstrom, K.E., & Williams, M.L. (1996): U-Pb geochronologic constraints on the Paleoproterozoic crustal evolution of the Upper Granite Gorge, Grand Canyon, Arizona. *Geological Society of America Bulletin* **108**, 1167-1181.
- Hildebrand, P.R., Noble, S.R., Searle, M.P., Waters, D.J., & Parrish, R.R. (2001): Old origin for an active mountain range: Geology and geochronology of the eastern Hindu Kush, Pakistan. *Geological Society of America Bulletin* **113**, 625-639.
- Hollis, J.A., Clarke, G.L., Klepeis, K.A., Daczko, N.R., & Ireland, T.R. (2003): Geochronology and geochemistry of high pressure granulites of the Arthur River Complex, Fiordland, New Zealand: Cretaceous magmatism and metamorphism on the paleo-Pacific margin. *Journal of Metamorphic Geology* **21**, 299-313.
- Holm, D.K., Van Schmus, W.R., MacNeill, L.C., Boerboom, T.J., Schweitzer, D., & Schneider, D. (2005): U-Pb zircon geochronology of Paleoproterozoic plutons from the northern midcontinent, USA: Evidence for subduction flip and continued convergence after geon 18 Penokean orogenesis. *Geological Society of America Bulletin* **117**, 259-275.
- Hulsbosch, N., Hertogen, J., Dewaele, S., André, L., & Muchez, P. (2013): Petrographic and mineralogical characterisation of fractionated pegmatites culminating in the Nb-Ta-Sn pegmatites of the Gatumba area (western Rwanda). *Geologica Belgica* **16**, 105-117.
- Jacob, R.E., Moore, J.M., & Armstrong, R.A. (2000): Zircon and titanite age determinations from igneous rocks in the Karibib District, Namibia: implications for Navachab vein-style gold mineralization. *Communications of the Geological Survey of Namibia* **12**, 157-166.
- Jahns, R.H. (1952): Pegmatite deposits of the White Picacho district, Maricopa and Yavapai Counties, Arizona: *Arizona Bureau of Mines Bulletin* **162**, 105 p.
- Jones III, J.V., & Connelly, J.N. (2006): Proterozoic tectonic evolution of the Sangre de Cristo mountains, southern Colorado, USA. *Rocky Mountain Geology* **4**, 79-116.
- Jones III, J.V., Siddoway, C.S., and Connelly, J.N. (2010): Characteristics and implications of a ca. 1.4 Ga deformation across a Proterozoic mid-crustal section, Wet Mountains, Colorado, USA. *Lithosphere* **2** (2), 119-135.
- Karlstrom, K.E., Dallmeyer, R.D., and Grambling, J.A. (1997): $^{40}\text{Ar}/^{39}\text{Ar}$ evidence for 1.4 Ga regional metamorphism in New Mexico: Implications for thermal evolution of Lithosphere in the Southwestern USA. *The Journal of Geology* **105**, 205-223.
- Kelly, N.M., Clarke, G.L., & Fanning, C.M. (2002): A two-stage evolution of the Neoproterozoic Rayner Structural Episode: new U-Pb sensitive high resolution ion microprobe constraints from the Oygarden Group, Kemp Land, East Antarctica. *Precambrian Research* **116**, 307-330.
- Kesler, S.E., Gruber, P.W., Medina P.A., Keoleian, G.A., Everson, M.P., & Wallington, T.J. (2012): Global lithium resources—Relative importance of pegmatite, brine, and other deposits. *Ore Geology Reviews* **48**, 55-69.
- Kesler, T. L., & Olson, J. C. (1942): Muscovite in the Spruce Pine district, N.C.: *U.S. Geological Survey Bulletin* **936-A**, 1-38.
- Ketchum, J.W.F., Heaman, L.M., Krogh, T.E., Culshaw, N.G., & Jamieson, R.A. (1998): Timing and thermal influence of late orogenic extension in the lower crust: a U-Pb geochronological study from the southwest Grenville orogen, Canada. *Precambrian Research* **89**, 25-45.
- Kinny, P.D. (2000): U-Pb dating of rare-metal (Sn-Ta-Li) mineralized pegmatites in Western Australia by SIMS analysis of tin and tantalum-bearing ore minerals. Beyond 2000, New Frontiers in Isotope Geoscience (incorporating ACOG 4): Abstracts and Proceedings, 113-116.
- Kirkland, C.L., Daly, J.S., & Whitehouse, M.J. (2006): Granitic magmatism of Grenvillian and late Neoproterozoic age in Finnmark, Arctic Norway – Constraining pre-Scandian deformation in the Kalak Nappe Complex. *Precambrian Research* **145**, 24-52.
- Kontak, D.J., Creaser, R.A., Heaman, L.M., & Archibald, D.A. (2005): U-Pb tantalite, Re-Os molybdenite, and $^{40}\text{Ar}/^{39}\text{Ar}$ muscovite dating of the Brazil Lake pegmatite, Nova Scotia: a possible shear-zone related origin for an LCT-type pegmatite. *Atlantic Geology* **41**, 17-29.

- Kontak, D.J., Dostal, J., Kyser, T.K., & Archibald, D.A. (2002): A petrological, geochemical, isotopic and fluid-inclusion study of 370 Ma pegmatite sheets, Peggys Cove, Nova Scotia, Canada. *The Canadian Mineralogist* **40**, 1249-1286.
- Kovalenko, V.I., Yarmoluk, V.V., Sal'nikova E.B., Kozlovsky, A.M., Kotov, A.B., Kovach, V.P., Savatenkov, V.M., Vladykin, N.V., & Ponomarchuk, V.A. (2006): Geology, geochronology, and geodynamics of the Khan Bogd alkali granite pluton in southern Mongolia. *Geotectonics* **40**(6), 450-466.
- Kozakov, I.K., Sal'nikova, E.B., Yakovleva, S.Z., Plotkina, Y.V., & Fedoseenko, A.M. (2006): Vendian metamorphism in the accretionary - collisional structure of central Asia. *Doklady Earth Sciences* **407**(2), 192-197.
- Krogh, T.E. (1994): Precise U-Pb ages for Grenvillian and pre-Grenvillian thrusting of Proterozoic and Archean metamorphic assemblages in the Grenville Front tectonic zone, Canada. *Tectonics* **13**, 963-982.
- Krogh, T.E., Kamo, S.L., Hanley, T.B., Hess, D.F., Dahl, P.S., & Johnson, R.E. (2011): Geochronology and geochemistry of Precambrian gneisses, metabasites, and pegmatite from the Tobacco Root Mountains, northwestern Wyoming craton, Montana. *Canadian Journal of Earth Science* **46**, 161-185.
- Krogstad, E.J., & Walker, R.J. (1994): High closure temperatures of the U-Pb system in large apatites from the Tin Mountain pegmatite, Black Hills, South Dakota, USA. *Geochimica et Cosmochimica Acta* **58**, 3845-3853.
- Kröner, A. (1999): The Mozambique belt of East Africa and Madagascar: significance of zircon and Nd model ages for Rodinia and Gondwana supercontinent formation and dispersal. *South African Journal of Geology* **104**, 151-166.
- Kröner, A., Wilde, S.A., Li, J. H., & Wang, K. Y. (2005): Age and evolution of a late Archean to Paleoproterozoic upper to lower crustal section in the Wutaishan/Hengshan/Fuping terrain of northern China. *Journal of Asian Earth Sciences* **24**, 577-595.
- Kröner, A., Wilde, S.A., Zhao, G.C., O'Brien, P.J., Sun, M., Liu, D.Y., Wan, Y.S., Liu, S.W., & Guo, J.H. (2006): Zircon geochronology and metamorphic evolution of mafic dykes in the Hengshan Complex of northern China: Evidence for late Palaeoproterozoic extension and subsequent high-pressure metamorphism in the North China Craton. *Precambrian Research* **146**, 45-67.
- Kröner, S., Konopásek, J., Kröner, A., Passchier, C.W., Poller, U., Wingate, M.T.D., & Hofmann, K.H. (2004): U-Pb and Pb-Pb zircon ages for metamorphic rocks in the Kaoko Belt of Northwestern Namibia: A Palaeo- to Mesoproterozoic basement reworked during the Pan-African orogeny. *South African Journal of Geology* **107**, 455-476.
- Kruger F.J., Kamber, B.S., & Harris, P.D. (1998): Isotopic peculiarities of an Archaean pegmatite (Union Mine, Mica, South Africa): Geochemical and geochronological implications. *Precambrian Research* **91**, 253-267.
- Kudryashov, N.M., Gavrilko, B., & Apanasevich, E. (2004): Time of formation of rare metal pegmatites in the Kolmozero-Voron'ya green stone belt (Kola region of the Baltic shield): U-Pb, Pb-Pb tantalite, columbite and tourmaline dating. 32nd IGC, Florence 2004, Abstracts, 237-23.
- Küster, D., Zerihun, D., & Melcher, F. (2009): The Kenticha rare-element pegmatite, Ethiopia: internal differentiation, U-Pb age and Ta mineralization. *Mineralium Deposita* **44**, 723-750.
- Küster, D. (1995): Rb-Sr isotope systematics of muscovite from Pan-African granitic pegmatites of Western and Northeastern Africa. *Mineralogy and Petrology* **55**, 71-83.
- Kuzmichev, A.B., Ponomarchuk, V.A., Konilov, A.N., & Paderin, I.P. (2009): Deep-seated pegmatites of the Emiytas mafic-ultramafic complex on Big Lyakhov island, New Siberian Islands, and their age: $^{40}\text{Ar}/^{39}\text{Ar}$ and SHRIMP data. *Geochemistry International* **47**(2), 186-198.
- Kuznetsova, L.G., Shokalsky, S.P., & Sergeev, S.A. (2011): Rare-element pegmatites and pegmatite-bearing granites in the Sangilen mountain area: age, petrogenesis and tectonic setting, in: Large Igneous Provinces of Asia: Mantle Plumes and Metallogeny (Abstract Vol.). Petrographica, Irkutsk, p. 138-141.
- Laferrière, A., Pearse, G.H.K., & Live, P. (2011): Updated Mineral Resources, Whabouchi Lithium Project, James Bay, Québec: Nemaska Exploration, Inc. http://www.nemaskalithium.com/Documents/reports/whabouchi/Whabouchi_Updated%2043-101_July-2011.pdf. Accessed May 15, 2013.
- Lagache, M., & Quéméneur, J. (1997): The Volta Grande pegmatites, Minas Gerais, Brazil: An example of rare-element granitic pegmatites exceptionally enriched in lithium and rubidium. *The Canadian Mineralogist* **35**, 153-165.

- Larbi, Y., Stevenson, R., Breaks, F., Machado, N., & Gariépy, C. (1999): Age and isotopic composition of late Archean leucogranites: implications for continental collision in the western Superior Province. *Canadian Journal of Earth Science* **36**, 495-510.
- Larin, A. M., Rytsk, Y. Y., & Sokolov, Y. M. (1997): Baikal—Patom fold belt. in D.V. Rundqvist and C. Gillen (editors) *Precambrian Ore Deposits of the East European and Siberian Cratons Developments in Economic Geology*, **30**, 317-362.
- Laurs, B.M., Dilles, J.H., & Snee, L.W. (1996): Emerald mineralization and metasomatism of amphibolite Khaltaro granitic pegmatite – hydrothermal vein system, Haramosh Mountains, northern Pakistan. *The Canadian Mineralogist* **34**, 1253-1286.
- Lawlor, P.J., Ortega-Gutierrez, F., Cameron, K.L., Ochoa-Camarillo, H., Lopez, R., & Sampson, D.E. (1999): U-Pb geochronology, geochemistry and provenance of the Grenvillian Huiznopal gneiss of eastern Mexico. *Precambrian Research* **94**, 73-99.
- Lazic, B., Kahnenberg, V., Vulic, P., Pesic, L., & Dimitrijevic, R. (2009): Meta-autunite from a Li-pegmatite of the Cer Mt., Serbia: Its mineralogical and XRD investigations: *Neues Jahrbuch für Mineralogie-Abhandlungen* **186**, 333-344.
- Lee, J., McClelland, W., Wang, Y., Blythe, A., & McWilliams, M. (2006): Oligocene – Miocene middle crustal flow in southern Tibet: geochronology of Mabja Dome. *Geological Society, London, Special Publications* **268**, 445-469.
- Leech, M.L., Webb, L.E., & Yang, T.N. (2006): Diachronous histories for the Dabie-Sulu orogen from high-temperature geochronology. *Geological Society of America, Special Papers* **403**, 1-22.
- Lentz, D.R., & Creaser, R.A. (2005): Re-Os model age constraints on the genesis of the Moss molybdenite pegmatite-aplite deposit, Southwestern Grenville Province, Quyon, Quebec, Canada. *Exploration and Mining Geology* **14**(1-4), 95-103.
- Li, Jiankang, Wang, Denghong, & Chen, Yuchuan (2013): The Ore-forming Mechanism of the Jiajika Pegmatite-Type Rare Metal Deposit in Western Sichuan Province: Evidence from Isotope Dating. *Acta Geologica Sinica* (English Edition) **87**(1), 91-101.
- Liati, A., Gebauer, D., & Wysoczanski, R. (2002): U-Pb SHRIMP-dating of zircon domains from UHP garnet-rich rocks and late pegmatoids in the Rhodope zone (N Greece); evidence for Early Cretaceous crystallization and Late Cretaceous metamorphism. *Chemical Geology* **184**, 281-299.
- Lima, A., Medes, L., Melletton, J., Gloague, E., & Frei, D. (2013): Seixoso-Vieiros rare element pegmatite field: dating the mineralizing events: The 6th International Pegmatite Symposium on Granitic Pegmatites, Bartlett, N.H., USA, Abstracts, 77-78.
- Lin, L.H., Wang, P.L., Lo, C.H., Tsai, C.H., & Jahn, B.M. (2005): $^{40}\text{Ar}/^{39}\text{Ar}$ thermochronological constraints on the exhumation of ultrahigh-pressure metamorphic rocks in the Sulu Terrane of Eastern China. *International Geology Review* **47**(8), 872-886.
- Lindroos, A., Romer, R.L., Ehlers, C., & Alviola, R. (1996): Late-orogenic Svecofennian deformation in SW Finland constrained by pegmatite emplacement ages. *Terra Nova* **8**, 567-574.
- Lisker, F., & Fachmann, S. (2001): Phanerozoic history of the Mahanadi region, India. *Journal of Geophysical Research* **106**, 22,027-22,050.
- Liu, F., Robinson, P.T., Gerdes, A., Xue, H., Liu, P., & Liou, J.G. (2010): Zircon U-Pb ages, REE concentrations and Hf isotope concentrations of granitic leucosome and pegmatite from the north Sulu UHP terrane in China: Constraints on the timing and nature of partial melting. *Lithos* **117**, 247-268.
- Lo, C.H., & Onstott, T.C. (1995): Rejuvenation of K-Ar systems for minerals in the Taiwan Mountain Belt. *Earth and Planetary Science Letters* **131**, 71-98.
- Lupulescu, M.V., Chiarenzelli, J.R., Pullen, A., & Price, J.D. (2010): Pegmatites from the Adirondack mountains, NY: Systematic, mineralogy and geochronology. *Geological Society of America, Abstracts with Programs* **42**(1), 158.
- Lupulescu, M.V., Chiarenzelli, J.R., Pullen, A., & Price, J.D. (2011): Using pegmatite geochronology to constrain temporal events in the Adirondack Mountains. *Geosphere* **7**(1), 23-39.
- Machado, N., Heaman, L.M., Krogh, T.E., Weber, W., & Corkery, M.T. (2011): Timing of Paleoproterozoic granitoid magmatism along the northwestern Superior Province margin: implications for the tectonic evolution of the Thompson Nickel Belt. *Canadian Journal of Earth Science* **48**, 325-346.
- Mao, J., Du, A., Seltmann, R., & Yu, J. (2003): Re-Os ages for the Shameika porphyry Mo deposit and the Lipovy Log rare metal pegmatite, Central Urals, Russia. *Mineralium Deposita* **38**, 251-257.
- Mattinson, C.G., Colgan, J.P., Metcalf, J.R., Miller E.L., & Wooden, J.L. (2007): Late Cretaceous to Paleocene metamorphism and magmatism in the Funeral Mountains metamorphic core complex, Death

- Valley, California. *Geological Society of America Special Paper* **419**, 205–223, doi: 10.1130/2006.2419(11).
- McCaig, A.M., & Miller, J.A. (1986): $^{40}\text{Ar}/^{39}\text{Ar}$ age of mylonites along the Merens Fault, Central Pyrenees. *Tectonophysics* **129**, 149-172.
- McLaren, S., Dunlap, W.J., Sandiford, M., & McDougall, I. (2002): Thermochronology of high heat-producing crust at Mount Painter, South Australia: Implications for tectonic reactivation of continental interiors. *Tectonics* **21**, X1-X17.
- McLellan, J., Hamilton, M., Selleck, B., McLellan, J., Walker, D., & Orrell, S. (2001): Zircon U-Pb geochronology of the Ottawan Orogeny, Adirondack highlands, New York: regional and tectonic implications. *Precambrian Research* **109**, 39-72.
- Melcher, F., Sitnikova, M.A., Graupner, T., Martin, N., Oberthür, T., Henjes-Kunst, F., Gäßler, E., Gerdes, A., Brätz, H., Davis, D.W., & Dewaele, S. (2008): Fingerprinting of conflict minerals: columbite-tantalite (“coltan”) ores. *SGA News* **23**, 1-14.
- Melcher, F., Graupner, T., Gäßler, H. E., Sitnikova, M., Henjes-Kunst, F., Oberthür, T., Gerdes, A., & Dewaele, S. (2013): Tantalum-(niobium-tin) mineralisation in African pegmatites and rare metal granites: Constraints from Ta-Nb oxide mineralogy, geochemistry and U-Pb geochronology. *Ore Geology Reviews*. <http://dx.doi.org/10.1016/j.oregeorev.2013.09.003>
- Melleton, J., Gloaguen, E., Frei, D., Novák, M., & Breiter, K. (2012): How are the emplacement of rare-element pegmatites, regional metamorphism and magmatism interrelated in the Moldanubian domain of the Variscan Bohemian Massif, Czech Republic?. *The Canadian Mineralogist*, **50**, 1751-1773.
- Mezger, K., & Cosca, M.A. (1999): The thermal history of the Eastern Ghats Belt (India) as revealed by U-Pb and $^{40}\text{Ar}/^{39}\text{Ar}$ dating of metamorphic and magmatic minerals: implications for the SWEAT correlation. *Precambrian Research* **94**, 251-271.
- Miao, L., Qui, Y., McNaughton, N., Fan, W., Groves, D.I., & Zhai, M. (2003): SHRIMP U-Pb zircon ages of granitoids in the Wulashan gold deposit, Inner Mongolia, China: Timing of mineralization and tectonic implications. *International Geology Review* **45**, 548-562.
- Miller, J.S., Santosh, M., Pressley, R.A., Clements, A.S., & Rogers, J.J.W. (1996): A Pan-African thermal event in Southern India. *Journal of Southeast Asian Earth Sciences* **14**, 127-136.
- Miller, M.G., & Friedman, R.M. (1999): Early Tertiary magmatism and probable Mesozoic fabrics in the Black Mountains, Death Valley, California. *Geology* **27**, 19-22.
- Miyamoto, T., Satish-Kumar, M., Dunkley, D.J., Osanai, Y., Yoshimura, Y., Motoyoshi, Y., & Carson, C.J. (2008): Post peak (<530 Ma) thermal history of Lützow-Holm complex, East Antarctica, based on Rb-Sr and Sm-Nd mineral chronology. *Geological Society, London, Special Publications* **308**, 165-181.
- Mojzsis, S.J., Devaraju, T.C., & Newton, R.C. (2003): Ion microprobe U-Pb age determinations on zircon from the late Achean granulite facies transition zone of Southern India. *The Journal of Geology* **111**, 407-425.
- Moralez-Gámez, M., Keppie, J.D., & Norman, M. (2008): Ordovician-Silurian rift-passive margin on the Mexican margin of the Rheic Ocean overlain by Carboniferous-Permian periarc rocks: Evidence from the eastern Acatlán Complex, southern Mexico. *Tectonophysics* **461**, 291-310.
- Morillion, A.C., Féraud, G., Sosson, M., Ruffet, G., Crevola, G., & Lerouge, G. (2000): Diachronous cooling on both sides of a major strike slip fault in the Variscan Maures Massif (south-east France), as deduced from a detailed $^{40}\text{Ar}/^{39}\text{Ar}$ study. *Tectonophysics* **321**, 103-126.
- Moritz, R., Ghazban, F., & Singer, B.S. (2006): Eocene gold ore formation at Muteh, Sanandaj-Sirjan tectonic zone, western Iran: A result of late-stage extension and exhumation of metamorphic basement rocks within the Zagros orogen. *Economic Geology* **101**, 1497-1524.
- Mortimer, G.E., Cooper, J.A., & James, P.R. (1987): U-Pb and Rb-Sr geochronology and geological evolution of the Harts Range ruby mine area of the Arunta Inlier, central Australia. *Lithos* **20**, 445-467.
- Moser, D.E., Heaman, L.M., Krogh, T.E., & Hanes, J.A. (1996): Intracrustal extension of an Archean orogeny revealed using single-grain U-Pb zircon geochronology. *Tectonics* **15**(5), 1093-1109.
- Mulchay, S.R., Roeske, S.M., McClelland, W.C., Jourdan, F., Iriondo, A., Renne, P.R., Vervoort, J.D., & Vujovich, G.I. (2011): Structural evolution of a composite middle to lower crustal section: The Sierra de Pie de Palo, northwest Argentina. *Tectonics* **30**, TC1005, 24p.
- Müller, M.A., Kröner, A., Baumgartner, L.P., Dirks, P.H.G.M., & Jelsma, H.A. (2000): Evolution of Neoproterozoic high-grade rocks in the Mavuradonha Mountains, Zambezi Belt, northeast Zimbabwe. *Journal of African Earth Sciences, Special Abstracts Issue, 18th Colloquium of African Geology* **30**(4), 64-65.

- Neiva, A.M.R., & Leal Gomes, C.A.A. (2010): Geoquímica das turmalinas do grupo pegmatítico granítico Li-Cs-Ta de Naípa, Alto Ligonha, Moçambique: *e-Terra* **13**(4), 1-4.
- Nelson, D.R., Myers, J.S., & Nutman, A.P. (1995): Chronology and evolution of the Middle Proterozoic Albany-Fraser Orogen, Western Australia. *Australian Journal of Earth Sciences* **42**, 481-495.
- Neubauer, F., & Handler, R. (1999): Variscan orogeny in the Eastern Alps and Bohemian Massif: How do these units correlate? *Mitt. Österr. Geol. Ges.* **92**, 35-59.
- Nex, P., Kinnaird, J., & Broccardo, L. (2011): Regional zonation of pegmatites and synchronous mineralization in the central zone of the Damara Orogen, Namibia: PEG2011 Argentina, Contributions to the 5th International Symposium on Granitic Pegmatites, *Asociación Geológica Argentina, Publicación Especial* **14**, 145-147.
- Neymark, L. A., Larin, A. M., Yakovleva, S. Z., Srivtsev, N. A., & Buldigerov, V. V. (1991): New age values for rocks of the Akitkan group, the Baikal-Patom fold belt: dating by U-Pb zircon method. In *Dokl. Akad. Nauk. SSSR* **320**, 182-186.
- Novak, M., Cerny, P., Kimbrough, D.L., Taylor, M.C., & Ercit, T.S. (1998): U-Pb ages of monazite from granitic pegmatites in the Moldanubian Zone and their geological implications. *Acta Universitatis Carolinae – Geologica* **42**(2), 309-310.
- Novak, M., Johan, Z., Skoda, R., Cerny, P., Srein, V., & Veselovsky, F. (2008): Primary oxide minerals in the system $\text{WO}_3\text{-Nb}_2\text{O}_5\text{-TiO}_2\text{-Fe}_2\text{O}_3\text{-FeO}$ and their breakdown products from the pegmatite No. 3 at Dolní Bory-Hatě, Czech Republic. *European Journal of Mineralogy* **20**, 487-499.
- O'Connor, P.J., Gallagher, V., & Kennan, P.S. (1991): Genesis of lithium pegmatites from the Leinster granite margin, southeast Ireland: geochemical constraints. *Geological Journal* **26**, 295 – 305.
- Orris, G.J., & Bliss, J.D. (2002): Mines and Mineral Occurrences of Afghanistan: *U.S. Geological Survey Open-File Report* **02-110**, 95 p.
- Ortega-Rivera, A. (2003): Geochronological constraints on the tectonic history of the Peninsular Ranges batholith of Alta and Baja California: *Geological Society of America Special Paper* **374**, 297–335.
- Page, R.W., & Hancock, S.L. (1988): Geochronology of a rapid 1.85-1.86 Ga tectonic transition: Halls Creek Orogen, Northern Australia. *Precambrian Research* **40/41**, 447-467.
- Page, J.J., & Larrabee, D.M. (1962): Beryl resources of New Hampshire: *U.S. Geological Survey Professional Paper* **353**, 49 p., 16 plates.
- Pal, D.C., Mishra, B., & Bernhardt, H.J. (2007): Mineralogy and geochemistry of pegmatite-hosted Sn-, Ta-Nb-, and Zr-Hf-bearing minerals from the southeastern part of the Bastar-Malkangiri pegmatite belt, Central India: *Ore Geology Reviews* **30**, 30-55.
- Partington, G.A., McNaughton, N.J., & Williams, I.S. (1995): A review of the geology, mineralization, and geochronology of the Greenbushes pegmatite, Western Australia. *Economic Geology* **90**, 616-635.
- Pedersen, S., Andersen, T., Konnerup-Madsen, J., & Griffin, W.L. (2009): Recurrent Mesoproterozoic continental magmatism in South-Central Norway. *International Journal of Earth Science* **98**, 1151-1171.
- Pedersen, R.B., & Dunning, G.R. (1997): Evolution of arc crust and relations between contrasting sources: U-Pb (age), Nd and Sr isotope systematics of the ophiolite terrain of SW Norway: *Contributions to Mineralogy and Petrology* **128**, 1–15, doi:10.1007/s004100050289.
- Percival, J.A., & Skulski, T. (2000): Tectonothermal evolution of the northern Minto block, Superior Province, Quebec, Canada. *The Canadian Mineralogist* **38**, 345-378.
- Peucat, J.J., Draren, A., Latouche, L., Deloule, E., & Vidal, P. (2003): U-Pb zircon (TIMS and SIMS) and Sm-Nd whole-rock geochronology of the Gour Oumelalen granulitic basement, Hoggar massif, Tuareg shield, Algeria. *Journal of African Earth Sciences* **37**, 229-239.
- Poujol, M., & Robb, L.J. (1999): New U-Pb zircon ages on gneisses and pegmatite from south of the Murchison greenstone belt, South Africa. *South African Journal of Geology* **102**, 93-97.
- Premo, W.R., & Van Schmus, W.R. (1989): Zircon geochronology of Precambrian rocks in southeastern Wyoming and northern Colorado. *Geological Society of America, Special Paper* **235**, 13-32.
- Raimbault, L. (1998): Composition of complex lepidolite-type granitic pegmatites and of constituent columbite-tantalite, Chedeville, Massif Central, France. *The Canadian Mineralogist* **36**, 563-583.
- Ratschbacher, L., Franz, L., Min, M., Bachmann, R., Martens, U., Stanek, K., Stubner, K., Nelson, B.K., Herrman, U., Weber, B., Lopez-Martinez, M., Jonckheere, R., Sperner, B., Tichomirowa, M., McWilliams, M.O., Gordon, M., Meschede, M., & Bock, P. (2009): The North American-Caribbean plate boundary in Mexico-Guatemala-Honduras. *Geological Society, London, Special Publications*, **328**, 219–293.

- Regmi, K.R. (2008): Petrogenesis of the augen gneisses from Mahesh Khola section, Central Nepal. *Bulletin of the Department of Geology, Tribhuvan University, Kathmandu, Nepal* **11**, 13-22.
- Reiners, P. W., Brady, R., Farley, K. A., Fryxell, J. E., Wernicke, B., & Lux, D. (2000): Helium and argon thermochronometry of the Gold Butte block, south Virgin Mountains, Nevada. *Earth and Planetary Science Letters*, **178**, 315-326.
- Reyf, F.G., Seltmann, R., & Zaraisky, G.P. (2000): The role of magmatic processes in the formation of banded Li, F-enriched granites from the Orlovka tantalum deposit, Transbaikalia, Russia: Microthermometric evidence: *The Canadian Mineralogist* **38**, 915–936.
- Reznitskii, L.Z., Kotov, A.B., Sal'nikova, E.B., Vasil'ev, E.P., Yakovleva, S.Z., Kovach, V.P., & Fedoseenko, A.M. (2000): The age and time span of the origin of phlogopite and lazurite deposits in the southwestern Baikal area: U-Pb geochronology. *Petrology* **8**(1), 66-76.
- Rivers, T., Mengel, F., Scott, D.J., Campbell, L.M., & Goulet, N. (1996): Torngat Orogen – a Palaeoproterozoic example of a narrow doubly vergent collisional orogen. *Geological Society London, Special Publications* **112**, 117-136.
- Roda-Robles, E., & Pesquera, A. (2007): Locality No. 3: Lepidolite-spodumene-rich and cassiterite-rich pegmatites from the Feli open-pit (La Fregenda, Salamanca, Spain), in Lima, A., and Roda-Robles, E., editors, Granitic Pegmatites: The State of the Art—Field Trip Guidebook: Univ. de Porto, Departamento de Geologia, *Memórias* **9**, 54-61.
- Rogers, G., Hyslop, E.K., Strachan, R.A., Paterson, B.A., & Holdsworth, R.E. (1998): The structural setting and U-Pb geochronology of Knoydartian pegmatites in W Inverness-shire: evidence for neoproterozoic tectonothermal events in the Moine of NW Scotland. *Journal of the Geological Society, London* **155**, 685-696.
- Romer, R.L. (1997): U-Pb age of rare-element pegmatites at Stora Vika, SE Sweden. *GFF* **119**, 291-294.
- Romer, R.L. & Lehmann, B. (1995): U-Pb columbite age of Neoproterozoic Ta-Nb mineralization in Burundi. *Economic Geology* **90**, 2303-2309.
- Romer R.L., & Smeds, S.A. (1994): Implications of U-Pb ages of columbite-tantalites from granitic pegmatites for the Paleoproterozoic accretion of 1.90-1.85 Ga magmatic arcs to the Baltic shield. *Precambrian Research* **67**, 141-158.
- Romer, R.L., & Smeds, S.A. (1996): U-Pb columbite ages of pegmatites from Sveconorwegian terranes in southwestern Sweden. *Precambrian Research* **76**, 15-30.
- Romer, R.L., Thomas, R., Stein, H.J., & Rhede, D. (2007): Dating multiply overprinted Sn-mineralized granites – examples from the Erzgebridge, Germany. *Mineralium Deposita* **42**, 337-359.
- Romer, R.L., & Wright, J.E. (1992): U-Pb dating of columbite: a geochronologic tool to date magmatism and ore deposits. *Geochim. Cosmoch. Acta* **56**, 2137-2142.
- Saalmann, K., Manttari, I., Peltonen, P., Whitehouse, M.J., Gronholm, P., & Talikka, M. (2010): Geochronology and structural relationships of mesothermal gold mineralization in the Paleoproterozoic Jokisivu prospect, southern Finland. *Geological Magazine* **147**, 551-569.
- Saleeby, J.B., Sams, D.B., & Kistler R.W. (1987): U/Pb zircon, strontium, and oxygen isotopic and geochronological study of the southernmost Sierra Nevada Batholith, California. *Journal of Geophysical Research* **92** (B10), 10,443-10,466.
- Sal'nikova, E.B., Larin, A.M., Yakovleva, S.Z., Kotov, A.B., Glebovitskii, V.A., Tkachev, A.V., Anisimova, I.V., Plotkina, Yu.V., & Gorokhovskii, B. M. (2011): Age of the Vishnyakovskoe deposit of rare-metal pegmatites (East Sayan): U-Pb geochronological study of manganotantalite. *Doklady Earth Sciences* **441**(1), 1479-1483.
- Sartini-Rideout, C., Gilotti, J.A., & McClelland, W.C. (2006): Geology and timing of dextral strike-slip shear zones in Danmarkshavn, North-East Greenland Caledonides. *Geological Magazine* **143**, 431-446.
- Schärer, U., Cosca, M., Steck, A., & Hunziker, A. (1996): Termination of major ductile strike-slip shear and differential cooling along the Insubric line (Central Alps): U-Pb, Rb-Sr, and $^{40}\text{Ar}/^{39}\text{Ar}$ ages of cross cutting pegmatites. *Earth and Planetary Science Letters* **142**, 331-351.
- Schärer, U., Zhang, L.S., & Tapponnier, P. (1994): Duration of strike-slip movements in large shear zones: the Red River belt, China. *Earth and Planetary Science Letters* **126**, 379-397.
- Scherer, E., Münker, C., & Mezger, K. (2001): Calibration of the Lutetium-Hafnium Clock. *Science* **293**(5530), 683-687.
- Schermer, E.R., Stephens, K.A., & Walker, J.D. (2001): Paleogeographic and tectonic implications of the geology of the Tiefort mountains, northern Mojave Desert, California. *Geological Society of America Bulletin* **113**, 920-938.

- Schmitt, R.S., Trouw, R.A.J., Van Schmus, W.R., & Pimentel, M.M. (2004): Late amalgamation in the central part of West Gondwana: new geochronological data and the characterization of a Cambrian collisional orogeny in the Ribeira Belt (SE Brazil). *Precambrian Research* **133**, 29-61.
- Schmitz, M.D., Bowring, S.A., de Wit, M.J., & Gartz, V. (2004): Subduction and terrane collision stabilize the western Kappaal craton tectosphere 2.9 billion years ago. *Earth and Planetary Science Letters* **222**, 363-376.
- Schoene, B., de Wit, M.J., & Bowring, S.A. (2008): Mesoarchean assembly and stabilization of the eastern Kappaal craton: A structural-thermochronological perspective. *Tectonics* **27**, TC5010, 27 p.
- Schwartz, M.O. (1992): Geochemical criteria for distinguishing magmatic and metasomatic albite-enrichment in granitoids – examples from the Ta-Li granite Yichun (China) and the Sn-W deposit Tikus (Indonesia). *Mineralium Deposita* **27**, 101-108.
- Selleck, B.W., McLellan, J.M., & Bickford, M.E. (2005): Granite emplacement during tectonic exhumation: The Adirondack example. *Geology* **33** (10) 781-784.
- Selway, J.B., Breaks, F.W., & Tindle, A.G. (2005): A review of rare-element (Li-Cs-Ta) pegmatite exploration techniques for the Superior Province, Canada, and large worldwide tantalum deposits: *Exploration and Mining Geology* **14** (1-4), 1-30.
- Sevigny, J.H., & Hanson, G.N. (1993): Orogenic evolution of the New England Appalachians of southwestern Connecticut. *Geological Society of America Bulletin* **105**, 1591-1605.
- Shaw, C.A., Karlstrom, K.E., Williams, M.L., Jercinovic, M.J., & McCoy, A.M. (2001): Electron-microprobe monazite dating of ca. 1.71-1.63 Ga and ca. 1.45-1.38 Ga deformation in the Homestake shear zone, Colorado: Origin and early evolution of a persistent intracontinental tectonic zone. *Geology* **29**, 739-742.
- Sheppard, S., Rasmussen, B., Muhling, J.R., Farrell, T.R., & Fletcher, I.R. (2007): Genvillian-aged orogenesis in the Palaeoproterozoic Gascoyne Complex, Western Australia: 1030-950 Ma reworking of the Proterozoic Capricorn Orogen. *Journal of Metamorphic Geology* **25**, 477-494.
- Simmons, W. B., Hanson, S. L., Falster, A. U., & Webber, K. L. (2012): A comparison of the mineralogical and geochemical character and geological setting of Proterozoic REE-rich granitic pegmatites of the north-central and southwestern US. *The Canadian Mineralogist*, **50**, 1695-1712.
- Sims, J. P., Ireland, T. R., Camacho, A., Lyons, P., Pieters, P. E., Skirrow, R. G., Stuart-Smith, P. G., & Miró, R. (1998): U-Pb, Th-Pb and Ar-Ar geochronology from the southern Sierras Pampeanas, Argentina: implications for the Paleozoic tectonic evolution of the western Gondwana margin, in Pankhurst, R. J., and Rapela, C. W., eds., The proto-Andean margin of Gondwana: *Geological Society, London, Special Publications* **142**, 259-281.
- Sirbescu, M.-L.C., Hartwick, E.E., & Student, J.J. (2008): Rapid crystallization of the Animikie Red Ace pegmatite, Florence county, northeastern Wisconsin: inclusion microthermometry and conductive-cooling modeling: *Contributions to Mineralogy and Petrology* **156**, 289-305.
- Skytta P., & Manttari, I. (2008): Structural setting of late Svecofennian granites and pegmatites in Uusimaa belt, SW Finland: Age constraints and implications for crustal evolution. *Precambrian Research* **164**, 86-109.
- Smith, H.A., Chamberlain, C.P., & Zeitler, P.K. (1994): Timing and duration of Himalayan metamorphism within the Indian Plate, Northwest Himalaya, Pakistan. *The Journal of Geology* **102**, 493-508.
- Smith, S.R., Foster, G.L., Romer, R.L., Tindle, A.G., Kelly, S.P., Noble, S.R., Horstwood, M., & Breaks, F.W. (2004): U-Pb columbite-tantalite chronology of rare element pegmatites using TIMS and Laser Ablation Multi Collector-ICP-MS. *Contributions to Mineralogy and Petrology* **147**, 549-564.
- Soman, A., Geisler, T., Tomaschek, F., Grange, M., & Berndt, J. (2010): Alteration of crystalline zircon solid solutions: a case study on zircon from an alkaline pegmatite from Zomba-Malosa, Malawi. *Contributions to Mineralogy and Petrology* **160**, 909-930.
- Spikings, R.A., Foster, D.A., Kohn, B.P., & Lister, G.S. (2002): Post orogenic (<1500 Ma) thermal history of the Palaeo-Mesoproterozoic, Mt Isa province, NE Australia. *Tectonophysics* **349**, 327-365.
- Stahle, V., Frenzel, G., Kober, B., Michard, A., Puchelt, H., & Schneider, W. (1990): Zircon syenite pegmatites in the Finero peridotite (Ivrea zone): evidence for a syenite from a mantle source. *Earth and Planetary Science Letters* **101**, 196-205.
- Steltenpohl, M.G., Carter, B.T., Andresen, A., & Zeltner, D.L. (2009): $^{40}\text{Ar}/^{39}\text{Ar}$ thermochronology of late- and postorogenic extension in the Caledonides of north-central Norway. *The Journal of Geology* **117**, 399-414.

- Stendal, H., Secher, K., & Frei, R. (2006): ^{207}Pb - ^{206}Pb dating of magnetite, monazite, and allanite in the central and northern Nagssugtoqidian orogen, West Greenland. *Geological Survey of Denmark and Greenland Bulletin* **11**, 101-114.
- Stern, R.A., & Rayner, N. (2003): Ages of several zircon megacrysts by ID-TIMS: potential reference materials for ion microprobe U-Pb geochronology. *Geological Survey of Canada Current Research 2003-F1*, 7p.
- Stewart, D.B., Tucker, R.D., Ayuso, R.A., & Lux, D.R. (2001): Minimum age of the Neoproterozoic Seven Hundred Acre Island Formation and the Tectonic setting of the Islesboro Formation, Islesboro block, Maine. *Atlantic Geology* **37**, 41-59.
- Sullivan, W.A. (2006): Structural significance of L tectonics in the Eastern-Central Laramie mountains, Wyoming. *The Journal of Geology* **114**, 513-531.
- Sun, S., Sheraton, J.W., Glikson, A.Y., & Stewart, A.J. (1996): A major magmatic event during 1050-1080 Ma in central Australia, and an emplacement age for the Giles Complex. *AGSO Research Newsletter* **24**, 13-15.
- Suwimonprecha, P., Černý, P., & Friedrich, G. (1995): Rare metal mineralization related to granites and pegmatites, Phuket, Thailand: *Economic Geology* **90**, 603-615.
- Symons, D.T.A., Smith, T.E., Kawasaki, K., & Walawender, M.J. (2009): Paleomagnetism of the mid-Cretaceous gem-bearing pegmatite dikes of San Diego County, California, USA. *Canadian Journal of Earth Sciences* **46**, 675-687.
- Symons, R. (1961): Operation at Bikita Minerals (private), Ltd., Southern Rhodesia: *Institution of Mining and Metallurgy Bulletin* **661**, 129-172.
- Tack, L., & Bowden, P. (1999): Post-collisional granite magmatism in the central Damaran (Pan-African) Orogenic Belt, western Namibia. *Journal of African Earth Sciences* **28**, 653-674.
- Teyssier, C., Ferré, E.C., Whitney, D.L., Norlander, B., Vanderhaeghe, O., & Parkinson, D. (2005): Flow of partially molten crust and origin of detachments during collapse of the Cordilleran Orogen. *Geological Society, London, Special Publications* **245**, 39-64.
- Thorne, K.G., Lentz, D.R., Hall, D.C., & Yang, X. (2002): Petrology, geochemistry, and geochronology of the granitic pegmatite and aplite dykes associated with the Clarence Stream gold deposit, southwestern New Brunswick. *Geological Survey of Canada, Current Research 2002-E12*, 13p.
- Timmermann, H., Parrish, R.R., Noble, S.R., & Kryza, R. (2000): New U-Pb monazite and zircon data from the Sudetes Mountains in SW Poland: evidence for a single-cycle Variscan orogeny. *Journal of the Geological Society, London* **157**, 265-268.
- Tkachev, A.V. (2011): Evolution of metallogeny of granitic pegmatites associated with orogens throughout geologic time. *Geological Society, London, Spec. Publ.* **350**, 7-23.
- Tomascak, P.B., Krogstad, E.J., & Walker, R.J. (1996): U-Pb monazite geochronology of granitic rocks from Maine: implications for late Paleozoic tectonics in the northern Appalachians. *The Journal of Geology* **104**, 185-195.
- Trupe, C.H., Stewart, K.G., Adams, M.G., Waters, C.L., Miller, B.V., & Hewitt, L.K. (2003): The Burnsville fault: Evidence for the timing and kinematics of southern Appalachian Acadian dextral transform tectonics. *Geological Society of America Bulletin* **115**, 1365-1376.
- Tucker, R.D., & Robinson, P. (1995): U-Pb age of the Hardwick pluton and pre- "dome stage" pegmatite, Quabbin Reservoir, and their bearing on the "Acadian" orogeny in central Massachusetts and adjacent New Hampshire. *Geological Society of America Abstracts with Programs* **27**(6), A223-A224.
- Unruh, D.M., Snee, L.W., Foord, E.E., & Simmons, W.B. (1995): Age and cooling history of the Pikes Peak batholith and associated pegmatites. In *Geological Society of America, Abstracts with Programs* **27**(6), 468.
- Vega-Granillo, R., Talavera-Mendoza, O., Meza-Figueroa, D., Ruiz, J., Gehrels, G.E., López-Martínez, M., & Cruz-Vargas, J.C. (2007): Pressure-temperature-time evolution of Paleozoic high-pressure rocks of the Acatlán Complex (southern Mexico): Implications for the evolution of the Iapetus and Rheic Oceans. *Geological Society of America Bulletin* **119**, 1249-1264.
- Viana, R.R., Mänttäri, I., Kunst, H. & (2003): Age of pegmatites from eastern Brazil and implications of mica intergrowths on cooling rates and age calculations: *Journal of South American Earth Sciences* **16**, 493-501.
- Vignola, P., Diella, V., Oppizzi, P., Tiepolo, M., & Weiss, S. (2008): Phosphate assemblages from the Brissago granitic pegmatite, western Southern Alps, Switzerland: *The Canadian Mineralogist* **46**, 635-650.

- Vladimirov, A.G., Lyakhov, N.Z., Zagorskiy, V.E., Makagon, V.M., Kuznetsova, L.G., Smirnov, S.Z., Isupov, V.P., Belozerov, I.M., Uvarov, A.N., Gusev, G.S., Yusupov, T.S., Annikova, I. Yu., Beskin, S.M., Shokalskiy, S.P., Mikheev E.I., Kotler P.D., Moroz, E.N., & Gavryushkina, O.A. (2012): Lithium deposits of spodumene pegmatites of Siberia. *Chemistry for Sustainable Development* **20**, 3-20.
- Volkert, R.A., Zartman, R.E., & Moore, P.B. (2005): U-Pb zircon geochronology of Mesoproterozoic postorogenic rocks and implications for post-Ottawan magmatism and metallogenesis, New Jersey Highlands and contiguous areas, USA. *Precambrian Research* **139**, 1-19.
- Von Knorring, O., & Condliffe, E. (1987): Mineralized pegmatites in Africa: *Geological Journal* **22**, 253-270.
- Von Quadt, A., & Galliski, M.A. (2011): U-Pb LA-ICPMS columbite ages from the Pampean pegmatite province: Preliminary results. PEG2011 Argentina, Contributions to the 5th International Symposium on Granitic Pegmatites, *Asociación Geológica Argentina, Publicación Especial* **14**, 221-223.
- Walsh, G.J., Aleinikoff, J.N., & Wintsch, R.P. (2007): Origin of the Lyme dome and implications for the timing of multiple Alleghanian deformational and intrusive events in southern Connecticut. *American Journal of Science* **307**, 168-215.
- Wang, J., Wu, Y., Gao, S., Peng, M., Liu, X., Zhao, L., Zhao, L., Hu, Z., Gong, H., & Liu, Y. (2010): Zircon U-Pb and trace element data from rocks of the Huai'an complex: New insights into the late Paleoproterozoic collision between the eastern and western blocks of the North China Craton. *Precambrian Research* **178**, 59-71.
- Wang, T., Tong, Y., Jahn, B., Zou, T., Wang, Y., Hong, D., & Han, B. (2007): SHRIMP U-Pb zircon geochronology of the Altai No. 3 pegmatite, NW China, and its implications for the origin and tectonic setting of the pegmatite. *Ore Geol. Rev.* **32**, 325-336.
- Wanhainen, C., Billstrom, K., Martinsson, O., Stein, H., & Nordin, R. (2005): 160 Ma of magmatic/hydrothermal and metamorphic activity in the Gallivare area: Re-Os dating of molybdenite and U-Pb dating of titanite from the Aitik Cu-Au-Ag deposit, northern Sweden. *Mineralium Deposita* **40**, 435-447.
- Whitmore, R.W., & Lawrence, R.C., Jr. (2004): The pegmatite mines known as Palermo: Palermo Mines Ltd., Weare, N.H., 219 p.
- Wilde, S.A., Wu, F., & Zhang, X. (2003): Late Pan-African magmatism in northeastern China: SHRIMP U-Pb zircon evidence from granitoids in the Jiamusi Massif. *Precambrian Research* **122**, 311-327.
- Wise, M.A., & Brown, C. D. (2009): Extreme rare-element enrichment in a muscovite-rare-element class granitic pegmatite: A case study of the spodumene-amazonite McHone pegmatite, North Carolina. *Southeastern Geology* **46**, 155-172.
- Wise, M.A., & Brown, C. D. (2010): Mineral chemistry, petrology and geochemistry of the Sebago granite-pegmatite system, southern Maine, USA: *Journal of Geosciences* **55**, 3-26.
- Wodicka, N., Ketchum, J.W.F., & Jamieson, R.A. (2000): Grenvillian metamorphism of monocyclic rocks, Georgian bay, Ontario, Canada: Implications for convergence history. *The Canadian Mineralogist* **38**, 471-510.
- Wuxian, L., Xinmin, Z., Xianhua, L., Guogang, X., & Junhui, L. (2001): Zircon U-Pb dating of pegmatite from Xingzi metamorphic core complex of Lushan mountain and its geological implication. *Earth Science – Journal of China University of Geophysics* **26**(5) 491-495.
- Wu, Y.B., Zheng, Y.F., Zhang, S.B., Zhao, Z.F., Wu, F.Y., & Liu, X.M. (2007): Zircon U-Pb ages and Hf isotope compositions of migmatite from the North Dabie terrane in China: constraints on partial melting. *Journal of Metamorphic Geology* **25**, 991-1009.
- Xue, G., Mashall, D., Zhang, S., Ullrich, T.D., Bishop, T., Groat, L.A., Thorkelson, D.J., Giuliani, G., & Fallick, A.E. (2010): Conditions for early Cretaceous emerald formation at Dyakou, China: Fluid inclusion, Ar-Ar, and stable isotope studies. *Economic Geology* **105**, 339-349.
- Zagorsky, V.E., & Peretyazhko, I.S. (2010): First $^{40}\text{Ar}/^{39}\text{Ar}$ age determinations on the Malkhan granite-pegmatite system: Geodynamic implications. *Doklady Earth Sciences* **430**(2) 172-175.
- Zaw, K. (1998): Geological evolution of selected granitic pegmatites in Myanmar (Burma): constraints from regional setting, lithology, and fluid inclusion studies: *International Geology Review* **40**, 647-662.
- Zhao, G., Kroner, A., Wilde, S.A., Sun, M., Li, S., Li, X., Zhang, J., Xia, X., & He, Y. (2007): Lithotectonic elements and geological events in the Henshan-Wutai-Fuping belt: a synthesis and implications for the evolution of the Trans-North China Orogen. *Geological Magazine* **144**, 753-775.

Zhao, G., Wilde, S.A., Cawood, P.A., & Sun, M. (2002): SHRIMP U-Pb zircon ages of the Fuping Complex: Implications for late Archean to Paleoproterozoic accretion and assembly of the North China Craton. *American Journal of Science* **302**, 191-226.

Table A1, Pegmatites of the world

Pegmatite no.	Classification	Pegmatite body	Pegmatite district	Short name	Region & country	Age (Ma)	Error (m.y.)	Geon	Era	Dating method	Mineral(s) dated	Lat.	Long.	References and notes	Use in LCT age plot? (Y or other)	Li or Ta resource S = small L = large	Use in NYF age plot? (Y or other)
305	GP	[Phophonyane Inlier]	Kaapvaal Craton	—	South Africa	3223	2	32	Paleoarchean	U/Pb	zircon	-25.873	31.301	Schoene et al., 2008	Wrong kind	—	Wrong kind
304	GP	[Honeybird Sh. Zn.]	Kaapvaal Craton	—	South Africa	3105	1	31	Mesoarchean	U/Pb	zircon	-25.638	31.244	Schoene et al., 2008	Wrong kind	—	Wrong kind
12	GP	—	Isua Greenstone Belt	—	Greenland	2948	8	29	Mesoarchean	U/Pb	zircon	65.122	50.202	Hanmer et al., 2002	Wrong kind	—	Wrong kind
308	GP	[Kimberly Block]	Kaapvaal Craton	—	South Africa	2926	2	29	Mesoarchean	U/Pb	zircon	-28.000	25.000	Schmitz et al., 2004	Wrong kind	—	Wrong kind
301	GP	Union	Selati	—	South Africa	2912	3	29	Mesoarchean	Pb/Pb	garnet	-24.117	30.894	Kruger et al., 1998	Wrong kind	—	Wrong kind
292	LCT	Pilgangoora	Pilgangoora	Pilgangoora	Australia	2879	5	28	Mesoarchean	U/Pb	columbite-tantalite	-21.042	118.913	Kinny 2000	Y	L	Wrong kind
—	GP	Eokuk - Syenogranite	Slave Craton	—	Nunavut, Canada	2852	3	28	Mesoarchean	U/Pb	zircon, monazite	—	—	Emon et al., 1999	Wrong kind	—	Wrong kind
233	GP	[Murchison Belt]	Kaapvaal Craton	—	South Africa	2848	58	28	Mesoarchean	U/Pb	zircon	24.256	-30.805	Poujol and Robb, 1999	Wrong kind	—	Wrong kind
293	LCT	Wodgina	Wodgina	Wodgina	Western Australia	2829	11	28	Mesoarchean	Pb/Pb	columbite-tantalite	-21.210	118.624	Kinny, 2000	Y	L	Wrong kind
56	GP	Cross Lake	Superior Craton	—	Manitoba, Canada	2765	7	27	Neoarchean	U/Pb	zircon	54.503	-97.721	Corkery et al., 1992	Wrong kind	—	Wrong kind
42	GP	Vizien Belt	Superior Craton	—	Québec, Canada	2693	1	26	Neoarchean	Pb/Pb	monazite	58.092	-72.921	Percival and Skulski, 2000	Wrong kind	—	Wrong kind
—	GP	[Nuvvuagittuq]	Superior Craton	—	Québec, Canada	2686	4	26	Neoarchean	U/Pb	zircon	—	—	David et al., 2009	Wrong kind	—	Wrong kind
62	LCT	Pakeagama Lake	Favourable Lake	Favourable Lake	Ontario, Canada	2670	5	26	Neoarchean	U/Pb	columbite-tantalite	52.598	-93.379	Breaks et al., 1999; Smith et al., 2004	Y	S	Wrong kind
86	LCT	Fairservice	Mavis Lake	Mavis	Ontario, Canada	2665	8	26	Neoarchean	U/Pb	columbite-tantalite	49.821	-92.656	Breaks and Moore, 1992; Smith et al., 2004	Y	S	Wrong kind
79	NYF	Shatford	—	Shatford	Manitoba, Canada	2652	5	26	Neoarchean	U/Pb	euxenite	50.381	-95.487	Baadsgaard and Černý, 1993	Wrong kind	S	Y
102	GP	[N of North Bay]	Grenville Front Tectonic Zone	—	Canada	2650	4	26	Neoarchean	U/Pb	monazite	46.417	-79.983	Krogh 1994	Wrong kind	—	Wrong kind
85	LCT	Gullwing Lake	Gullwing Lake	Gullwing	Canada	2650	3	26	Neoarchean	U/Pb	monazite	49.863	-92.531	Larbi et al., 1999	Y	S	Wrong kind
80	LCT	Silver Leaf	Greer Lake	Greer	Manitoba, Canada	2645	7	26	Neoarchean	U/Pb	columbite-tantalite	50.370	-96.360	Camacho et al., 2012	Y	S	Wrong kind
82	LCT	Big Whopper	Separation Rapids	Big Whopper	Ontario, USA	2644	7	26	Neoarchean	U/Pb	columbite-tantalite	50.250	-94.060	Breaks and Tindle, 2002; age from Smith et al., 2004; coordinates are for nearby Marko's pegmatite. Tonnage from Breaks and Tindle, 2002	Y	L	Wrong kind
—	LCT	Tanco & Silverleaf	Winnipeg River	Tanco	Manitoba, Canada	2641	3	26	Neoarchean	U/Pb	columbite-tantalite	—	—	Camacho et al., 2012	Y	L	Wrong kind
95	LCT	Quebec Lithium Corp.	Lacorne	Lacorne	Quebec, Canada	2639	2	26	Neoarchean	U/Pb	monazite	48.411	-77.808	Location from MinDat; Ducharme et al., 1997	Y	S	Wrong kind
96	GP	[Wawa Gneiss]	Superior Craton	—	Canada	2637	2	26	Neoarchean	U/Pb	zircon	48.033	-83.250	Moser et al., 1996	Wrong kind	—	Wrong kind
319	GP	[Chalice Gold Deposit]	Yilgarn Craton	—	Western Australia	2622	13	26	Neoarchean	U/Pb	Ttn	-31.817	121.500	Bucci et al., 2004	Wrong kind	—	Wrong kind
316	GP	Corinthia	Yilgarn Craton	—	Australia	2620	6	26	Neoarchean	Pb/Pb	whole rock	-31.125	119.220	Bloem et al., 1995	Wrong kind	—	Wrong kind
285	LCT	Bikita	Bikita	Bikita	Zimbabwe	2617	1	26	Neoarchean	—	—	-20.092	31.602	Symons, 1961; age from Melcher et al., 2013	Y	L	Wrong kind
278	LCT	Benson		Benson	Zimbabwe	2587	4	25	Neoarchean	U/Pb	columbite-tantalite	-17.016	32.270	Age from Melcher et al. 2013; location from Mindat.org	Y	S	Wrong kind
19	GP	Yellowknife - Prosperous	Slave Craton	—	Northwester Territories	2575	14	25	Neoarchean	Ar/Ar	muscovite	62.571	-113.649	Bethune et al., 1998	Wrong kind	—	Wrong kind
249	GP	[Halaguru Region]	Dharwar Craton	—	India	2530	10	25	Neoarchean	U/Pb	zircon	12.434	77.206	Mojzsis et al., 2003	Wrong kind	—	Wrong kind
327	LCT	Greenbushes	Greenbushes	Greenbushes	Western Australia	2527	2	25	Neoarchean	U/Pb	zircon	-33.867	116.065	Partington et al., 1995	Y	L	Wrong kind
5	LCT	Vasin-Mylk	Lapland Kola Orogen	Vasin-Mylk	Russia	2518	9	25	Neoarchean	U/Pb	columbite-tantalite	68.387	35.694	Kudryashov et al., 2004	Y	S	Wrong kind

Table A1, Pegmatites of the world

177	GP	Xinzhuang	North China Craton	—	China	2507	11	25	Neoarchean	U/Pb	zircon	38.374	114.244	Zhao et al., 2002	Wrong kind	—	Wrong kind
171	GP	Little Stone Valley	North China Craton	—	China	2501	3	25	Neoarchean	U/Pb	zircon	39.444	113.342	Kröner et al., 2005	Wrong kind	—	Wrong kind
261	GP	Mambasa	Ruwenzori	Mambasa	Democratic Republic of the Congo	2488	8	24	Paleoproterozoic	U/Pb	columbite-tantalite	1.360	29.037	Age of core from Melcher et al. 2013; location approx.; may be LCT	Wrong kind	—	Wrong kind
134	GP	[Blue Draw Metagabbro]	Laramide Black Hill Uplift	—	South Dakota, USA	2480	6	24	Paleoproterozoic	U/Pb	Ttn	44.199	-103.533	Dahl et al., 2006	Wrong kind	—	Wrong kind
335	GP	[Ayatollah Island]	Napier Complex	—	Antarctica	2456	8	24	Paleoproterozoic	U/Pb	zircon	-67.379	48.977	Black et al., 1983	Wrong kind	—	Wrong kind
169	GP	Big Stone Valley	North China Craton	—	China	2249	1	22	Paleoproterozoic	U/Pb	zircon	39.467	113.366	Zhao et al., 2007	Wrong kind	—	Wrong kind
260	GP	Roche Corail	Guiana Shield	—	French Guiana	2095	6	20	Paleoproterozoic	U/Pb	monazite	5.103	-52.770	Delor et al., 2003	Wrong kind	—	Wrong kind
257	LCT	Kokobin	Birimian orogen	Kokobin	Ghana	2080	3	20	Paleoproterozoic	U/Pb	columbite-tantalite	5.925	-0.986	Age from Melcher et al. 2008; location approx. Date from placer material	Y	S	Wrong kind
231	GP	—	Gour Oumelalen	—	Algeria	1904	3	19	Paleoproterozoic	U/Pb	zircon	25.071	7.148	Peucat et al., 2003	Wrong kind	—	Wrong kind
10	GP	Black River	Lapland Kola Orogen	—	Russia	1896	10	18	Paleoproterozoic	U/Pb	zircon	66.439	38.647	Daly et al., 2006	Wrong kind	—	Wrong kind
30	GP	[Steinhauer Lake]	Snowbird Tectonic Zone	—	Canada	1893	1	18	Paleoproterozoic	U/Pb	zircon	59.451	-106.503	Flowers et al., 2006	Wrong kind	—	Wrong kind
11	GP	Louhki Pegm. Field	Belmorian Belt	—	Russia	1875	5	18	Paleoproterozoic	U/Pb	zircon	66.138	33.259	Bibikova et al., 2004	Wrong kind	—	Wrong kind
60	LCT	Goltsovaya	East Sayan Belt	Goltsovaya	Russia	1858	—	18	Paleoproterozoic	—	—	52.979	101.180	Vladimirov et al., 2012; location from Mindat;	Filtered		Wrong kind
68	GP	Frenchman Cap Dome	Monashee Complex	—	British Columbia, Canada	1856	10	18	Paleoproterozoic	U/Pb	zircon	51.358	-118.572	Crowley et al., 2008	Wrong kind	—	Wrong kind
279	GP	Tickalara Metam.	Barramundi Orogen	—	Australia	1854	6	18	Paleoproterozoic	U/Pb	zircon	-17.048	128.188	Page and Hancock, 1988	Wrong kind	—	Wrong kind
43	GP	[Lac Lomier Complex]	Torngat Orogen	—	Labrador, Canada	1853	1	18	Paleoproterozoic	U/Pb	zircon	57.867	-63.867	Bertrand et al., 1993	Wrong kind	—	Wrong kind
67	GP	[Pettipiece Pass]	Canadian Cordillera	—	British Columbia, Canada	1852	4	18	Paleoproterozoic	U/Pb	zircon	51.454	-118.609	Crowley 1999	Wrong kind	—	Wrong kind
170	GP	Xiaoshiyu	North China Craton	—	China	1851	5	18	Paleoproterozoic	U/Pb	zircon	39.464	113.467	Kroner et al., 2006	Wrong kind	—	Wrong kind
8	GP	[Aitik Cu-Au-Ag Dep.]	Svecofennian Orogen	—	Sweden	1848	8	18	Paleoproterozoic	Re/Ao	molybdenite	67.286	20.841	Wanhainen et al., 2005	Wrong kind	—	Wrong kind
164	GP	[Wulashan Gold Dep.]	North China Craton	—	China	1846	9	18	Paleoproterozoic	U/Pb	zircon	40.700	109.583	Miao et al., 2004	Wrong kind	—	Wrong kind
54	LCT	Vishnya-kovskoe	East Sayan Belt	Vishnya-kovskoe	Russia	1838	3	18	Paleoproterozoic	U/Pb	columbite-tantalite	55.050	97.817	Sal'nikova et al., 2011	Y	S	Wrong kind
165	GP	Wulashan - Lode No. 13	North China Craton	—	China	1835	7	18	Paleoproterozoic	U/Pb	zircon	40.700	109.583	Miao et al., 2003	Wrong kind	—	Wrong kind
69	GP	[Pettipiece Pass]	Canadian Cordillera	—	British Columbia, Canada	1834	2	18	Paleoproterozoic	U/Pb	monazite	51.326	-118.621	Crowley 1999	Wrong kind	—	Wrong kind
26	GP	Uusimaa	Svecofennian Orogen	—	Finland	1831	3	18	Paleoproterozoic	U/Pb	zircon	60.131	23.656	Skytta and Mantari, 2008	Wrong kind	—	Wrong kind
32	LCT	Nykopings-gruvan	Uto	Uto	Sweden	1821	16	18	Paleoproterozoic	U/Pb	columbite-tantalite	58.945	18.262	Romer and Smeds, 1994	Y	S	Wrong kind
6	GP	Naternaq	Nagssugtoqidian Orogen	—	Greenland	1818	12	18	Paleoproterozoic	Pb/Pb	allanite	67.883	-53.523	Stendal et al., 2006	Wrong kind	—	Wrong kind
—	GP	Snake River	Penokean Orogen	—	Minnesota, USA	1810	2	18	Paleoproterozoic	Ar/Ar	muscovite	—	—	Holm et al., 2005	Wrong kind	—	Wrong kind
21	GP	Jokisivu	Svecofennian Orogen	—	Finland	1807	3	18	Paleoproterozoic	U/Pb	zircon	61.150	23.586	Saalmann et al., 2010	Wrong kind	—	Wrong kind
27	LCT	Rosendal	—	Rosendal	Finland	1807	3	18	Paleoproterozoic	U/Pb	tapionite	60.123	22.553	Lindroos et al., 1996	Duplicate	S	Wrong kind
168	GP	[Huai'an Complex]	Trans-North China Orogen	—	North China	1806	15	18	Paleoproterozoic	U/Pb	zircon	40.000	114.983	Wang et al., 2010	Wrong kind	—	Wrong kind
18	LCT	Kaatiala	—	Kaatiala	Finland	1804	2	18	Paleoproterozoic	U/Pb	columbite-tantalite	62.679	23.491	Alviola et al., 2001; location from Mindat	Duplicate	S	Wrong kind
25	LCT	Skogsbole	—	Skogsbole	Finland	1803	1	18	Paleoproterozoic	U/Pb	tapionite	60.142	22.598	Lindroos et al., 1996	Duplicate	S	Wrong kind

Table A1, Pegmatites of the world

17	LCT	Seinäjoki	Seinäjoki	Seinäjoki	Finland	1802	2	18	Paleoproterozoic	U/Pb	tapionite	62.779	22.816	Alviola et al., 2001	Y	S	Wrong kind
55	GP	[Burnwood metased]	Trans-Hudson Orogen	—	Manitoba, Canada	1801	3	18	Paleoproterozoic	U/Pb	monazite	55.023	-101.446	Ansdell and Norman 1995	Wrong kind	—	Wrong kind
53	GP	[La Ronge Domain]	Trans-Hudson Orogen	—	Canada	1800	1	18	Paleoproterozoic	U/Pb	monazite	55.163	-105.331	Bickford et al., 2005	Wrong kind	—	Wrong kind
15	LCT	Haapaluoma	Haapaluoma	Haapaluoma	Finland	1797	2	17	Paleoproterozoic	U/Pb	columbite-tantalite	63.508	22.983	Alviola et al., 2001	Y	S	Wrong kind
14	LCT	Orrvik	Bothnian Basin	Orrvik	Sweden	1795	6	17	Paleoproterozoic	U/Pb	columbite-tantalite	64.200	20.769	Romer and Smeds, 1994	Y	S	Wrong kind
29	NYF	Gruvdalen	—	Gruvdalen	Sweden	1795	2	17	Paleoproterozoic	U/Pb	columbite-tantalite	59.513	18.459	Romer and Smeds, 1994	Wrong kind	S	Y
16	LCT	Ullava	Ullava	Ullava	Finland	1789	2	17	Paleoproterozoic	U/Pb	columbite-tantalite	63.426	23.706	Alviola et al., 2001	Y	S	Wrong kind
33	NYF	Stora Vika	—	Stora Vika	Sweden	1785	3	17	Paleoproterozoic	U/Pb	columbite-tantalite	58.917	17.815	Romer, 1997	Wrong kind	S	Y
28	GP	[Abloviaak Transect]	Torngat Orogen	—	Labrador, Canada	1780	2	17	Paleoproterozoic	U/Pb	zircon, monazite	59.539	-64.657	Rivers et al., 1996	Wrong kind	—	Wrong kind
13	LCT	Varuträsk	Varuträsk	Varuträsk	Sweden	1775	11	17	Paleoproterozoic	U/Pb	columbite-tantalite	64.801	20.741	Romer and Wright, 1992; location from Mindat	Y	S	Wrong kind
45	GP	[Nain Province]	Torngat Orogen	—	Labrador, Canada	1773	1	17	Paleoproterozoic	U/Pb	monazite	57.650	-62.833	Bertrand et al., 1993	Wrong kind	—	Wrong kind
52	GP	[Thompson Nickel Belt]	Superior Craton	—	Manitoba, Canada	1770	2	17	Paleoproterozoic	U/Pb	zircon	55.722	-97.836	Machado et al., 2011	Wrong kind	—	Wrong kind
167	GP	Buffalo Pass	Wyoming Craton	—	Colorado, USA	1765	8	17	Paleoproterozoic	U/Pb	zircon	40.517	-106.733	Premo and Van Schmus, 1989	Wrong kind	—	Wrong kind
115	GP	—	Big Sky Orogen	—	Montana, USA	1756	1	17	Paleoproterozoic	U/Pb	zircon	45.614	-112.055	Krogh et al., 2011	Wrong kind	—	Wrong kind
22	GP	Kangerluk	Ketilidian Orogen	—	Greenland	1742	5	17	Paleoproterozoic	U/Pb	zircon	60.987	-42.800	Garde et al., 2002	Wrong kind	—	Wrong kind
9	GP	[Aitik Cu-Au-Ag Dep.]	Svecofennian Orogen	—	Sweden	1728	7	17	Paleoproterozoic	Re/Ao	molybdenite	67.286	20.841	Wanhainen et al., 2005	Wrong kind	—	Wrong kind
154	GP	[Hartville Uplift]	Wyoming Craton	—	Wyoming, USA	1714	2	17	Paleoproterozoic	U/Pb	zircon	42.367	-104.650	Sullivan 2006	Wrong kind	—	Wrong kind
174	GP	[Black Canyon]	Yavapai Orogen	—	Colorado, USA	1711	2	17	Paleoproterozoic	U/Pb	zircon	38.653	-107.855	Jones and Connelly, 2006	Wrong kind	—	Wrong kind
141	LCT	Tin Mountain	Black Hills	Black Hills	South Dakota, USA	1702	3	17	Paleoproterozoic	U/Pb	apatite	43.745	-103.714	Krogstad and Walker, 1994	Y	S	Wrong kind
187	GP	Upper Granite Gorge	Paleoproterozoic G. Canyon	—	Arizona, USA	1697	1	16	Paleoproterozoic	U/Pb	monazite	36.241	-112.401	Hawkins et al., 1996	Wrong kind	—	Wrong kind
245	GP	RK2	Eastern Ghats Belt	—	India	1598	1	15	Mesoproterozoic	U/Pb	Al	16.350	80.200	Mezger and Cosca 1999	Wrong kind	—	Wrong kind
—	NYF	Kingman Peg	Yavapai Province	Kingman	Arizona, USA	1590	40	15	Mesoproterozoic	U/Pb	monazite	—	—	Simmons et al., 2012	Wrong kind	—	Y
—	NYF	Trout Creek	Yavapai Province	Trout Creek	Colorado, USA	1590	20	15	Mesoproterozoic	U/Pb	monazite	—	—	Simmons et al., 2012	Wrong kind	—	Y
—	NYF	Aspirus	Wausau Syenite	Aspirus	Wisconsin, USA	1536	11	15	Mesoproterozoic	U/Pb	zircon	—	—	Unpublished age by Bradley and McCauley	Wrong kind	—	Y
288	GP	[Sybella Batholith]	Mount Isa Inlier	—	Australia	1532	7	15	Mesoproterozoic	U/Pb	zircon	-20.870	139.442	Connors and Page, 1995	Wrong kind	—	Wrong kind
289	GP	[Sybella Batholith]	Mount Isa Inlier	—	Australia	1480	14	14	Mesoproterozoic	U/Pb	zircon	-20.870	139.442	Connors and Page, 1995	Wrong kind	—	Wrong kind
106	GP	[Killarney Area]	Grenville Front Tectonic Zone	—	Canada	1464	2	14	Mesoproterozoic	U/Pb	monazite	46.132	-81.207	Krogh 1994	Wrong kind	—	Wrong kind
—	NYF	Wagon Bow	Aquarius Range	Wagon Bow	Arizona, USA	1460	50	14	Mesoproterozoic	U/Pb	monazite	—	—	Simmons et al., 2012	Wrong kind	—	Y
—	NYF	Nine Mile Pluton	Wausau Syenite	Nine Mile	Wisconsin, USA	1450	40	14	Mesoproterozoic	U/Pb	monazite	—	—	Simmons et al., 2012	Wrong kind	—	Y
—	GP	Five Points Gulch	Wet Mountains	—	Colorado, USA	1430	5	14	Mesoproterozoic	U/Pb	zircon	—	—	Jones et al., 2010	Wrong kind	—	Wrong kind
176	LCT	Brown Derby	Quartz Creek	Quartz Cr.	Colorado, USA	1420	70	14	Mesoproterozoic	Rb/Sr	—	38.542	-106.626	Hanley et al., 1950; Rb-Sr age from Aldrich et al., 1957, who quoted the error at "<5%"	Filtered	S	Wrong kind
175	GP	[Black Canyon]	—	—	Colorado, USA	1413	2	14	Mesoproterozoic	U/Pb	zircon	38.575	-107.710	Jones and Connelly, 2006	Wrong kind	—	Wrong kind
178	GP	[Marshal Gulch Pluton]	Sangre de Christo Mtns	—	Colorado, USA	1407	7	14	Mesoproterozoic	U/Pb	zircon	38.047	-105.738	Jones and Connelly, 2006	Wrong kind	—	Wrong kind
200	GP	—	Northern Sandia Pluton	—	NM, USA	1402	1	14	Mesoproterozoic	Ar/Ar	muscovite	35.221	-106.496	Karlstrom et al., 1997	Wrong kind	—	Wrong kind
51	GP	Stensjo	Gothian Orogen	—	SW Sweden	1399	7	13	Mesoproterozoic	U/Pb	zircon	56.789	12.618	Christoffel et al., 1999	Wrong kind	—	Wrong kind
—	GP	[Homestake S. Z.]	—	—	Colorado, USA	1380	1	13	Mesoproterozoic	Ar/Ar	muscovite	—	—	Shaw et al., 2001	Wrong kind	—	Wrong kind

Table A1, Pegmatites of the world

—	LCT	Lower Jumbo	White Picacho	Lower Jumbo	Arizona, USA	1377	7		Mesoproterozoic	U/Pb	zircon	—	—	Unpublished age by Bradley and McCauley	Duplicate	S	Wrong kind
215	LCT	Midnight Owl	White Picacho	White Picacho	Arizona, USA	1376	3	13	Mesoproterozoic	U/Pb	zircon	33.991	-112.546	Jahns, 1952; unpublished age by Bradley and McCauley	Y	S	Wrong kind
186	GP	[Gold Butte]	—	—	Nevada, USA	1369	12	13	Mesoproterozoic	Ar/Ar	muscovite	36.279	-114.106	Reiners et al., 2000	Wrong kind	—	Wrong kind
290	GP	[Myally Subgroup]	Mount Isa Inlier	—	Australia	1366	5	13	Mesoproterozoic	Ar/Ar	white mica	-20.944	139.445	Spikings et al., 2003	Wrong kind	—	Wrong kind
188	LCT	Harding	Harding	Harding	New Mexico, USA	1347	1	13	Mesoproterozoic	Ar/Ar	muscovite	36.068	-105.634	Karlstrom et al., 1997	Y	S	Wrong kind
224	GP	[Hackett Peak Fm.]	Carrizo Mountains	—	Texas, USA	1325	12	13	Mesoproterozoic	U/Pb	zircon	31.055	-104.960	Bickford et al., 2000	Wrong kind	—	Wrong kind
40	GP	Frikstad	Svecofennian Orogen	—	Norway	1279	2	12	Mesoproterozoic	U/Pb	zircon	58.183	8.117	Pedersen et al., 2009	Wrong kind	—	Wrong kind
127	GP	McLear	ADK, Grenville Orogen	—	New York, USA	1195	7	11	Mesoproterozoic	U/Pb	zircon	44.459	-75.311	Lupulescu et al., 2011	Wrong kind	—	Wrong kind
325	GP	—	Albany-Fraser Orogen	—	Western Australia	1187	12	11	Mesoproterozoic	U/Pb	zircon	-33.822	121.469	Nelson et al., 1995	Wrong kind	—	Wrong kind
214	GP	Mendenhall Peak	San Gabriel Mtns	—	California, USA	1186	19	11	Mesoproterozoic	U/Pb	zircon	34.348	-118.305	Barth et al., 1995	Wrong kind	—	Wrong kind
328	GP	Pallinup Estuary	Albany Mobile Belt	—	Western Australia	1180	6	11	Mesoproterozoic	Pb/Pb	zircon	-34.467	118.833	Black et al., 1992	Wrong kind	—	Wrong kind
132	GP	Hulls Falls	ADK, Grenville Orogen	—	New York, USA	1178	12	11	Mesoproterozoic	U/Pb	zircon	44.233	-73.796	Lupulescu et al., 2011	Wrong kind	—	Wrong kind
23	GP	Tassiusaq	Gardar Magmatism	—	Greenland	1171	5	11	Mesoproterozoic	U/Pb	zircon	60.740	-48.023	Finch et al., 2001	Wrong kind	—	Wrong kind
326	GP	Little Bellinger	Albany-Fraser Orogen	—	Western Australia	1165	5	11	Mesoproterozoic	U/Pb	monazite	-33.840	123.646	Clark et al., 2000	Wrong kind	—	Wrong kind
122	GP	Parry Sound	Grenville Front Tectonic Zone	—	Ontario, Canada	1157	3	11	Mesoproterozoic	U/Pb	—	45.319	-80.174	Wodicka et al., 2000	Wrong kind	—	Wrong kind
35	GP	Tvedstrand	Sveconorwegian Orogen	—	Norway	1094	11	10	Mesoproterozoic	U/Pb	euxenite	58.631	8.930	Scherer et al., 2001	Wrong kind	—	Wrong kind
144	GP	Batchellerville	ADK, Grenville Orogen	—	New York, USA	1090	28	10	Mesoproterozoic	U/Pb	zircon	43.239	-74.060	Lupulescu et al., 2011	Wrong kind	—	Wrong kind
339	GP	[Sverdrupfjella + K.]	Dronning-Maud Land	—	East Antarctica	1079	6	10	Mesoproterozoic	U/Pb	—	-72.717	-3.500	Grantham et al., 2008	Wrong kind	—	Wrong kind
306	GP	Bell Rock Intrusion	Giles Complex	—	Western Australia	1078	3	10	Mesoproterozoic	U/Pb	zircon	-26.302	128.788	Sun et al., 1996	Wrong kind	—	Wrong kind
172	NYF	Pike's Peak	—	Pike's Peak	Colorado, USA	1077	2	10	Mesoproterozoic	Ar/Ar	—	39.283	-105.250	Unruh et al., 1995	Wrong kind	S	Y
133	NYF	Scott's Farm	—	Scott's Farm	New York, USA	1064	7	10	Mesoproterozoic	U/Pb	zircon	44.227	-75.103	Lupulescu et al., 2011	Wrong kind	S	Y
38	NYF	Gloserheia	—	Gloserheia	Norway	1060	8	10	Mesoproterozoic	U/Pb	zircon	58.548	8.803	Lupulescu et al., 2010	Wrong kind	S	Y
124	GP	Cavendish U mine	Grenville Province	—	Ontario, Canada	1059	4	10	Mesoproterozoic	U/Pb	zircon	44.785	-78.383	Easton and Kamo 2008	Wrong kind	—	Wrong kind
116	NYF	Moss Moly	—	Moss Moly	Québec, Canada	1053	4	10	Mesoproterozoic	Re/Os	molybdenite	45.578	-76.250	Lentz and Creaser, 2005	Wrong kind	S	Y
128	GP	[Carthage Colton S. Z.]	ADK, Grenville Orogen	—	New York, USA	1044	7	10	Mesoproterozoic	U/Pb	zircon	44.400	-75.050	Selleck et al., 2005	Wrong kind	—	Wrong kind
41	LCT	Skantarps	Borkenas-Orust	Borkenas-Orust	Norway	1041	2	10	Mesoproterozoic	U/Pb	columbite-tantalite	58.169	11.679	Romer and Smeds, 1996	Y	S	Wrong kind
142	GP	Lyonsdale Falls Br.	Ottawan, Grenville Orogen	—	New York, USA	1034	8	10	Mesoproterozoic	U/Pb	zircon	43.612	-75.339	McLellan et al., 2001	Wrong kind	—	Wrong kind
137	NYF	Spar Bed Hill	—	Spar Bed Hill	New York, USA	1031	10	10	Mesoproterozoic	U/Pb	zircon	43.982	-73.539	Lupulescu et al., 2011	Wrong kind	S	Y
138	NYF	Crown Point	—	Crown Point	New York, USA	1025	3	10	Mesoproterozoic	U/Pb	zircon	43.924	-73.439	Lupulescu et al., 2011	Wrong kind	S	Y
135	GP	Mineville	ADK, Grenville Orogen	—	New York, USA	1022	13	10	Mesoproterozoic	U/Pb	zircon	44.090	-73.525	Lupulescu et al., 2011	Wrong kind	—	Wrong kind
118	NYF	Madawaska	—	Madawaska	Ontario, Canada	1017	3	10	Mesoproterozoic	U/Pb	zircon	45.508	-77.963	Francis et al., 1999	Wrong kind	S	Y
146	GP	Mayfield	ADK, Grenville Orogen	—	New York, USA	1009	22	10	Mesoproterozoic	U/Pb	zircon	43.173	-74.258	Lupulescu et al., 2011	Wrong kind	—	Wrong kind
158	NYF	Mt. Eve	—	Mt. Eve	New York, USA	1004	3	10	Mesoproterozoic	U/Pb	zircon	41.294	-74.414	Francis et al., 1999	Wrong kind	S	Y
129	NYF	Lewis Mine	—	Lewis Mine	New York, USA	1003	5	10	Mesoproterozoic	U/Pb	zircon	44.298	-74.066	Lupulescu et al., 2011	Wrong kind	S	Y
120	GP	Purdy #3 Mine	Grenville Orogen	—	Ontario, Canada	997	1	9	Neoproterozoic	U/Pb	euxenite	45.338	-77.754	Stern and Rayner 2003	Wrong kind	—	Wrong kind

Table A1, Pegmatites of the world

58	GP	Doolough	Annagh Gneiss Complex	—	Ireland	993	6	9	Neoproterozoic	U/Pb	zircon	54.143	-9.958	Daly 1996	Wrong kind	—	Wrong kind
—	GP	[Street Township]	Grenville Orogen	—	Ontario, Canada	989	2	9	Neoproterozoic	U/Pb	zircon	—	—	Corfu and Easton, 2000	Wrong kind	—	Wrong kind
309	GP	[Northampton Cpx]	Yilgarn Craton	—	Western Australia	989	2	9	Neoproterozoic	U/Pb	zircon	-28.667	114.750	Bruguier et al., 1999	Wrong kind	—	Wrong kind
117	GP	Point au-Baril	Grenville Front Tectonic Zone	—	Ontario, Canada	988	2	9	Neoproterozoic	U/Pb	zircon	45.561	-80.495	Ketchum et al., 1998	Wrong kind	—	Wrong kind
238	NYF	Aqua Salada	Grenville Orogen	Aqua Salada	Mexico	988	3	9	Neoproterozoic	U/Pb	zircon	20.917	-98.767	Lawlor et al., 1999	Wrong kind	—	Y
162	NYF	Double Rock	—	Double Rock	New Jersey, USA	986	4	9	Neoproterozoic	U/Pb	zircon	41.117	-74.587	Volkert et al., 2005	Wrong kind	S	Y
310	LCT	Homestead	Tantalite Valley, Orange River pegm. belt	Homestead	Namibia	985	3	9	Neoproterozoic	U/Pb	columbite-tantalite	-28.769	18.496	Melcher et al., 2013	Y	S	Wrong kind
57	GP	Cross Point	Annagh Gneiss Complex	—	Ireland	984	6	9	Neoproterozoic	U/Pb	zircon	54.209	-10.083	Daly 1996	Wrong kind	—	Wrong kind
263	LCT	Ruhembe	Kibaran orogen	Ruhembe	Burundi	968	33	9	Neoproterozoic	U/Pb	columbite-tantalite	-2.761	29.308	Romer and Lehmann 1995; intercept age	Y	S	Wrong kind
264	LCT	Kivuvu	Kibaran orogen	Kivuvu	Burundi	964	9	9	Neoproterozoic	U/Pb	columbite-tantalite	-2.834	29.530	Romer and Lehmann 1995; intercept age	Y	S	Wrong kind
302	GP	[Gascoyne Complex]	Capricorn Orogen	—	Australia	954	12	9	Neoproterozoic	U/Pb	monazite	-24.513	116.072	Sheppard et al., 2007	Wrong kind	—	Wrong kind
50	GP	Stensjö - Group 3	Gothian Orogen	—	SW Sweden	946	6	9	Neoproterozoic	U/Pb	zircon	56.792	12.625	Christoffel et al., 1999	Wrong kind	—	Wrong kind
266	LCT	Manono	Kibaran orogen	Manono	Zaire	940	7	9	Archean	—	—	-6.251	21.069	Von Knorring and Condiffe, 1987; age from Melcher et al., 2013	Y	L	Wrong kind
333	GP	Shaula Island	Kemp Land	—	East Antarctica	931	14	9	Neoproterozoic	U/Pb	zircon	-66.978	57.429	Kelly et al., 2002	Wrong kind	—	Wrong kind
39	GP	[Bohus Granite]	Sveconorwegian Orogen	—	Sweden	922	5	9	Neoproterozoic	U/Pb	monazite	58.293	11.451	Eliasson and Schoberg 1991	Wrong kind	—	Wrong kind
31	GP	Blomskog	Sveconorwegian Orogen	—	Sweden	915	3	9	Neoproterozoic	Re/Os	molybdenite	59.276	12.069	Bingen et al., 2006	Wrong kind	—	Wrong kind
37	NYF	Evje	—	Evje	Norway	911	2	9	Neoproterozoic	U/Pb	gadolinite	58.560	7.880	Scherer et al., 2001	Wrong kind	S	Y
337	GP	[Mt. Kirby]	N. Prince Charles Mtns.	—	East Antarctica	910	18	9	Neoproterozoic	U/Pb	zircon	-70.423	65.233	Carson et al., 2000	Wrong kind	—	Wrong kind
4	GP	Revnseshamn	Porsanger Orogen	—	Arctic Norway	833	9	8	Neoproterozoic	U/Pb	zircon	70.676	24.380	Kirkland et al., 2006	Wrong kind	—	Wrong kind
49	GP	Ardnish	Caledonian Orogen	—	Scotland	827	2	8	Neoproterozoic	U/Pb	monazite	56.863	-5.779	Rogers et al., 1998	Wrong kind	—	Wrong kind
3	GP	Littlefjord	Porsanger Orogen	—	Arctic Norway	826	6	8	Neoproterozoic	U/Pb	zircon	70.711	24.594	Kirkland et al., 2006	Wrong kind	—	Wrong kind
48	GP	Sgurr Breac	Caledonian Orogen	—	Scotland	784	1	7	Neoproterozoic	U/Pb	monazite	56.960	-5.516	Rogers et al., 1998	Wrong kind	—	Wrong kind
130	GP	Spruce Island	Islesboro Block	—	Maine, USA	647	3	6	Neoproterozoic	U/Pb	zircon	44.275	-68.936	Stewart et al., 2001	Wrong kind	—	Wrong kind
250	GP	[Bhavani Shear Zone]	Southern Granulite Terrain	—	India	601	1	6	Neoproterozoic	U/Pb	zircon	11.167	76.667	Braun and Kriegman, 2003	Wrong kind	—	Wrong kind
265	GP	Lugard's Falls	Pan African Orogen	—	Kenya	564	7	5	Neoproterozoic	U/Pb	zircon	-3.038	38.687	Hauzenberger et al., 2007	Wrong kind	—	Wrong kind
114	GP	Taats River	Central Asian Orogenic Belt	—	Mongolia	562	2	5	Neoproterozoic	U/Pb	zircon	45.753	101.390	Kozakov et al., 2006	Wrong kind	—	Wrong kind
281	GP	[Hartmann Domain]	Kaoko Belt	—	Namibia	562	5	5	Neoproterozoic	U/Pb	zircon	-17.523	12.268	Goscombe et al., 2005	Wrong kind	—	Wrong kind
274	GP	[Zambezi Belt]	Pan African Orogen	—	Zimbabwe	557	1	5	Neoproterozoic	U/Pb	zircon	-15.850	29.783	Müller et al., 2000	Wrong kind	—	Wrong kind
303	GP	[Manangotsy Pass]	Pan African Orogen	—	Madagascar	554	34	5	Neoproterozoic	U/Th/Pb	monazite	-24.743	46.864	Berger et al., 2006	Wrong kind	—	Wrong kind
295	GP	—	Pan African Orogen	—	Madagascar	550	1	5	Neoproterozoic	U/Pb	zircon	-22.017	46.700	Kroner 1999	Wrong kind	—	Wrong kind
251	LCT	Wamba	Wamba	Nigeria	547	15	5	Neoproterozoic	Rb/Sr	muscovite	8.935	8.605	Kuster 1995; loc. approx.	Filtered	S	Wrong kind	
338	GP	[Loewe Massif]	N. Prince Charles Mtns	—	East Antarctica	545	4	5	Neoproterozoic	U/Pb	zircon	-70.640	67.898	Carson et al., 2000	Wrong kind	—	Wrong kind
282	GP	[Western Kaoko Zone]	Kaoko Belt	—	Namibia	539	6	5	Paleozoic	U/Pb	zircon	-18.847	12.850	Kroner et al., 2004	Wrong kind	—	Wrong kind

Table A1, Pegmatites of the world

259	LCT	Kenticha	Kenticha	Kenticha	Ethiopia	530	2	5	Paleozoic	U/Pb	columbite-tantalite	5.280	38.721	Küster et al., 2009	Y	L	Wrong kind
258	LCT	Bupo	—	Bupo	Ethiopia	529	4	5	Paleozoic	U/Pb	columbite-tantalite	5.567	39.033	Küster et al., 2009	Duplicate	S	Wrong kind
277	GP	[Zambezi Belt]	Pan African Orogen	—	Zimbabwe	525	1	5	Paleozoic	U/Pb	monazite	-16.833	32.500	Hanson, 2003	Wrong kind	—	Wrong kind
268	LCT	Parelhas	Borborema - Parelhas	Parelhas	Brazil	523	1	5	Paleozoic	Ar/Ar	biotite	-6.689	-36.463	Araujo et al., 2005	Y	S	Wrong kind
298	GP	Entire Creek	Alice Springs Orogen	—	Northern Territory, Australia	520	5	5	Paleozoic	U/Pb	zircon	-23.078	135.044	Mortimer et al., 1987	Wrong kind	—	Wrong kind
269	LCT	Mamoës	Serido belt	Mamoës	Minas Gerais, Brazil	515	1	5	Paleozoic	U/Pb	columbite-tantalite	-6.918	-36.724	Baumgartner et al., 2006	Y	S	Wrong kind
286	GP	[Coastal Terrane]	Kaoko Belt	—	Namibia	515	5	5	Paleozoic	U/Pb	monazite	-20.354	13.298	Goscombe et al., 2005	Wrong kind	—	Wrong kind
252	GP	Melankode	Kerala Khondalite Belt	—	India	513	2	5	Paleozoic	U/Pb	zircon	8.694	76.929	Miller et al., 1996	Wrong kind	—	Wrong kind
121	GP	Brookville	Avalon Composite Terrane	—	New Brunswick, Canada	510	1	5	Paleozoic	Ar/Ar	muscovite	45.326	-66.032	Dallmeyer et al., 1992	Wrong kind	—	Wrong kind
267	LCT	Capoeira	Serido belt	Capoeira	Brazil	510	3	5	Paleozoic	U/Pb	columbite-tantalite	-6.685	-36.637	Baumgartner et al., 2006	Y	S	Wrong kind
—	GP	Rossing	Damara (Pan African)	—	Namibia	509	1	5	Paleozoic	U/Pb	—	—	—	Nex et al., 2011	Wrong kind	—	Wrong kind
253	GP	Manali Quarry	Pan African Orogen	—	Southern India	509	25	5	Paleozoic	Pb/Pb	apatite	8.517	76.933	Berger and Braun, 1997	Wrong kind	—	Wrong kind
270	GP	[Khan Dome]	Damara (Pan African)	—	Namibia	508	2	5	Paleozoic	U/Pb	monazite	-15.000	22.500	Tack and Bowden, 1999	Wrong kind	—	Wrong kind
280	GP	[Hartmann Domain]	Kaoko Belt	—	Namibia	508	5	5	Paleozoic	U/Pb	monazite	-17.387	12.247	Goscombe et al., 2005	Wrong kind	—	Wrong kind
296	LCT	Rubicon	Rubicon-Helicon	Rubicon	Namibia	506	3	5	Paleozoic	U/Pb	columbite-tantalite	-22.103	15.994	Broccardo et al., 2011; Diehl and Schneider, 1990	Y	L	Wrong kind
123	GP	Liu Mao	Jiamusi Massif	—	China	501	18	5	Paleozoic	U/Pb	zircon	45.263	130.803	Wilde et al., 2003	Wrong kind	—	Wrong kind
276	GP	Rio De Prado	Minas Gerais, EBPP	—	Brazil	498	3	4	Paleozoic	U/Pb	monazite	-16.667	-40.500	Viana et al., 2003	Wrong kind	—	Wrong kind
334	GP	[Tonagh Island]	Napier Complex	—	Antarctica	498	2	4	Paleozoic	Pb/Th	monazite	-67.094	50.286	Carson et al., 2002	Wrong kind	—	Wrong kind
83	LCT	Sutlug	South-Sangilien	Sutlug	Russia	494	7	4	Paleozoic	U/Pb	zircon	50.009	96.626	Kuznetsova et al., 2011	Y	S	Wrong kind
340	LCT	Felder Ridge	Unnamed	Felder Ridge	Antarctica	490	9	4	Paleozoic	Rb/Sr	—	-80.430	159.930	Faure and Felder, 1984	Filtered	S	Wrong kind
84	LCT	Tastyg	South-Sangilien	Tastyg	Russia	483	13	4	Paleozoic	U/Pb	zircon	49.867	97.225	Kuznetsova et al., 2011	Y	S	Wrong kind
273	LCT	Naipa	Alto Ligonha Dist., Lurio Belt	Alto Ligonha	Mozambique	482	6	4	Paleozoic	U/Pb	zircon	-15.737	38.254	Neiva and Leal Gomes 2010	Y	S	Wrong kind
341	LCT	"metapegmatite"	Domažlice Crystalline Complex	—	Czech Republic	482	13	4	Paleozoic	U/Pb	columbite-tantalite	—	—	Glodny et al., 1998	Y	S	Wrong kind
336	GP	[Cape Hinode]	Dronning-Maud Land	—	East Antarctica	481	1	4	Paleozoic	Ar/Ar	biotite	-68.152	42.686	Miyamoto et al., 2008	Wrong kind	—	Wrong kind
113	LCT	Wendersreuth Quarry	Western Bohemian Massif	Wendersreuth	Germany	480	9	4	Paleozoic	U/Pb	monazite, zircon	45.756	12.115	Glodny et al., 1998	Y	S	Wrong kind
313	GP	Rio San Juan	Sierras Pampeanas	—	Argentina	478	13	4	Paleozoic	U/Pb	zircon	-30.734	-67.586	Gallien et al., 2010	Wrong kind	—	Wrong kind
329	GP	[Kinchina Quarry]	Delamerian Orogen	—	South Australia	478	2	4	Paleozoic	Ar/Ar	muscovite	-35.108	139.210	Burtt and Phillips 2003	Wrong kind	—	Wrong kind
65	GP	Alaskite Pegm.	Slyudyanka crystalline Cpx.	—	Russia	477	5	4	Paleozoic	U/Pb	zircon	51.620	103.649	Reznitskii et al., 2000	Wrong kind	—	Wrong kind
322	LCT	La Totora	—	La Totora	Argentina	476	12	4	Paleozoic	U/Pb	columbite-tantalite	-32.500	-65.500	von Quadt and Galliski, 2011	Y	S	Wrong kind
—	GP	[West Karmoy Cmplx.]	Caledonides	—	Norway	474	3	4	Paleozoic	U/Pb	zircon, monazite	—	—	Pedersen and Dunning 1997	Wrong kind	—	Wrong kind
254	GP	[Ponmudi Unit]	Kerala Khondalite Belt	—	Southern India	474	22	4	Paleozoic	Pb/Th	monazite	8.506	76.995	Braun et al., 1998	Wrong kind	—	Wrong kind
—	GP	[Tyrone Central Inlier]	Grampian Orogen	—	Ireland	468	1	4	Paleozoic	Ar/Ar	muscovite	—	—	Chew et al., 2008	Wrong kind	—	Wrong kind
59	GP	[Migmatite Zone]	Connemara Dalradian	—	Ireland	465	2	4	Paleozoic	U/Pb	monazite	53.414	-9.744	Cliff et al., 1996	Wrong kind	—	Wrong kind

Table A1, Pegmatites of the world

272	LCT	Marropino	Alto Ligonha Dist., Lurio Belt	—	Mozambique	465	2	4	Paleozoic	U/Pb	columbite-tantalite	-15.500	38.250	Melcher et al., 2013; loc. approx.	Y	S	Wrong kind
243	GP	[Huerta Unit]	Acatlan Complex	—	Mexico	464	4	4	Paleozoic	U/Pb	zircon	18.246	-97.979	Morales-Gámez et al., 2008	Wrong kind	—	Wrong kind
342	LCT	—	Majahayan	Majahayan	Somalia	463	24	4	Paleozoic	Rb/Sr	muscovite	11.060	49.030	Kuster 1995; 2-pt. isochron; loc. approx.	Filtered	S	Wrong kind
247	GP	[San Rosa Group]	Maya Block	—	Guatemala	462	11	4	Paleozoic	U/Pb	zircon	15.133	-90.417	Ratschbacher et al., 2009	Wrong kind	—	Wrong kind
300	GP	[Hart Mountain Cpx]	Alice Springs Orogen	—	Northern Territory, Australia	454	8	4	Paleozoic	U/Pb	monazite	-23.251	134.997	Buick et al., 2008	Wrong kind	—	Wrong kind
275	LCT	Moneia	Alto Ligonha Dist., Lurio Belt	—	Mozambique	452	9	4	Paleozoic	U/Pb	columbite-tantalite	-15.938	38.421	Melcher et al., 2013; loc. approx.	Y	S	Wrong kind
323	LCT	San Luis II	—	San Luis II	Argentina	450	12	4	Paleozoic	U/Pb	columbite-tantalite	-32.983	-65.983	von Quadt and Galliski, 2011	Y	S	Wrong kind
64	NYF	Kaberov	—	Kaberov	Russia	447	2	4	Paleozoic	U/Pb	zircon	51.666	103.542	Reznitskii et al., 2001	Wrong kind	S	Y
297	GP	Jacone Beach	Cabo Frio Tectonic Domain	—	Brazil	440	11	4	Paleozoic	U/Pb	zircon	-22.949	-42.683	Schmitt et al., 2004	Wrong kind	—	Wrong kind
317	GP	—	Sierra de Pie de Palo	—	Argentina	439	6	4	Paleozoic	U/Pb	zircon	-31.396	-68.089	Mulcahy et al., 2011	Wrong kind	—	Wrong kind
93	GP	Corner Brook Lake	Humber Zone	—	Labrador, Canada	434	3	4	Paleozoic	U/Pb	zircon	48.800	57.823	Cawood et al., 1994	Wrong kind	—	Wrong kind
2	GP	Moskefjell	Caledonides	—	Norway	429	1	4	Paleozoic	U/Pb	zircon	70.836	24.669	Corfu et al., 2011	Wrong kind	—	Wrong kind
7	GP	[Rodingsfjell Nappe]	Caledonides	—	Norway	409	2	4	Paleozoic	Ar/Ar	muscovite	67.397	15.024	Steltenpohl et al., 2009	Wrong kind	—	Wrong kind
110	GP	Zealand Station	Acadian Orogen	—	New Brunswick, Canada	401	1	4	Paleozoic	U/Pb	zircon	46.056	-66.974	Beal et al., 2010	Wrong kind	—	Wrong kind
61	LCT	Stranakelley	Leinster	Leinster	Ireland	396	7	3	Paleozoic	Rb/Sr	—	52.785	-6.537	O'Connor et al., 1991	Filtered	S	Wrong kind
136	LCT	Brazil Lake	Brazil Lake	Brazil Lake	Nova Scotia, Canada	395	2	3	Paleozoic	U/Pb	columbite-tantalite	44.009	-65.997	Kontak et al., 2005	Y	S	Wrong kind
153	GP	Salem gabbro diorite	Appalachian Orogen	—	Massachusetts, USA	392	4	3	Paleozoic	U/Pb	zircon	42.419	-71.248	Acaster and Bickford, 1999	Wrong kind	—	Wrong kind
312	GP	Arkaroola Pegm	Alice Springs Orogen	—	South Australia	392	2	3	Paleozoic	Ar/Ar	muscovite	-30.254	139.253	McLaren et al., 2002	Wrong kind	—	Wrong kind
119	GP	Clarence Stream	Sawyer Brook Fault	—	New Brunswick, Canada	390	8	3	Paleozoic	U/Pb	monazite	45.351	-67.001	Thorne et al., 2002	Wrong kind	—	Wrong kind
34	GP	Mama-Chuya Peg. 1st	Vitim-Patom Fold Belt	—	Russia	388	2	3	Paleozoic	U/Pb	zircon	58.850	111.417	Tkachev 2011	Wrong kind	—	Wrong kind
155	GP	Straw Hill Diorite	Appalachian Orogen	—	Massachusetts, USA	385	10	3	Paleozoic	U/Pb	zircon	42.366	-71.583	Acaster and Bickford, 1999	Wrong kind	—	Wrong kind
321	LCT	Las Cuevas	Conlara	Las Cuevas	Argentina	383	7	3	Paleozoic	Ar/Ar	muscovite	-32.386	-65.707	Galliski and Marquez-Zavalia, 2011; unpublished age by Benowitz and Bradley	Y	S	Wrong kind
—	GP	[Burnsville Fault]	Acadian Orogen	—	North Carolina USA	377	3	3	Paleozoic	U/Pb	zircon	—	—	Trupe et al., 2003	Wrong kind	—	Wrong kind
161	GP	[Shelton Granite]	Acadian Orogen	—	Connecticut, USA	375	1	3	Paleozoic	U/Pb	monazite	41.250	-73.150	Sevigny and Hanson, 1993	Wrong kind	—	Wrong kind
191	GP	San Louis	Sierras Pampeanas	—	Argentina	375	1	3	Paleozoic	Ar/Ar	muscovite	35.985	-82.218	Sims et al., 1998	Wrong kind	—	Wrong kind
126	GP	Peggy's Cove	South Mountain Batholith	—	Nova Scotia, Canada	374	2	3	Paleozoic	Ar/Ar	muscovite	44.494	-63.915	Kontak et al., 2002	Wrong kind	—	Wrong kind
—	GP	[Gory Sowie Block]	Sudetes Mountains	—	Poland	371	3	3	Paleozoic	U/Pb	euxenite	—	—	Timmermann et al., 2000	Wrong kind	—	Wrong kind
152	LCT	Clark Ledge	Lithia	Clark	Massachusetts, USA	371	2	3	Paleozoic	U/Pb	zircon	42.420	-72.873	Location from Mindat; age from Bradley et al., 2013	Y	S	Wrong kind
—	GP	Lake Quabbin	Neo-Acadian	—	Massachusetts, USA	366	1	3	Paleozoic	U/Pb	zircon	—	—	Tucker and Robinson 1995	Wrong kind	—	Wrong kind
192	LCT	McHone	Spruce Pine	Spruce Pine	North Carolina, USA	366	1	3	Paleozoic	U/Pb	zircon	35.899	-82.083	Wise and Brown, 2009; unpublished age by Buchwaldt, Bowring, and Bradley	Y	S	Wrong kind
97	GP	[Kaintaleck Complex]	Upper Austroalpine	—	Austria	364	1	3	Paleozoic	Ar/Ar	muscovite	47.583	16.050	Neubauer and Handler, 1999	Wrong kind	—	Wrong kind

Table A1, Pegmatites of the world

—	GP	Pelee Point	—	—	Labrador, Canada	355	2	3	Paleozoic	U/Pb	K feldspar	—	—	Anderson et al., 2001	Wrong kind	—	Wrong kind
201	LCT	Foote	Kings Mountain	Kings Mtn.	North Carolina, USA	349	2	3	Paleozoic	U/Pb	columbite-tantalite	35.220	-81.354	Kesler, 1942; unpublished age by Buchwaldt, Bowring, and Bradley	Y	L	Wrong kind
242	GP	Esperanza Suite	Acatlan Complex	—	Mexico	346	4	3	Paleozoic	Ar/Ar	phengite	18.503	-98.176	Vega-Granillo et al., 2007	Wrong kind	—	Wrong kind
—	GP	[Danmarkshavn]	Caledonides, Greenland	—	Greenland	343	5	3	Paleozoic	U/Pb	zircon	—	—	Sartini-Rideout et al., 2006	Wrong kind	—	Wrong kind
—	GP	[Brett Creek]	Alice Springs Orogen	—	Northern Territory, Australia	341	4	3	Paleozoic	U/Pb	monazite	—	—	Buick et al., 2008	Wrong kind	—	Wrong kind
145	LCT	Beryl Mountain	Gilsum	Beryl Mtn.	New Hampshire, USA	341	1	3	Paleozoic	U/Pb	zircon	43.181	-72.294	Page and Larrabee, 1962; provisional age from Bradley et al., 2013	Filtered	S	Wrong kind
—	LCT	Oldrich pegm. dike	Bory Granulite massif	Oldrich	Czech Republic	337	2	3	Paleozoic	U/Pb	monazite	—	—	Novak et al., 2008	Duplicate	S	Wrong kind
94	LCT	Eibenstein Pegm	Bohemian Massif	Eibenstein	Austria	337	5	3	Paleozoic	Sm/Nd	garnet	48.783	15.733	Ertl et al., 2004	Filtered	—	Wrong kind
90	LCT	Oldrich	Dolni Bory Hate	Oldrich	Czech Republic	337	2	3	Paleozoic	U/Pb	monazite	49.421	16.003	Novak et al., 2008	Y	S	Wrong kind
—	LCT	Puklice	Bohemian Massif	—	Czech Republic	336	3	3	Paleozoic	U/Pb	columbite-tantalite	—	—	Melleton et al., 2012	Duplicate	S	Wrong kind
—	LCT	Dolni Bory	Bohemian Massif	—	Czech Republic	335	3	3	Paleozoic	U/Pb	monazite	—	—	Novak et al., 1998	Duplicate	S	Wrong kind
—	LCT	Sedlatice	Bohemian Massif	—	Czech Republic	334	6	3	Paleozoic	U/Pb	columbite-tantalite	—	—	Melleton et al., 2012	Duplicate	S	Wrong kind
—	LCT	Jeclov	Bohemian Massif	—	Czech Republic	333	7	3	Paleozoic	U/Pb	Tnt	—	—	Melleton et al., 2012	Duplicate	S	Wrong kind
—	GP	[Danmarkshavn]	Caledonides, Greenland	—	Greenland	332	3	3	Paleozoic	U/Pb	zircon	—	—	Sartini-Rideout et al., 2006	Wrong kind	—	Wrong kind
—	LCT	Rozna	Bohemian Massif	—	Czech Republic	332	3	3	Paleozoic	U/Pb	columbite-tantalite	—	—	Melleton et al., 2012	Duplicate	S	Wrong kind
—	LCT	Chvalovice	Bohemian Massif	—	Czech Republic	332	3	3	Paleozoic	U/Pb	columbite-tantalite	—	—	Melleton et al., 2012	Duplicate	S	Wrong kind
89	LCT	Dobra Voda	Bohemian Massif	Dobra Voda	Czech Republic	332	3	3	Paleozoic	U/Pb	columbite-tantalite	49.424	15.999	Melleton et al., 2012	Duplicate	—	Wrong kind
87	LCT	Rozná	Rozná	Rozná	Czech Republic	332	3	3	Paleozoic	U/Pb	columbite-tantalite	49.480	16.240	Melleton et al., 2012	Y	S	Wrong kind
47	GP	Mama-Chuya Peg. 2nd	Vitim-Patom Fold Belt	—	Russia	331	1	3	Paleozoic	U/Pb	zircon	57.183	110.450	Tkachev 2011	Wrong kind	—	Wrong kind
299	GP	[Entia Gneiss Cpx]	Alice Springs Orogen	—	Northern Territory, Australia	330	6	3	Paleozoic	U/Pb	zircon	-23.111	135.236	Hand et al., 1999	Wrong kind	—	Wrong kind
140	LCT	Palermo	Grafton	Palermo	New Hampshire, USA	327	2	3	Paleozoic	U/Pb	zircon	43.751	-71.890	Whitmore and Lawrence, 2004; age from Bradley et al., 2013	Y	S	Wrong kind
92	LCT	Ctidruzice	—	Ctidruzice	Czech Republic	323	5	3	Paleozoic	U/Pb	columbite-tantalite	48.989	15.843	Melleton et al., 2012	Y	S	Wrong kind
44	GP	[Mama-Oron Complex]	Angara-Vitim Batholith	—	Russia	322	5	3	Paleozoic	U/Pb	—	57.833	114.283	Neymark et al., 1991	Wrong kind	—	Wrong kind
76	GP	Stockscheider	Erzgebirge	—	Germany	321	2	3	Paleozoic	U/Pb	uraninite	50.617	-12.883	Romer et al., 2007	Wrong kind	—	Wrong kind
75	NYF	Sauberger	—	Sauberger	Germany	321	2	3	Paleozoic	U/Pb	uraninite	50.617	12.883	Romer et al., 2007	Wrong kind	S	Y
36	GP	[Mama Downwarp]	Mama-Patom Syncline	—	Russia	320	10	3	Paleozoic	U/Pb	zircon	58.600	113.700	Larin et al., 1997	Wrong kind	—	Wrong kind
222	LCT	McAllister	McAllister	McAllister	Alabama, USA	320	10	3	Paleozoic	Ar/Ar	muscovite	32.885	-86.248	Foord and Cook, 1989; age from Snee in that paper with uncertainty estimated	Y	S	Wrong kind
—	GP	[Brett Creek]	Alice Springs Orogen	—	Northern Territory, Australia	320	4	3	Paleozoic	U/Pb	monazite	—	—	Buick et al., 2008	Wrong kind	—	Wrong kind
77	LIG	Podlesí	—	Podlesí	Czech Republic	312	—	2	Paleozoic	40Ar/39Ar	—	50.422	12.790	Breiter et al., 2005	Undated	S	Wrong kind
111	LCT	Chedeville	Haute-Vienne	Chedeville	France	309	1	3	Paleozoic	Ar/Ar	lepidolite	45.979	1.386	Raimbault, 1998	Y	S	Wrong kind
103	LIG	Beauvoir	Massif Central	Beauvoir	France	309	1	3	Paleozoic	Ar/Ar	—	46.178	2.958	Raimbault, 1998; Cheilletz et al., 1992	Wrong kind	S	Wrong kind

Table A1, Pegmatites of the world

143	GP	[Puero - E. Migmatite]	Maures Massif	—	France	304	2	3	Paleozoic	Ar/Ar	muscovite	43.250	8.583	Morillon et al., 2000	Wrong kind	—	Wrong kind
—	GP	Vieiros Pegm	—	—	Portugal	301	4	3	Paleozoic	U/Pb	columbite-tantalite	—	—	Lima et al., 2013	Wrong kind	—	Wrong kind
81	LCT	Kara-Adyr	Solbelder	Solbelder	Russia	292	5	2	Paleozoic	U/Pb	—	50.360	96.574	Kuznetsova et al., 2011	Y	S	Wrong kind
147	GP	[Khan Bogd Granite]	Central Asian Orogenic Belt	—	Mongolia	292	1	2	Paleozoic	U/Pb	zircon	43.167	107.117	Kovalenko et al., 2006	Wrong kind	—	Wrong kind
159	GP	Lyme Dome	Alleghanian Orogen	—	Connecticut, USA	288	4	2	Paleozoic	U/Pb	zircon	41.292	-72.252	Walsh et al., 2007	Wrong kind	—	Wrong kind
73	LIG	Meldon aplite	—	Meldon	England	279	2	2	Paleozoic	Rb-Sr	—	50.709	-4.032	Darbyshire and Shepherd, 1985	Wrong kind	S	Wrong kind
139	GP	Topsham - E Standpipe	Appalachian Orogen	—	Maine, USA	273	1	2	Paleozoic	U/Pb	monazite	43.923	-69.979	Tomascek et al., 1996	Wrong kind	—	Wrong kind
157	LCT	Anderson	Middletown	Anderson	Connecticut, USA	273	1	2	Paleozoic	U/Pb	zircon	41.592	-72.592	Age from Bradley et al., 2013	Y	S	Wrong kind
78	LCT	Shuk-Byul'	Solbelder	Shuk-Byul'	Russia	272	—	2	Paleozoic	—	—	50.397	96.567	Kuznetsova et al., 2011	Duplicate	S	Wrong kind
131	LCT	Mt. Mica (Irish Pit)	Sebago	Mt. Mica	Maine, USA	264	1	2	Paleozoic	U/Pb	zircon	44.269	-70.472	Wise and Brown, 2010; age from Bradley et al., 2013	Y	S	Wrong kind
46	LCT	Lipovy Log	Lipovy Log	Lipovy Log	Central Urals, Russia	262	7	2	Paleozoic	Re/Os	molybdenite	57.567	61.317	Mao et al., 2003	Y	S	Wrong kind
150	GP	[Merens Fault]	Eastern Pyrenees	—	France	256	2	2	Paleozoic	Ar/Ar	muscovite	42.640	1.535	McCaig and Miller 1986	Wrong kind	—	Wrong kind
100	LCT	Weinebene	Koralpe	Koralpe	Austria	247	9	2	Mesozoic	Sm-Nd	garnet	46.867	14.932	Göd, 1989; Habler et al., 2007 who bracketed age between 238 and 256 Ma	Filtered	S	Wrong kind
107	LCT	—	Brissago	Brissago	Switzerland	242	3	2	Mesozoic	U/Pb	zircon	46.119	8.711	Vignola et al., 2008	Y	S	Wrong kind
108	GP	[Finero Peridotite]	Ivrea Zone	—	Italy	225	13	2	Mesozoic	U/Pb	zircon	46.107	8.546	Stahle et al., 1990	Wrong kind	—	Wrong kind
99	LCT	Altai #3	Altai	Altai	China	220	9	2	Mesozoic	U/Pb	zircon	47.190	88.813	Wang et al., 2007	Y	L	Wrong kind
180	GP	Weihai	Sulu Terrain	—	China	212	2	2	Mesozoic	U/Pb	zircon	37.521	122.148	Liu et al., 2010	Wrong kind	—	Wrong kind
225	LCT	Jiajika	Jiajika	Jiajika	China	208	4	2	Mesozoic	U/Pb	zircon	30.330	101.320	http://www.mindat.org/location/146947.html; Li Jiankang et al 2013 for SHRIMP age	Y	L	Wrong kind
1	GP	Emiytas Cpx.	New Siberian Islands	—	Russia	202	17	2	Mesozoic	U/Pb	zircon	73.247	143.316	Kuzmichev et al., 2009	Wrong kind	—	Wrong kind
88	LIG	Alakha	Altai Highlands	Alakha	Russia	201	2	2	Mesozoic	—	—	49.450	87.070	Vladimirov et al., 2012; location from Mindat;	Filtered	L	Wrong kind
24	GP	Lake Clark	Tlikakila Complex	—	Alaska, USA	193	1	1	Mesozoic	Ar/Ar	muscovite	60.453	-153.835	Amato et al., 2007	Wrong kind	—	Wrong kind
239	GP	Mahandi Basin	Eastern Ghats Belt	—	India	152	12	1	Mesozoic	U/Pb	apatite	20.848	84.843	Lisker and Fachmann 2001	Wrong kind	—	Wrong kind
193	GP	Haohung-Taolin	Dabie-Sulu Orogen	—	China	149	2	1	Mesozoic	U/Pb	zircon	35.833	119.533	Leech et al., 2006	Wrong kind	—	Wrong kind
199	GP	[S. Tiefort Mtns]	Mojave Desert	—	California, USA	148	14	1	Mesozoic	U/Pb	zircon	35.228	-116.588	Schermer et al., 2001	Wrong kind	—	Wrong kind
70	LCT	—	Orlovka	Orlovka	Transbaikalia, Russia	142	3	1	Mesozoic	Rb-Sr	—	51.057	114.834	Reyf et al., 2000	Filtered	S	Wrong kind
194	GP	Taohang	Sulu Terrain	—	China	137	2	1	Mesozoic	Ar/Ar	muscovite	35.698	119.653	Lin et al., 2005	Wrong kind	—	Wrong kind
228	LIG	Yichun	—	Yichun	China	131	—	1	Mesozoic	—	—	27.580	114.420	Schwartz, 1992	Filtered	S	Wrong kind
66	LCT	Zavatinskoe (=Zavitino)	—	Zavatinskoe	Russia	130	—	1	Mesozoic	—	—	51.619	115.610	Vladimirov et al., 2012; location from Mindat;	Filtered	L	Wrong kind
74	LCT	Okyabrskaya	Malkhan	Malkhan	Transbaikalia, Russia	128	1	1	Mesozoic	Ar/Ar	muscovite	50.652	109.880	Zagorsky and Peretyazhko, 2010	Y	S	Wrong kind
—	GP	[Xingzi MCC]	Lushan Mountain	—	Jiangxi, China	127	2	1	Mesozoic	U/Pb	zircon	—	—	Wuxian et al., 2001	Wrong kind	—	Wrong kind
235	NYF	Dyakou	—	Dyakou	China	124	1	1	Mesozoic	Ar/Ar	biotite	22.921	104.635	Xue et al., 2010	Wrong kind	S	Y
223	GP	Qingshan	Dabie Orogen	—	China	120	2	1	Mesozoic	U/Pb	zircon	31.500	116.000	Wu et al., 2007	Wrong kind	—	Wrong kind
271	NYF	Mt. Malosa	—	Mt. Malosa	Malawi	118	1	1	Mesozoic	U/Pb	zircon	-15.250	35.317	Soman et al., 2010	Wrong kind	S	Y
189	GP	[Tirich Mir Fault Zone]	Hindu Kush	—	Pakistan	114	2	1	Mesozoic	U/Pb	uraninite	36.017	71.667	Hildebrand et al., 2001	Wrong kind	—	Wrong kind
—	GP	[Goodpaster Min. Dist]	Tintina Gold Belt	—	Alaska, USA	108	1	1	Mesozoic	U/Pb	monazite	—	—	Dilworth et al., 2007	Wrong kind	—	Wrong kind
221	LCT	Little Three Mine	San Diego	Little Three	California, USA	97	2	0	Mesozoic	Ar/Ar	muscovite	33.057	-116.794	Symons et al., 2009; Ortega-Rivera 2003	Duplicate	S	Wrong kind
203	GP	[Tehachapi Mtns]	Sierra Nevada	—	California, USA	95	5	0	Mesozoic	U/Pb	zircon	35.124	-118.739	Saleeby et al., 1987	Wrong kind	—	Wrong kind

Table A1, Pegmatites of the world

220	LCT	Himalaya Mine	San Diego	Himalaya	California, USA	95	1	0	Mesozoic	Ar/Ar	muscovite	33.212	-116.798	Fisher, 2002	Y	S	Wrong kind
20	LCT	—	Little Nahanni	Little Nahanni	Northwest Territories, Canada	90	2	0	Mesozoic	U/Pb	apatite	62.200	-128.833	Barnes, 2010	Y	S	Wrong kind
179	GP	Custer Gulch	Mineral Ridge Core Complex	—	Nevada, USA	88	3	0	Mesozoic	U/Pb	zircon	37.79787	-117.689	Unpublished age by Bradley and McCauley	Wrong kind	—	Wrong kind
209	GP	Granite Mountain	Ouachita Mt. Fold Belt	—	Arkansas, USA	88	1	0	Mesozoic	—	Ttn	34.694	-92.254	Eby and Vasconcelos, 2009	Wrong kind	—	Wrong kind
248	GP	[Funeral Mountains]	Death Valley	—	California, USA	86	1	0	Mesozoic	U/Pb	zircon	14.967	-90.500	Mattinson et al., 2007	Wrong kind	—	Wrong kind
232	GP	[Tananao Schist]	Nanao Orogen	—	Taiwan	83	0	0	Mesozoic	Ar/Ar	muscovite	24.477	121.780	Lo and Onstott, 1995	Wrong kind	—	Wrong kind
331	GP	[Pembroke Granulite]	Arthur River Complex	—	New Zealand	82	2	0	Mesozoic	U/Pb	zircon	-44.585	167.890	Hollis et al., 2003	Wrong kind	—	Wrong kind
98	GP	[MANC/LANC Fault]	Austroalpine Nappe Cpx	—	Austria	82	0	0	Mesozoic	Ar/Ar	muscovite	47.499	15.366	Dallmeyer et al., 1998	Wrong kind	—	Wrong kind
101	GP	Sweathouse Canyon	Bitterroot Batholith	—	Idaho, USA	76	1	0	Mesozoic	U/Pb	zircon	46.421	-114.230	Foster et al., 2001	Wrong kind	—	Wrong kind
332	GP	[Rocas Verdes Basin]	Tierra Del Fuego	—	Argentina	75	2	0	Mesozoic	U/Pb	zircon	-54.809	-68.201	Barbeau et al., 2009	Wrong kind	—	Wrong kind
237	GP	[Yayabo Quarry]	Escambray Massif	—	Cuba	72	1	0	Mesozoic	Ar/Ar	Mus	22.029	-79.507	Grafe et al., 2001	Wrong kind	—	Wrong kind
182	GP	Monarch Canyon	Death Valley	—	California, USA	72	1	0	Mesozoic	U/Pb	zircon	36.725	-116.915	Applegate et al., 1992	Wrong kind	—	Wrong kind
330	GP	Alpine Pegm.	Mataketake Range	—	S New Zealand	68	5	0	Mesozoic	U/Pb	zircon	-43.850	169.500	Chamberlain et al., 1995	Wrong kind	—	Wrong kind
160	GP	[Kimi Complex]	Rhodope	—	Greece	62	2	0	Cenozoic	U/Pb	zircon	41.262	25.713	Liati et al., 2002	Wrong kind	—	Wrong kind
218	GP	Muteh Gold dep.	Zagros Orogen	—	Iran	61	1	0	Cenozoic	Ar/Ar	amphibole	33.578	50.333	Moritz et al., 2006	Wrong kind	—	Wrong kind
185	GP	Badwater Turtle	Death Valley	—	California, USA	55	1	0	Cenozoic	U/Pb	zircon	36.347	-116.821	Miller et al., 1999	Wrong kind	—	Wrong kind
71	GP	[Thor-Odin Dome]	Shuswap MCC, CC	—	British Columbia, Canada	50	1	0	Cenozoic	U/Pb	zircon	50.801	-118.097	Teyssier et al., 2005	Wrong kind	—	Wrong kind
205	GP	Naran region	Himalaya	—	India	46	1	0	Cenozoic	U/Pb	zircon	34.931	73.672	Smith et al., 1994	Wrong kind	—	Wrong kind
246	GP	[Suk Grabben]	Chortis Block	—	Honduras	38	2	0	Cenozoic	Ar/Ar	hornblende	15.667	-87.950	Ratschbacher et al., 2009	Wrong kind	—	Wrong kind
109	NYF	Pizzo Marcio	—	Pizzo Marcio	Italy	33	3	0	Cenozoic	U/Th/Pb	chlorite	46.100	8.383	Guastoni et al., 2008	Wrong kind	S	Y
208	GP	[Swat Granite Gneiss]	Indus Suture (MMT)	—	Pakistan	29	0	0	Cenozoic	U/Pb	zircon	34.822	72.489	Anczkiewicz et al., 2001	Wrong kind	—	Wrong kind
104	GP	Corcapolo	Simplon Shear Zone	—	Switzerland	27	1	0	Cenozoic	U/Pb	monazite	46.169	8.677	Schärer et al., 1996	Wrong kind	—	Wrong kind
105	GP	Palagnedra	Simplon Shear Zone	—	Switzerland	26	0	0	Cenozoic	U/Pb	monazite	46.155	8.630	Schärer et al., 1996	Wrong kind	—	Wrong kind
173	GP	Sweet Home Mine	Rio Grande Rift System	—	Colorado, USA	26	0	0	Cenozoic	Ar/Ar	K feldspar	39.208	-106.164	Barbá et al., 2005	Wrong kind	—	Wrong kind
234	GP	[Ailao Shan Gneiss]	Red River Shear Zone	—	China	24	0	0	Cenozoic	U/Pb	titanite	23.667	101.867	Schärer et al., 1994	Wrong kind	—	Wrong kind
226	GP	[Mabja Dome]	Tethys Himalaya	—	Tibet	23	1	0	Cenozoic	U/Pb	zircon	28.667	88.333	Lee et al., 2006	Wrong kind	—	Wrong kind
227	GP	[Augen Gneisses]	Kathmandu Cpx.	—	Nepal	22	1	0	Cenozoic	U/Pb	monazite	27.777	85.026	Regmi, 2008	Wrong kind	—	Wrong kind
190	LCT	Khalaro	Haramosh Massif	Haramosh	Pakistan	9	0	0	Cenozoic	Ar/Ar	muscovite	36.000	74.719	Laurs et al., 1996	Y	S	Wrong kind
149	LCT	Fonte del Prete	Elba	Elba	Italy	7	1	0	Cenozoic	Rb/Sr	—	42.751	10.205	Aurisicchio et al., 2002	Y	S	Wrong kind
63	LCT	Whabouchi	Whabouchi	Whabouchi	Quebec, Canada	—	—	27	Neoarchean	—	—	51.683	-75.846	Laferrière et al., 2011	Undated	L	Wrong kind
72	LCT	McCombe	Root Lake	Root	Ontario, Canada	—	—	26	Neoarchean	—	—	50.800	-91.700	Selway et al., 2005; location approximate	Undated	S	Wrong kind
91	LCT	Vodorazhdelnoye	Menza	Vodorazhdelnoye	Russia	—	—	—	—	—	—	49.417	108.667	Location from Mindat	Undated		Wrong kind
112	LCT	Animikie Red Ace	Hoskins Lake	Animikie	Wisconsin, USA	—	—	—	Paleoproterozoic	—	—	45.851	-88.353	Sirbescu et al., 2008	Undated	S	Wrong kind
125	LCT	Cer Mountain	Cer Mountain	Cer Mtn.	Serbia	—	—	—	—	—	—	44.761	19.439	Lazic et al., 2009	Undated	S	Wrong kind
148	LCT	Black Mountain	Black Mountain	Black Mtn.	Wyoming, USA	—	—	—	—	—	—	42.768	-107.442	Hanley et al., 1950	Undated	S	Wrong kind
151	LCT	Forcarai	Forcarai	Forcarai	Spain	—	—	3	Paleozoic	—	—	42.590	-8.350	Fuertes-Fuentes et al., 2000	Undated	S	Wrong kind
156	LCT	Alijó	Covas de Barroso	Covas de Barroso	Portugal	—	—	3	Paleozoic	—	—	41.635	-7.784	Charoy et al., 2001; location is generalized	Undated	S	Wrong kind

Table A1, Pegmatites of the world

163	LCT	Feli Sn deposit	Feli Sn deposit	Feli	Spain	—	—	3	Paleozoic	—	—	41.011	-6.868	Roda-Robles and Pesquera, 2007	Undated	S	Wrong kind
166	LCT	Buckhorn	Crystal Mountain	Crystal Mtn.	Colorado, USA	—	—	—	—	—	—	40.546	-105.373	Hanley et al., 1950	Undated	S	Wrong kind
181	LCT	Talbuzanak	Talbuzanak	Talbuzanak	Afghanistan	—	—	—	Cenozoic	—	—	37.202	70.560	Orris and Bliss, 2002	Undated	S	Wrong kind
183	LCT	Myoukenyama	Myoukenyama	Myoukenyama	Japan	—	—	—	—	—	—	36.500	140.500	http://www.mindat.org/loc-37307.html	Undated	S	Wrong kind
184	LCT	Eshkashim	Eshkashim	Eshkashim	Afghanistan	—	—	—	Cenozoic	—	—	36.455	71.606	Orris and Bliss, 2002	Undated	S	Wrong kind
195	LCT	Pachighram	Pachighram	Pachighram	Afghanistan	—	—	—	Mesozoic?	—	—	35.528	71.000	Orris and Bliss, 2002	Undated	S	Wrong kind
196	LCT	Kantiway	Kantiway	Kantiway	Afghanistan	—	—	—	Cenozoic	—	—	35.436	70.772	Orris and Bliss, 2002	Undated	S	Wrong kind
197	LCT	Panjsher	Panjsher	Panjsher	Afghanistan	—	—	—	—	—	—	35.333	69.333	Orris and Bliss, 2002	Undated	S	Wrong kind
198	LCT	Marid	Marid	Marid	Afghanistan	—	—	—	Mesozoic?	—	—	35.233	71.333	Orris and Bliss, 2002	Undated	S	Wrong kind
202	LCT	Nilaw-Kolum	Nilaw-Kolum	Nilaw-Kolum	Afghanistan	—	—	—	Cenozoic	—	—	35.208	70.354	Orris and Bliss, 2002	Undated	S	Wrong kind
204	LCT	Kurghal	Kurghal	Kurghal	Afghanistan	—	—	—	Cenozoic	—	—	35.068	70.306	Orris and Bliss, 2002	Undated	S	Wrong kind
206	LCT	Parun	Parun	Parun	Afghanistan	—	—	—	Cenozoic	—	—	34.909	70.871	Orris and Bliss, 2002	Undated	S	Wrong kind
207	LCT	Alinghar	Alinghar	Alinghar	Afghanistan	—	—	—	Cenozoic	—	—	34.878	70.280	Orris and Bliss, 2002	Undated	S	Wrong kind
210	LCT	Darra-i-Pech	Darra-i-Pech	Darra-i-Pech	Afghanistan	—	—	—	Cenozoic	—	—	34.672	70.782	Orris and Bliss, 2002; coordinates for SE part of field	Undated	S	Wrong kind
211	LCT	Darrahe-Nur	Darrahe-Nur	Darrahe-Nur	Afghanistan	—	—	—	Cenozoic	—	—	34.617	70.750	Orris and Bliss, 2002; coordinates for NE part of field	Undated	S	Wrong kind
212	LCT	Shahidan	Shahidan	Shahidan	Afghanistan	—	—	—	Cenozoic	—	—	34.525	69.904	Orris and Bliss, 2002	Undated	S	Wrong kind
213	LCT	Surkh-Rod	Surkh-Rod	Surkh-Rod	Afghanistan	—	—	—	Cenozoic	—	—	34.435	70.256	Orris and Bliss, 2002	Undated	S	Wrong kind
216	LCT	Taghawlor	Taghawlor	Taghawlor	Afghanistan	—	—	—	Cenozoic	—	—	33.708	66.325	Orris and Bliss, 2002	Undated	L	Wrong kind
217	LCT	Guanpo	Guanpo	Guanpo	China	—	—	—	Mesozoic	—	—	33.700	110.800	http://www.mindat.org/loc-216639.html	Undated	S	Wrong kind
219	LCT	Nagatareyama	Nagatareyama	Nagatareyama	Japan	—	—	—	—	—	—	33.560	130.290	http://www.mindat.org/loc-53666.html	Undated	S	Wrong kind
229	LCT	Nanping	Nanping	Nanping	China	—	—	—	—	—	—	26.670	118.100	Nanping #31. http://www.mindat.org/loc-216998.html	Undated	S	Wrong kind
230	LCT	Maoantan	Maoantan	Maoantan	China	—	—	—	Mesozoic	—	—	26.200	111.800	http://www.mindat.org/loc-224897.html	Undated	S	Wrong kind
236	LCT	Sakangyi	Sakangyi	Sakangyi	Myanmar	—	—	—	—	—	—	22.900	96.300	Zaw, 1998	Undated	S	Wrong kind
240	LCT	Khnefissat	Khnefissat	Khnefissat	Mauritania	—	—	—	Mesoarchean	—	—	20.794	-15.571	Gunn et al., 2004	Undated	S	Wrong kind
241	LCT	Bastar-Malkangiri	Bastar-Malkangiri	Bastar-Malkangiri	India	—	—	—	—	—	—	19.300	81.600	Pal, 2007	Undated	S	Wrong kind
244	LCT	Santa Ana	Santa Ana	Santa Ana	Oaxaca, Mexico	—	—	—	—	—	—	17.300	-96.900	http://www.mindat.org/loc-21304.html	Undated	S	Wrong kind
255	LCT	Komu	Igbeti	Igbeti	Nigeria	—	—	—	Neoproterozoic	—	—	8.317	3.025	Adetunji and Ocan 2010	Undated	S	Wrong kind
256	LCT	Phuket	Phuket	Phuket	Thailand	—	—	—	—	—	—	7.940	98.350	Suwimonprecha et al., 1995	Undated	S	Wrong kind
262	LCT	Gatumba	Gatumba	Gatumba	Rwanda	—	—	9	Neoproterozoic	—	—	-2.000	29.700	Hulbosch et al., 2013; Graupner et al., 2010	Undated	S	Wrong kind
283	LCT	Urucum	Urucum	Urucum	Brazil	—	—	—	—	—	—	-19.023	-41.460	Viana et al., 2003	Undated	S	Wrong kind
284	LCT	Manjaka	Sahany Valley	Manjaka	Madagascar	—	—	—	—	—	—	-20.000	47.000	http://www.mindat.org/loc-2271.html ; location approximate	Undated	S	Wrong kind
287	LCT	Tabba	Tabba	Tabba	Australia	—	—	28	Mesoarchean	—	—	-20.667	118.923	Fetherston, 2004	Undated	S	Wrong kind
291	LCT	—	Volta Grande	Volta Grande	Minas Gerais, Brazil	—	—	19	Paleoproterozoic	—	—	-21.021	-44.691	Lagache and Quéméneur, 1997	Undated	S	Wrong kind
294	LCT	Karibib	Karibib	Karibib	Namibia	—	—	5	Paleozoic	—	—	-21.938	15.854	Jacob et al., 2000	Undated	S	Wrong kind
307	LCT	Niobe	Niobe	Niobe	Australia	—	—	26	—	—	—	-27.707	117.267	Fetherston, 2004	Undated	S	Wrong kind
311	LCT	Edon	Edon	Edon	Australia	—	—	—	Archean	—	—	-29.307	117.683	Fetherston, 2004	Undated	S	Wrong kind
314	LCT	Marion	Marion	Marion	Australia	—	—	—	Archean	—	—	-31.078	121.467	Fetherston, 2004	Undated	S	Wrong kind
315	LCT	Tantalite	Tantalite	Tantalite	Australia	—	—	—	Archean	—	—	-31.097	121.075	Fetherston, 2004	Undated	S	Wrong kind
318	LCT	Bald	Bald	Bald	Australia	—	—	—	Archean	—	—	-31.516	122.179	Fetherston, 2004	Undated	L	Wrong kind
320	LCT	Deans	Deans	Deans	Australia	—	—	26	Mesoarchean	—	—	-32.307	121.785	Fetherston, 2004	Undated	L	Wrong kind
324	LCT	Cattlin	Cattlin	Cattlin	Australia	—	—	26	—	—	—	-33.564	120.040	Fetherston, 2004	Undated	S	Wrong kind

Table A1, Pegmatites of the world

NOTES for table A1

Numbers for pegmatites in column A are only given for pegmatites whose coordinates are known.

Numbers and short names for pegmatites in columns A and E are shown in layers in the original Illustrator version of figure 1, which is available on request from the authors.

Numbers for pegmatites in column A are assigned by latitude, from north to south.

In column B, abbreviations used for classification:

GP = granitic pegmatites undivided

LCT = Lithium-cesium-tantalum pegmatites

LIG = Lithium granites

NYF = Niobium-yttrium-fluorine pegmatites

Ages and 2-sigma errors in columns G and H are rounded to the closest integer

Columns P and R are used to select the ages plotted in the LCT and NYF age distributions

"Y" means yes

"Wrong kind" means not plotted because it is the wrong kind of pegmatite for that plot

"Duplicate" means not plotted because it another pegmatite from the same group is plotted instead

"Filtered" means not plotted because the age has dubious accuracy and (or) precision

Table A2. Lithium metal versus time for major LCT pegmatites.

Pegmatite	Location	Li (Mt)	Geon
Pilgangoora	Australia	0.009	28
Aracuai (Cachoeira)	Brazil	0.01	5
Ullava Länttä,	Finland	0.01	17
Violet = Herb Lake area	Canada	0.01	18
Nama Creek	Canada	0.01	26
Thor,	Canada	0.02	26
Fl,	Canada	0.03	na
Bikita,	Zimbabwe	0.06	26
Mt Cattlin,	Australia	0.09	26
Quebec Lithium = Lacorne	Canada	0.11	26
James Bay Lithium One	Canada	0.13	26
Tanco,	Canada	0.14	26
Karibib,	Namibia	0.15	5
Vishnyakovskoe,	Russia	0.21	17
Barkam,	China	0.22	na
Kamativi,	Zimbabwe	0.28	10
Kings Mtn	USA	0.32	3
Manono–Kitolo,	DRC	0.33	9
Bessemer City	USA	0.42	3
Jiajika,	China	0.48	1
Greenbushes,	Australia	0.85	25

Li data from Kesler et al. 2012

Table A3. Tantalum metal versus time for major LCT pegmatites.

Pegmatite	Location	Ta2O5 pct	Mt or ore	Mt of Ta2O5	Mt of Ta metal	t of Ta metal	Geon
Nanping	China	0.03	0.004	0.0000012	0.0000010	1	3
Arthur River peg	Australia			0	0.0000000	9	18
Niobe	Australia	0.024	0.057	0.00001368	0.0000112	11	26
Alwa peg, Walwa area	Australia	0.02	0.07	0.000014	0.0000115	11	4
Tabba Tabba	Australia	0.018	0.093	0.00001674	0.0000137	14	28
Labell peg, Bynoe-Mt Finnis area	Australia	0.013	0.14	0.0000182	0.0000149	15	17
Breakaway	Australia	0.014	0.13	0.0000182	0.0000149	15	26
Arthur River placer	Australia	0.03	0.065	0.0000195	0.0000160	16	18
Johnsons Well	Australia	0.019	0.13	0.0000247	0.0000202	20	26
West Wodgina	Australia	0.13	0.044	0.0000572	0.0000468	47	28
The Bounce, Walwa area	Australia	0.023	0.27	0.0000621	0.0000509	51	4
Wanroo	Zimbabwe	0.07	0.129	0.0000903	0.0000740	74	
Cattlin Creek	Australia	0.054	0.17	0.0000918	0.0000752	75	26
Niobe	Australia	0.31	0.036	0.0001116	0.0000914	91	26
Eagle	Zimbabwe	0.034	0.61	0.0002074	0.0001699	170	
Binneringie	Australia	0.015	1.52	0.000228	0.0001867	187	
Tantalite Valley	Namibi	0.043	0.74	0.0003182	0.0002606	261	9
North Ravensthorpe	Australia	0.039	0.85	0.0003315	0.0002715	271	26
Rosendal	Finland	0.029	1.3	0.000377	0.0003088	309	18
Donsa	Zimbabwe	0.025	1.62	0.000405	0.0003317	332	
Mt Alwa	Australia	0.006	6.99	0.0004194	0.0003435	343	4
Uis B1 and C1	Namibia	0.024	2	0.00048	0.0003931	393	5
Bald Hill	Australia	0.038	2	0.00076	0.0006224	622	
Big Whopper	Canada	0.007	13.8	0.000966	0.0007912	791	26
Muriane	Mozambique	0.016	7	0.00112	0.0009173	917	4
Forcarei Sur	Spain	0.016	7.35	0.001176	0.0009631	963	3
Mount Deans	Australia	0.022	9.1	0.002002	0.0016396	1640	26
Uis Three Aloes	Namibia	0.05	7.2	0.0036	0.0029484	2948	5
Marropino	Mozambique	0.019	21.7	0.004123	0.0033767	3377	4
Tanco = Bernic Lake	Canada	0.216	2.1	0.004536	0.0037150	3715	26
Morrua	Mozambique	0.07	7.5	0.00525	0.0042998	4300	4
Pilgangoora	Australia	0.027	49.3	0.013311	0.0109017	10902	28
Wodgina	Australia	0.037	63.5	0.023495	0.0192424	19242	28
Greenbushes	Australia	0.022	135.1	0.029722	0.0243423	24342	25

Ta data from Fetherston 2004

Appendix to Global Age Distribution of Granitic Pegmatites

The Canadian Mineralogist, 2014

by Andrew McCauley and Dwight Bradley

REFERENCES CITED IN TABLE A1

- Acaster, M., & Bickford, M.E. (1999): Geochronology and geochemistry of Putnam-Nashoba terrane metavolcanic and plutonic rocks, eastern Massachusetts: Constraints on the early Paleozoic evolution of eastern North America. *Geological Society of America Bulletin* **111**(2), 240-253.
- Adetunji, A., & Ocan, O.O. (2010): Characterization and mineralization potentials of granitic pegmatites of Komu area, southwestern Nigeria. *Resource Geology* **60**, 87-97.
- Aldrich, L.T., Wetherill, G.W., & Davis, G.L. (1957): Occurrence of 1350-million-year-old granitic rocks in western United States: *Geological Society of America Bulletin* **68**, 655-656.
- Alviola R., Manttari, I., Makitie, H., & Vaasjoki, M. (2001): Svecofennian rare-element granitic pegmatites of the Ostrobothnia region, western Finland; their metamorphic environment and time of intrusion. *Geological Survey of Finland Special Paper* **30**, 9-29.
- Amato, J.M., Bogar, M.J., Gehrels, G.E., Farmer, G.L., & McIntosh, W.C. (2007): The Tlikakila complex in southern Alaska: A suprasubduction-zone ophiolite between the Wrangellia Composite terrane and North America. *Geological Society of America Special Paper* **431**, 227-252.
- Anczkiewicz, R., Oberli, F., Burg, J.P., Villa, I.M., Gunther, D., & Meier, M. (2001): Timing of normal faulting along the Indus Suture in Pakistan Himalaya and a case of major $^{231}\text{Pa}/^{235}\text{U}$ initial disequilibrium in zircon. *Earth and Planetary Science Letters* **191**, 101-114.
- Anderson, S.D., Jamieson, R.A., Reynolds, P.H., & Dunning, G.R. (2001): Devonian extension in Northwestern Newfoundland: $^{40}\text{Ar}/^{39}\text{Ar}$ and U-Pd data from the Ming's bight area, Baie Verte Peninsula. *The Journal of Geology* **109**, 191-211.
- Ansdell, K.M. & Norman, A.R. (1995): U-Pb geochronology and tectonic development of the southern flank of the Kisseynew Domain, Trans-Hudson Orogen, Canada. *Precambrian Research* **72**, 147-167.
- Applegate, J.D.R., Walker, J.D., & Hodges, K.V. (1992): Late Cretaceous extensional unroofing in the Funeral Mountains metamorphic core complex, California. *Geology* **20**, 519-522.
- Araujo, M.N.C., Vasconcelos, P.M., Alves da Silva, F.C., Jardim de Sa, E.F., & Sa, J.M. (2005): $^{40}\text{Ar}/^{39}\text{Ar}$ geochronology of gold mineralization in Brasiliano strike-slip shear zones in the Borborema province, NE Brazil. *Journal of South American Earth Sciences* **19**, 445-460.
- Aurisicchio, C., De Vito, C., Ferrini, V., & Orlandi, P. (2002): Nb and Ta oxides in the Fonte del Prete granitic pegmatite dike, Island of Elba, Italy. *The Canadian Mineralogist* **40**, 799-814.
- Baadsgaard, H., & Cerny, P. (1993): Geochronological studies in the Winnipeg River pegmatite populations, southeastern Manitoba. *Geol. Assoc. Canada Annual Meeting Abs.*, A-15.
- Barbá, K.E., Nelson, E.P., Misantoni, D., Hitzman, M.W., & Layer, P.W. (2005): Structural controls on mineralized veins in the Sweet Home mine, Alma district, Colorado, in Rhoden, H.N., Steininger, R.C., and Vikre, P.G., eds., Geological Society of Nevada Symposium 2005: Window to the World, Reno Nevada, May 2005, 689-708.
- Barbeau Jr., D.L., Gombosi, D.J., Zahid, K.M., Bizimis, M., Swanson-Hysell, N., Valencia, V., & Gehrels, G.E. (2009): U-Pb zircon constraints on the age and provenance of the Rocas Verdes basin fill, Tierra del Fuego, Argentina. *Geochemistry Geophysics Geosystems* **10** (12) 11p.
- Barnes, E.M. (2010): The rare element Little Nahanni Pegmatite Group, NWT: studies of emplacement, and magmatic evolution from geochemical and Li isotopic evidence: Ph.D. dissertation, University of British Columbia, Vancouver, British Columbia, 247 p.
- Barth, A.P., Wooden, J.L., Tosda, R.M., Morrison, J., Dawson, D.L., and Hernly, B.M. (1995): Origin of gneisses in the aureole of the San Gabriel anorthosite complex and implications for the Proterozoic crustal evolution of southern California. *Tectonics* **14**, 736-752.
- Baumgartner, R., Romer, R.L., Moritz, R., Sallet, R., & Chiaradia, M. (2006): Columbite-tantalite-bearing granitic pegmatites from the Serido belt, northeastern Brazil: Genetic constraints from U-Pb dating and Pb isotopes. *The Canadian Mineralogist* **44**, 69-86.
- Beal, K.L., Lentz, D.R., Hall, D.C., & Dunning, G. (2010): Mineralogical, geochronological, and geochemical characterization of Early Devonian aquamarine-bearing dykes of the Zealand Station beryl and molybdenite deposit, west central New Brunswick. *Canadian Journal of Earth Science* **47**, 859-874.

- Berger, A., Gnos, E., Schreurs, G., Fernandez, A., & Rakotondrazafy, M. (2006): Late Neoproterozoic, Ordovician and Carboniferous events recorded in monazites from southern-central Madagascar. *Precambrian Research* **144**, 278-296.
- Berger, M., & Braun, I. (1997): Pb-Pb dating of apetite by a stepwise dissolution technique. *Chemical Geology* **142**, 23-40.
- Bertrand, J.M., Roddick, J.C., Van Kranendonk, M.J., & Ermanovics, I. (1993): U-Pb geochronology of deformation and metamorphism across a central transect of the Early Proterozoic Torngat Orogen, North River map area, Labrador. *Canadian Journal of Earth Sciences* **30**, 1470-1489.
- Bethune, K.M., Villeneuve, M.E., & Bleeker, W. (1998): Laser $^{40}\text{Ar}/^{39}\text{Ar}$ thermochronology of Archean rocks in Yellowknife Domain, southwestern Slave Province: insights into the cooling history of an Archean granite-greenstone terrane. *Canadian Journal of Earth Science* **36**, 1189-1206.
- Bibikova, E.V., Bogdanova, S.V., Glebovitsky, V.A., Claesson, S., & Skiöld, T. (2004): Evolution of the Belomorian Belt: NORDSIM U-Pb zircon dating of the Chupa paragneisses, magmatism, and metamorphic stages. *Petrology* **12**, 195-210.
- Bickford, M.E., Mock, T.D., Steinhart III, W.E., Collerson, K.D., & Lewry, J.F. (2005): Origin of the Archean Sask craton and its extent within the Trans-Hudson orogen: evidence from Pb and Nd isotopic compositions of basement rocks and post-orogenic intrusions. *Canadian Journal of Earth Science* **42**, 659-684.
- Bickford, M.E., Soegaard, K., Nielsen, K.C., & Mclelland, J.M. (2000): Geology and geochronology of Grenville-age rocks in the Van Horn and Franklin Mountains area, west Texas: Implications for the tectonic evolution of Laurentia during the Grenville. *Geological Society of America Bulletin* **112**, 1134-1148.
- Bingen, B., Stein, H.J., Bogaerts, M., Bolle, O., & Mansfeld, J. (2006): Molybdenite Re-Os dating constrains gravitational collapse of the Sveconorwegian orogen, SW Scandinavia. *Lithos* **87**, 328-346.
- Black, L.P., Harris, L.B., & Delor, C.P. (1992): Reworking of Archaean and Early Proterozoic components during a progressive, Middle Proterozoic tectonothermal event in the Albany Mobile Belt, Western Australia. *Precambrian Research* **59**, 95-123.
- Black, L.P., James, P.R., & Harley, S.L. (1983): Geochronology and geological evolution of metamorphic rocks in the Field Islands area, East Antarctica. *Journal of Metamorphic Geology* **1**, 277-303.
- Bloem, E.J.M., McNaughton, N.J., Groves, D.I., & Ridley, J.R. (1995): An indirect lead isotope age determination of gold mineralization at the Corinthia mine, Yilgarn Block, Western Australia. *Australian Journal of Earth Sciences* **42**, 447-451.
- Bradley, D.C., Buchwaldt, R., Shea, E., Bowring, S., O'Sullivan, P., Benowitz, J., McCauley, A., & Bradley, L.M. (2013): Geochronology and orogenic context of Northern Appalachian lithium-cesium-tantalum pegmatites: *Geol. Soc. Amer. Abs.* **45**(1), 108.
- Braun, I., Montel, J.M., and Nicollet, C. (1998): Electron microprobe dating of monazites from high-grade gneisses and pegmatites of the Kerala Khondalite Belt, southern India. *Chemical Geology* **146**, 65-85.
- Braun, I., & Kriegsman, L.M. (2003): Proterozoic crustal evolution of southernmost India and Sri Lanka. *Geological Society, London, Special Publications* **206**, 169-202.
- Braun, I., Montel, J.M., & Nicollet, C. (1998): Electron microprobe dating of monazites from high-grade gneisses and pegmatites of the Kerala Khondalite Belt, southern India. *Chemical Geology* **146**, 65-85.
- Breaks, F.W. & Moore, J.M. (1992): The Ghost Lake Batholith, Superior Province of Northwestern Ontario: A fertile, S-type, peraluminous granite – rare element pegmatite system: *The Canadian Mineralogist* **30**, 835-875.
- Breaks, T.W., Tindle, A.G., & Smith, S.R. (1999): Geology, mineralogy, and exploration potential of the Big Mack pegmatite system: a newly discovered western extension of the Separation Rapids pegmatite group, northwest Ontario: *Ontario Geological Survey Miscellaneous Paper* **6000**, 25-1 to 254-13.
- Breaks, F.W., & Tindle, A.G. (2002): Rare-element mineralization of the Separation Lake area, northwest Ontario: characteristics of a new discovery of complex-type, petalite-subtype, Li-Rb-Cs-Ta pegmatite, In S. Dunlop and G.J. Simandl, Industrial Minerals in Canada: *Canadian Institute of Mining, Metallurgy and Petroleum, Special Volume* **53**, 159-178.
- Breiter, K., Müller, A., Leichmann, J., & Gabašová, A. (2005): Textural and chemical evolution of a fractionated granitic system: the Podlesí stock, Czech Republic. *Lithos* **80**, 323-345.
- Broccardo, L., Kinnauld, J.A., & Nex, P.A.M. (2011): Preliminary fluid inclusion results from the Rubicon pegmatite, Karibib, Namibia: PEG2011 Argentina, Contributions to the 5th International Symposium on Granitic Pegmatites, *Asociación Geológica Argentina, Publicación Especial* **14**, 45-48.

- Bruguier, O., Bosch, D., Pidgeon, R.T., Byrne, D.I., & Harris, L.B. (1999): U-Pb chronology of the Northampton Complex, Western Australia – evidence for Grenvillian sedimentation, metamorphism and deformation and geodynamic implications. *Contributions to Mineralogy and Petrology* **136**, 258-272.
- Bucci, L.A., McNaughton, N.J., Fletcher, I.R., Groves, D.I., Kositcin, N., Stein, H.J., & Hagemann, S.G. (2004): Timing and duration of high-temperature gold mineralization and spatially associated granitoid magmatism at Chalice, Yilgarn Craton, Western Australia. *Economic Geology* **99**, 1123-1144.
- Buick, I.S., Storkey, A., & Williams, I.S. (2008): Timing relationships between pegmatite emplacement, metamorphism and deformation during the intra plate Alice-Springs orogeny, central Australia. *Journal of Metamorphic Geology* **26**, 915-936.
- Burtt, A.C., & Phillips, D. (2003): $^{40}\text{Ar}/^{39}\text{Ar}$ dating of muscovite from a pegmatite in Kinchana Quarry, near Murray Bridge. *MESA Journal* **28**, 50-53.
- Camacho, A., Baadsgaard, H., Davis, D. W., & Černý, P (2012): Radiogenic isotope systematics of the Tanco and Silverleaf granitic pegmatites, Winnipeg River District, Manitoba: *The Canadian Mineralogist* **50**, 1775-1792.
- Carson, C.J., Ague, J.J., Grove, M., Coath, C.D., & Harrison, T.M. (2002): U-Pb isotopic behavior of zircon during upper-amphibolite facies fluid infiltration in the Napier Complex, east Antarctica. *Earth and Planetary Science Letters* **199**, 287-310.
- Carson, C.J., Boger, S.D., Fanning C.M., Wilson, C.J.L., & Thost, D.E. (2000): SHRIMP U-Pb geochronology from Mount Kirby, northern Prince Charles Mountains, East Antarctica. *Antarctic Science* **12**(4) 429-442.
- Cawood, P.A., Dunning, G.R., Lux, D., & van Gool, J.A.M. (1994): Timing of peak metamorphism and deformation along the Appalachian margin on Laurentia in Newfoundland: Silurian, not Ordovician. *Geology* **22**, 399-402.
- Chamberlain, C.P., Zeitler, P.K., & Cooper, A.F. (1995): Geochronologic constraints of the uplift and metamorphism along the Alpine Fault, South Island, New Zealand. *New Zealand Journal of Geology and Geophysics* **38**, 515-523.
- Charoy, B., Noronha, F., & Lima, A. (2001): Spodumene – petalite – eucryptite: mutual relationships and pattern of alteration in Li-rich aplite-pegmatite dykes from northern Portugal: *The Canadian Mineralogist* **39**, 729-746.
- Cheilletz, A., Archibald, D.A., Cuney, M., & Charoy, B. (1992): Ages $^{40}\text{Ar}/^{39}\text{Ar}$ du leucogranite à topaze - lépidolite de Beauvoir et des pegmatites sodolithiques de Chedeville (Nord du Massif Central, France): Signification pétrologique et géodynamique: *C.R. Acad. Sci. Paris* **315**, 326-336.
- Chew, D. M., Flowerdew, M. J., Page, L. M., Crowley, Q. G., Daly, J. S., Cooper, M., & Whitehouse, M. J. (2008): The tectonothermal evolution and provenance of the Tyrone Central Inlier, Ireland: Grampian imbrication of an outboard Laurentian microcontinent?. *Journal of the Geological Society*, **165**, 675-685.
- Christoffel, C.A., Connelly, J.N., & Ahall, K.I. (1999): Timing and characterization of recurrent Sveconorwegian metamorphism and deformation in the Varberg-Halmstad region of SW Sweden. *Precambrian Research* **98**, 173-195.
- Clark, D.J., Hensen, B.J., & Kinny, P.D. (2000): Geochronological constraints for a two-stage history of the Albany – Fraser Orogen, Western Australia. *Precambrian Research* **102**, 155-183.
- Cliff, R.A., Yardley, B.W.D., & Bussy, F.R. (1996): U-Pb and Rb-Sr geochronology of magmatism and metamorphism in the Dalradian of Connemara, western Ireland. *Journal of the Geological Society, London* **153**, 109-120.
- Connors, K.A., & Page, R.W. (1995): Relationships between magmatism, metamorphism and deformation in the western Mount Isa Inlier, Australia. *Precambrian Research* **71**, 131-153.
- Corfu, F., & Easton, R.M. (2000): U-Pb evidence for polymetamorphic history of Huronian rocks within the Grenville front tectonic zone east of Sudbury, Ontario, Canada. *Chemical Geology* **172**, 149-171.
- Corfu, F., Gerber, M., Andersen, T.B., Torsvik, T.H., & Ashwal, T.D. (2011): Age and significance of Grenvillian and Silurian orogenic events in the Finnmarkian Caledonides, northern Norway. *Canadian Journal of Earth Science* **48**, 419-440.
- Corkery, M.T., Davis, D.W., & Lenton, P.G. (1992): Geochronological constraints on the development of the Cross lake greenstone belt, northwest Superior Province, Manitoba. *Canadian Journal of Earth Science* **29**, 2171-2185.
- Crowley, J.L. (1999): U-Pb geochronologic constraints on Paleoproterozoic tectonism in the Monashee complex, Canadian Cordillera: Elucidating an overprinted geologic history. *Geological Society of America Bulletin* **111**, 560-577.

- Crowley, J.L., Brown, R.L., Gervais, F., & Gibson, H.D. (2008): Assessing inheritance of zircon and monazite in granitic rocks from the Monashee Complex, Canadian Cordillera. *Journal of Petrology* **49**, 1915-1929.
- Dahl, S.P., Hamilton, M.A., Wooden, J.L., Foland, K.A., Frei, R., McCombs, J.A., & Holm, D.K. (2006): 2480 Ma mafic magmatism in the northern Black Hills, South Dakota: a new link connecting the Wyoming and Superior cratons. *Canadian Journal of Earth Science* **43**, 1579-1600.
- Dallmeyer, R.D., Handler, R., Neubauer, F., & Fritz, H. (1998): Sequence of thrusting within a thick-skinned tectonic wedge: Evidence from $^{40}\text{Ar}/^{39}\text{Ar}$ and Rb-Sr ages from the Austroalpine Nappe Complex of the Eastern Alps. *The Journal of Geology* **106**, 71-86.
- Dallmeyer, R.D., & Nance, R.D. (1992): Tectonic implications of $^{40}\text{Ar}/^{39}\text{Ar}$ mineral ages from late Precambrian - Cambrian plutons, Avalon composite terrane, southern New Brunswick, Canada. *Canadian Journal of Earth Science* **29**, 2445-2462.
- Daly J.S., Balagansky, V.V., Timmerman, M.J., & Whitehouse, M.J. (2006): The Lapland-Kola orogen: Palaeoproterozoic collision and accretion of the northern Fennoscandian lithosphere. In Gee, D.G., and Stephenson, R.A. (eds.) European Lithosphere Dynamics. *Geological Society, London, Memoirs* **32**, 579-598.
- Daly, J.S. (1996): Pre-Caledonian history of the Annagh Gneiss Complex, North-Western Ireland, and correlation with Laurentia- Baltica. *Irish Journal of Earth Sciences* **15**, 5-18.
- Derbyshire, D.P.F., & Shepherd, T.J. (1985): Chronology of granite magmatism and associated mineralization, SW England. *Journal of the Geological Society* **142**, 1159-1177.
- David, J., Godin, L., Stevenson, R., O'Neil, J., & Francis, D. (2009): U-Pb ages (3.8-2.7 Ga) and Nd isotope data from the newly identified Eoarchean Nuvvuagittuq supracrustal belt, Superior Craton, Canada. *Geological Society of America Bulletin* **121**, 150-163.
- Delor, C., Lahondère, D., Egal, E., Lafon, J.-M., Cocherie, A., Guerrot, C., Rossi, P., Truffert, C., Théveniaut, H., Phillips, D., & Avelar, V.G. (2003): Transamazonian crustal growth and reworking as revealed by the 1:500,000-scale geological map of French Guiana (2nd edition). *Géologie de la France*, n° 2-3-4, 5-57.
- Diehl, B.J.M., & Schneider, G.I.C. (1990): Geology and mineralisation of the Rubicon Pegmatite, Namibia. *Geological Survey of Namibia open file report*.
- Dilworth, K.M., Mortensen, J.K., Ebert, S., Tosdal, R.M., Smith, M.T., & Roberts, P. (2007): Cretaceous reduced granitoids in the Goodpaster Mining District, east central Alaska. *Canadian Journal of Earth Science* **44**, 1347-1373.
- Ducharme, Y., Stevenson, R.K. & Machado, N. (1997): Sm/Nd geochemistry and U-Pb geochronology of the Preissac and Lamotte leucogranites, Abitibi Subprovince: *Canadian Journal of Earth Sciences* **34**, 1059-1071.
- Easton, R.M., & Kamo, S.L. (2008): New U-Pb zircon ages reveal a long-lived magmatic history for the Harvey-Cardiff domain of the composite arc belt of the Grenville Province in Ontario. *Geological Society of America, Abstracts with Programs* **40** (6) 228.
- Eby, G.N., & Vasconcelos, P. (2009): Geochronology of the Arkansas Alkaline Province, southeastern United States. *The Journal of Geology* **117**, 615-626.
- Eliasson, T., & Schöberg, H. (1991): U-Pb dating of the post-kinematic Sveconorwegian (Grenvillian) Bohus granite, SW Sweden: evidence of restitic zircon. *Precambrian Research* **51**, 337-350.
- Emon, K.A., Jackson, V.A., & Dunning, V.R. (1999): Geology and U-Pb geochronology of rocks of the Eokuk uplift: a pre 2.8 Ga basement inlier in the northwestern Slave Province, Nunavut, Canada. *Canadian Journal of Earth Sciences* **36**, 1061-1082.
- Ertl, A., Schuster, R., Prowatke, S., Brandstatter, F., Ludwig, T., Bernhardt, H.J., Koller, F., & Hughes, J.M. (2004): Mn-rich tourmaline and flourapatite in a Variscan pegmatite from Eibenstein an der Thaya, Bohemian massif, Lower Austria. *European Journal of Mineralogy* **16**, 551-560.
- Faure, G., & Felder, R.P. (1984): Lithium-bearing pegmatite and bismuth-antimony-lead-copper-bearing veinlets on Mount Madison, Byrd Glacier area: *Antarctic Journal of the U.S.* **19** (5), 13-14.
- Fetherston, J.M. (2004): Tantalum in Western Australia: *Western Australia Geological Survey, Mineral Resources Bulletin* **22**, 1-162.
- Finch, A.A., Mansfeld, J., & Andersen, T. (2001): U-Pb radiometric age of Nunarsuit pegmatite, Greenland: constraints on the timing of Gardar magmatism. *Bulletin of the Geological Society of Denmark* **48**, 1-7.

- Fisher, J. (2002): Gem and rare element pegmatites of Southern California. *The Mineralogical Record* **33**(5) 363-407.
- Flowers, R.M., Bowring, S.A., & Williams, M.L. (2006): Timescales and significance of high-pressure, high-temperature metamorphism and mafic dike anatexis, Snowbird tectonic Zone, Canada. *Contributions to Mineralogy and Petrology* **151**, 558-581.
- Foord, E.E., & Cook, R.B. (1989): Mineralogy and paragenesis of the McAllister Sn-Ta-bearing pegmatite, Coosa County, Alabama: *The Canadian Mineralogist* **27**, 93-105.
- Foster, D.A., Schafer, C., Fanning, M.C., & Hyndman, D.W. (2001): Relationships between crustal partial melting, plutonism, orogeny, and exhumation: Idaho-Bitterroot batholith. *Tectonophysics* **342**, 313-350.
- Francis, C.A., Lange, D.E., & Peterson, R.C. (1999): Rare-element mineralogy of the J.C. Gole pegmatite, Muchison Township, Madawaska district, Ontario. *The Canadian Mineralogist* **37**, 814.
- Fuertes-Fuente, M., Martin-Izard, A., Boiron, M.C., & Mangas, J. (2000): Fluid evolution of rare-element and muscovite granitic pegmatites from central Galicia, NW Spain: *Mineralium Deposita* **35**, 332-345.
- Gallien, F., Mogessie, A., Bjerg, E., Delpino, S., Castro de Machuca, B., Thöni, M., & Klötzli, U. (2010): Timing and rate of granulite facies metamorphism and cooling from multi-mineral chronology on migmatitic gneisses, Sierras de La Huerta and Valle Fértil, NW Argentina. *Lithos* **114**, 229-252.
- Garde, A.A., Hamilton, M.A., Chadwick, B., Grocott, J., & McCaffrey, K.J.W. (2002): The Ketilidian orogen of South Greenland: geochronology, tectonics, magmatism, and fore-arc accretion during Palaeoproterozoic oblique convergence. *Cadian Journal of Earth Science* **39**, 765-793.
- Glodny, J., Grauert, B., Fiala, J., Vejnar, Z., & Krohe, A. (1998): Metapegmatites in the western Bohemian massif: ages of crystallisation and metamorphic overprint, as constrained by U-Pb zircon, monazite, garnet, columbite and Rb-Sr muscovite data. *Geologische Rundschau* **87** (1) 124-134.
- Galliski, M.A., & Marquez-Zavalía, M.F. (2011): Granitic pegmatites of the San Luis Ranges: Field Trip Guidebook, 5th International Symposium on Granitic Pegmatites (PEG2011 Argentina), 44 p.
- Göd, R. (1989): The spodumene deposit at "Weinebene", Koralpe: *Mineralium Deposita* **24**, 270-278.
- Goscombe, B., Gray, D., Armstrong, R., Foster, D.A., & Vogl, J. (2005): Event geochronology of the Pan-African Kaoko Belt, Namibia. *Precambrian Research* **140**, 103.e1-103.e41.
- Grafe, F., Stanek, K.P., Baumann, A., Maresch, W.V., Hames, W.E., Grevel, C., & Millan, G. (2001): Rb-Sr and $^{40}\text{Ar}/^{39}\text{Ar}$ mineral ages of granitoid intrusives in the Mabujina unit, Central Cuba: Thermal exhumation history of the Escambray Massif. *The Journal of Geology* **109**, 615-631.
- Grantham, G.H., Macy, P.H., Ingram, B.A., Roberts, M.P., Armstrong, M.A., Hokada, T., Shiraishi, K., Jackson, C., Bisnath, A., & Manhica, V. (2008): Terrane correlation between Antarctica, Mozambique, and Sri Lanka; comparisons of geochronology, lithology, structure and metamorphism and possible implications for the geology of southern Africa and Antarctica. *Geological Society, London, Special Publications* **308**, 91-119.
- Graupner, T., Melcher, F., Gäbler, H.-E., Sitnikova, M., Brätz, H., & Bahr, A. (2010): Rare earth element geochemistry of columbite-group minerals: LA-ICP-MS data. *Mineralogical Magazine* **74**, 691-713.
- Guastoni, A., Diella, V. & Pezzotta, F. (2008): Vigezzite and associated oxides of Nb-Ta from emerald-bearing pegmatites of the Vigezzo Valley, western Alps, Italy. *Can. Mineral.* **46**, 619-633.
- Gunn, A.G., Pitfield, P.E.J., McKervey, J.A., Key, R.M., Waters, C.N., & Barnes, R.P. (2004): Notice explicative des cartes géologiques et géologiques à 1/200 000 et 1/500,000 du Sud de la Mauritanie. Volume 2 – Potentiel Minier. DMG, Ministère des Mines et de l'Industrie, Nouakchott.
- Habler, G., Thöni, M., & Miller, C. (2007): Major and trace element chemistry and Sm-Nd age correlation of magmatic pegmatite garnet overprinted by eclogite-facies metamorphism: *Chemical Geology* **241**, 4-22.
- Hand, M., Mawby, J., Kinny, P., and Foden, J. (1999): U-Pb ages from the Harts Range, central Australia: evidence for early Ordovician extension and constraints on Carboniferous metamorphism. *Journal of the Geological Society, London*, **156**, 715-730.
- Hanley, J.B., Heinrich, E.W., & Page, L.R. (1950): Pegmatite investigations in Colorado, Wyoming, and Utah, 1942-1944: *U.S. Geological Survey Professional Paper* **227**, 125 p.
- Hanmer, S., Hamilton, M.A., & Crowley, J.L. (2002): Geochronological constraints on Paleoarchean thrust-nappe and Neoarchean accretionary tectonics in southern West Greenland. *Tectonophysics* **350**, 255-271.
- Hanson, R.E. (2003): Proterozoic geochronology and tectonic evolution of southern Africa. *Geological Society, London, Special Publications* **206**, 427-463.

- Hauzenberger, C.A., Sommer, H., Fritz, H., Bauernhofer, A., Kroner, A., Hoinkes, G., Wallbrecher, E., & Thoni, M. (2007): SHRIMP U-Pb zircon and Sm-Nd garnet ages from the granulite-facies basement of SE Kenya: evidence for Neoproterozoic polycyclic assembly of the Mozambique belt. *Journal of the Geological Society, London* **164**, 189-201.
- Hawkins, D.P., Bowring, S.A., Ilg, B.R., Karlstrom, K.E., & Williams, M.L. (1996): U-Pb geochronologic constraints on the Paleoproterozoic crustal evolution of the Upper Granite Gorge, Grand Canyon, Arizona. *Geological Society of America Bulletin* **108**, 1167-1181.
- Hildebrand, P.R., Noble, S.R., Searle, M.P., Waters, D.J., & Parrish, R.R. (2001): Old origin for an active mountain range: Geology and geochronology of the eastern Hindu Kush, Pakistan. *Geological Society of America Bulletin* **113**, 625-639.
- Hollis, J.A., Clarke, G.L., Klepeis, K.A., Daczko, N.R., & Ireland, T.R. (2003): Geochronology and geochemistry of high pressure granulites of the Arthur River Complex, Fiordland, New Zealand: Cretaceous magmatism and metamorphism on the paleo-Pacific margin. *Journal of Metamorphic Geology* **21**, 299-313.
- Holm, D.K., Van Schmus, W.R., MacNeill, L.C., Boerboom, T.J., Schweitzer, D., & Schneider, D. (2005): U-Pb zircon geochronology of Paleoproterozoic plutons from the northern midcontinent, USA: Evidence for subduction flip and continued convergence after ca. 1.8 Ga Penokean orogenesis. *Geological Society of America Bulletin* **117**, 259-275.
- Hulsbosch, N., Hertogen, J., Dewaele, S., André, L., & Muchez, P. (2013): Petrographic and mineralogical characterisation of fractionated pegmatites culminating in the Nb-Ta-Sn pegmatites of the Gatumba area (western Rwanda). *Geologica Belgica* **16**, 105-117.
- Jacob, R.E., Moore, J.M., & Armstrong, R.A. (2000): Zircon and titanite age determinations from igneous rocks in the Karibib District, Namibia: implications for Navachab vein-style gold mineralization. *Communications of the Geological Survey of Namibia* **12**, 157-166.
- Jahns, R.H. (1952): Pegmatite deposits of the White Picacho district, Maricopa and Yavapai Counties, Arizona. *Arizona Bureau of Mines Bulletin* **162**, 105 p.
- Jones III, J.V., & Connelly, J.N. (2006): Proterozoic tectonic evolution of the Sangre de Cristo mountains, southern Colorado, USA. *Rocky Mountain Geology* **4**, 79-116.
- Jones III, J.V., Siddoway, C.S., and Connelly, J.N. (2010): Characteristics and implications of a ca. 1.4 Ga deformation across a Proterozoic mid-crustal section, Wet Mountains, Colorado, USA. *Lithosphere* **2** (2), 119-135.
- Karlstrom, K.E., Dallmeyer, R.D., and Grambling, J.A. (1997): $^{40}\text{Ar}/^{39}\text{Ar}$ evidence for 1.4 Ga regional metamorphism in New Mexico: Implications for thermal evolution of Lithosphere in the Southwestern USA. *The Journal of Geology* **105**, 205-223.
- Kelly, N.M., Clarke, G.L., & Fanning, C.M. (2002): A two-stage evolution of the Neoproterozoic Rayner Structural Episode: new U-Pb sensitive high resolution ion microprobe constraints from the Oygarden Group, Kemp Land, East Antarctica. *Precambrian Research* **116**, 307-330.
- Kesler, S.E., Gruber, P.W., Medina P.A., Keoleian, G.A., Everson, M.P., & Wallington, T.J. (2012): Global lithium resources—Relative importance of pegmatite, brine, and other deposits. *Ore Geology Reviews* **48**, 55-69.
- Kesler, T. L., & Olson, J. C. (1942): Muscovite in the Spruce Pine district, N.C.: *U.S. Geological Survey Bulletin* **936-A**, 1-38.
- Ketchum, J.W.F., Heaman, L.M., Krogh, T.E., Culshaw, N.G., & Jamieson, R.A. (1998): Timing and thermal influence of late orogenic extension in the lower crust: a U-Pb geochronological study from the southwest Grenville orogen, Canada. *Precambrian Research* **89**, 25-45.
- Kinny, P.D. (2000): U-Pb dating of rare-metal (Sn-Ta-Li) mineralized pegmatites in Western Australia by SIMS analysis of tin and tantalum-bearing ore minerals. Beyond 2000, New Frontiers in Isotope Geoscience (incorporating ACOG 4): Abstracts and Proceedings, 113-116.
- Kirkland, C.L., Daly, J.S., & Whitehouse, M.J. (2006): Granitic magmatism of Grenvillian and late Neoproterozoic age in Finnmark, Arctic Norway – Constraining pre-Scandian deformation in the Kalak Nappe Complex. *Precambrian Research* **145**, 24-52.
- Kontak, D.J., Creaser, R.A., Heaman, L.M., & Archibald, D.A. (2005): U-Pb tantalite, Re-Os molybdenite, and $^{40}\text{Ar}/^{39}\text{Ar}$ muscovite dating of the Brazil Lake pegmatite, Nova Scotia: a possible shear-zone related origin for an LCT-type pegmatite. *Atlantic Geology* **41**, 17-29.

- Kontak, D.J., Dostal, J., Kyser, T.K., & Archibald, D.A. (2002): A petrological, geochemical, isotopic and fluid-inclusion study of 370 Ma pegmatite sheets, Peggys Cove, Nova Scotia, Canada. *The Canadian Mineralogist* **40**, 1249-1286.
- Kovalenko, V.I., Yarmoluyk, V.V., Sal'nikova E.B., Kozlovsky, A.M., Kotov, A.B., Kovach, V.P., Savatenkov, V.M., Vladykin, N.V., & Ponomarchuk, V.A. (2006): Geology, geochronology, and geodynamics of the Khan Bogd alkali granite pluton in southern Mongolia. *Geotectonics* **40**(6), 450-466.
- Kozakov, I.K., Sal'nikova, E.B., Yakovleva, S.Z., Plotkina, Y.V., & Fedoseenko, A.M. (2006): Vendian metamorphism in the accretionary - collisional structure of central Asia. *Doklady Earth Sciences* **407**(2), 192-197.
- Krogh, T.E. (1994): Precise U-Pb ages for Grenvillian and pre-Grenvillian thrusting of Proterozoic and Archean metamorphic assemblages in the Grenville Front tectonic zone, Canada. *Tectonics* **13**, 963-982.
- Krogh, T.E., Kamo, S.L., Hanley, T.B., Hess, D.F., Dahl, P.S., & Johnson, R.E. (2011): Geochronology and geochemistry of Precambrian gneisses, metabasites, and pegmatite from the Tobacco Root Mountains, northwestern Wyoming craton, Montana. *Canadian Journal of Earth Science* **46**, 161-185.
- Krogstad, E.J., & Walker, R.J. (1994): High closure temperatures of the U-Pb system in large apatites from the Tin Mountain pegmatite, Black Hills, South Dakota, USA. *Geochimica et Cosmochimica Acta* **58**, 3845-3853.
- Kröner, A. (1999): The Mozambique belt of East Africa and Madagascar: significance of zircon and Nd model ages for Rodinia and Gondwana supercontinent formation and dispersal. *South African Journal of Geology* **104**, 151-166.
- Kröner, A., Wilde, S. A., Li, J. H., & Wang, K. Y. (2005): Age and evolution of a late Archean to Paleoproterozoic upper to lower crustal section in the Wutaishan/Hengshan/Fuping terrain of northern China. *Journal of Asian Earth Sciences* **24**, 577-595.
- Kröner, A., Wilde, S.A., Zhao, G.C., O'Brien, P.J., Sun, M., Liu, D.Y., Wan, Y.S., Liu, S.W., & Guo, J.H. (2006): Zircon geochronology and metamorphic evolution of mafic dykes in the Hengshan Complex of northern China: Evidence for late Palaeoproterozoic extension and subsequent high-pressure metamorphism in the North China Craton. *Precambrian Research* **146**, 45-67.
- Kröner, S., Konopásek, J., Kröner, A., Passchier, C.W., Poller, U., Wingate, M.T.D., & Hofmann, K.H. (2004): U-Pb and Pb-Pb zircon ages for metamorphic rocks in the Kaoko Belt of Northwestern Namibia: A Palaeo- to Mesoproterozoic basement reworked during the Pan-African orogeny. *South African Journal of Geology* **107**, 455-476.
- Kruger F.J., Kamber, B.S., & Harris, P.D. (1998): Isotopic peculiarities of an Archaean pegmatite (Union Mine, Mica, South Africa): Geochemical and geochronological implications. *Precambrian Research* **91**, 253-267.
- Kudryashov, N.M., Gavrilko, B., & Apanasevich, E. (2004): Time of formation of rare metal pegmatites in the Kolmozero-Voron'ya green stone belt (Kola region of the Baltic shield): U-Pb, Pb-Pb tantalite, columbite and tourmaline dating. 32nd IGC, Florence 2004, Abstracts, 237-23.
- Küster, D., Zerihun, D., & Melcher, F. (2009): The Kenticha rare-element pegmatite, Ethiopia: internal differentiation, U-Pb age and Ta mineralization. *Mineralium Deposita* **44**, 723-750.
- Küster, D. (1995): Rb-Sr isotope systematics of muscovite from Pan-African granitic pegmatites of Western and Northeastern Africa. *Mineralogy and Petrology* **55**, 71-83.
- Kuzmichev, A.B., Ponomarchuk, V.A., Konilov, A.N., & Paderin, I.P. (2009): Deep-seated pegmatites of the Emiytas mafic-ultramafic complex on Big Lyakhov island, New Siberian Islands, and their age: ⁴⁰Ar/³⁹Ar and SHRIMP data. *Geochemistry International* **47**(2), 186-198.
- Kuznetsova, L.G., Shokalsky, S.P., & Sergeev, S.A. (2011): Rare-element pegmatites and pegmatite-bearing granites in the Sangilen mountain area: age, petrogenesis and tectonic setting, in: Large Igneous Provinces of Asia: Mantle Plumes and Metallogeny (Abstract Vol.). Petrographica, Irkutsk, p. 138-141.
- Laferrière, A., Pearse, G.H.K., & Live, P. (2011): Updated Mineral Resources, Whabouchi Lithium Project, James Bay, Québec: Nemaska Exploration, Inc. http://www.nemaskalithium.com/Documents/reports/whabouchi/Whabouchi_Updated%2043-101_July-2011.pdf. Accessed May 15, 2013.
- Lagache, M., & Quéméneur, J. (1997): The Volta Grande pegmatites, Minas Gerais, Brazil: An example of rare-element granitic pegmatites exceptionally enriched in lithium and rubidium. *The Canadian Mineralogist* **35**, 153-165.

- Larbi, Y., Stevenson, R., Breaks, F., Machado, N., & Gariépy, C. (1999): Age and isotopic composition of late Archean leucogranites: implications for continental collision in the western Superior Province. *Canadian Journal of Earth Science* **36**, 495-510.
- Larin, A. M., Rytsk, Y. Y., & Sokolov, Y. M. (1997): Baikal—Patom fold belt. in D.V. Rundqvist and C. Gillen (editors) *Precambrian Ore Deposits of the East European and Siberian Cratons Developments in Economic Geology*, **30**, 317-362.
- Laurs, B.M., Dilles, J.H., & Snee, L.W. (1996): Emerald mineralization and metasomatism of amphibolite Khaltaro granitic pegmatite – hydrothermal vein system, Haramosh Mountains, northern Pakistan. *The Canadian Mineralogist* **34**, 1253-1286.
- Lawlor, P.J., Ortega-Gutierrez, F., Cameron, K.L., Ochoa-Camarillo, H., Lopez, R., & Sampson, D.E. (1999): U-Pb geochronology, geochemistry and provenance of the Grenvillian Huiznopala gneiss of eastern Mexico. *Precambrian Research* **94**, 73-99.
- Lazic, B., Kahnenberg, V., Vulic, P., Pesic, L., & Dimitrijevic, R. (2009): Meta-autunite from a Li-pegmatite of the Cer Mt., Serbia: Its mineralogical and XRD investigations: *Neues Jahrbuch für Mineralogie-Abhandlungen* **186**, 333-344.
- Lee, J., McClelland, W., Wang, Y., Blythe, A., & McWilliams, M. (2006): Oligocene – Miocene middle crustal flow in southern Tibet: geochronology of Mabja Dome. *Geological Society, London, Special Publications* **268**, 445-469.
- Leech, M.L., Webb, L.E., & Yang, T.N. (2006): Diachronous histories for the Dabie-Sulu orogen from high-temperature geochronology. *Geological Society of America, Special Papers* **403**, 1-22.
- Lentz, D.R., & Creaser, R.A. (2005): Re-Os model age constraints on the genesis of the Moss molybdenite pegmatite-aplite deposit, Southwestern Grenville Province, Quyon, Quebec, Canada. *Exploration and Mining Geology* **14**(1-4), 95-103.
- Li, Jiankang, Wang, Denghong, & Chen, Yuchuan (2013): The Ore-forming Mechanism of the Jiajika Pegmatite-Type Rare Metal Deposit in Western Sichuan Province: Evidence from Isotope Dating. *Acta Geologica Sinica* (English Edition) **87**(1), 91-101.
- Lati, A., Gebauer, D., & Wysoczanski, R. (2002): U-Pb SHRIMP-dating of zircon domains from UHP garnet-rich rocks and late pegmatoids in the Rhodope zone (N Greece); evidence for Early Cretaceous crystallization and Late Cretaceous metamorphism. *Chemical Geology* **184**, 281-299.
- Lima, A., Medes, L., Melletton, J., Gloague, E., & Frei, D. (2013): Seixoso-Vieiros rare element pegmatite field: dating the mineralizing events: The 6th International Pegmatite Symposium on Granitic Pegmatites, Bartlett, N.H., USA, Abstracts, 77-78.
- Lin, L.H., Wang, P.L., Lo, C.H., Tsai, C.H., & Jahn, B.M. (2005): $^{40}\text{Ar}/^{39}\text{Ar}$ thermochronological constraints on the exhumation of ultrahigh-pressure metamorphic rocks in the Sulu Terrane of Eastern China. *International Geology Review* **47**(8), 872-886.
- Lindroos, A., Romer, R.L., Ehlers, C., & Alviola, R. (1996): Late-orogenic Svecofennian deformation in SW Finland constrained by pegmatite emplacement ages. *Terra Nova* **8**, 567-574.
- Lisker, F., & Fachmann, S. (2001): Phanerozoic history of the Mahanadi region, India. *Journal of Geophysical Research* **106**, 22,027-22,050.
- Liu, F., Robinson, P.T., Gerdes, A., Xue, H., Liu, P., & Liou, J.G. (2010): Zircon U-Pb ages, REE concentrations and Hf isotope concentrations of granitic leucosome and pegmatite from the north Sulu UHP terrane in China: Constraints on the timing and nature of partial melting. *Lithos* **117**, 247-268.
- Lo, C.H., & Onstott, T.C. (1995): Rejuvenation of K-Ar systems for minerals in the Taiwan Mountain Belt. *Earth and Planetary Science Letters* **131**, 71-98.
- Lupulescu, M.V., Chiarenzelli, J.R., Pullen, A., & Price, J.D. (2010): Pegmatites from the Adirondack mountains, NY: Systematic, mineralogy and geochronology. *Geological Society of America, Abstracts with Programs* **42**(1), 158.
- Lupulescu, M.V., Chiarenzelli, J.R., Pullen, A., & Price, J.D. (2011): Using pegmatite geochronology to constrain temporal events in the Adirondack Mountains. *Geosphere* **7**(1), 23-39.
- Machado, N., Heaman, L.M., Krogh, T.E., Weber, W., & Corkery, M.T. (2011): Timing of Paleoproterozoic granitoid magmatism along the northwestern Superior Province margin: implications for the tectonic evolution of the Thompson Nickel Belt. *Canadian Journal of Earth Science* **48**, 325-346.
- Mao, J., Du, A., Seltmann, R., & Yu, J. (2003): Re-Os ages for the Shameika porphyry Mo deposit and the Lipovy Log rare metal pegmatite, Central Urals, Russia. *Mineralium Deposita* **38**, 251-257.
- Mattinson, C.G., Colgan, J.P., Metcalf, J.R., Miller E.L., & Wooden, J.L. (2007): Late Cretaceous to Paleocene metamorphism and magmatism in the Funeral Mountains metamorphic core complex, Death

- Valley, California. *Geological Society of America Special Paper* **419**, 205–223, doi: 10.1130/2006.2419(11).
- McCaig, A.M., & Miller, J.A. (1986): $^{40}\text{Ar}/^{39}\text{Ar}$ age of mylonites along the Merens Fault, Central Pyrenees. *Tectonophysics* **129**, 149-172.
- McLaren, S., Dunlap, W.J., Sandiford, M., & McDougall, I. (2002): Thermochronology of high heat-producing crust at Mount Painter, South Australia: Implications for tectonic reactivation of continental interiors. *Tectonics* **21**, X1-X17.
- McLellan, J., Hamilton, M., Selleck, B., McLellan, J., Walker, D., & Orrell, S. (2001): Zircon U-Pb geochronology of the Ottawan Orogeny, Adirondack highlands, New York: regional and tectonic implications. *Precambrian Research* **109**, 39-72.
- Melcher, F., Sitnikova, M.A., Graupner, T., Martin, N., Oberthür, T., Henjes-Kunst, F., Gäßler, E., Gerdes, A., Brätz, H., Davis, D.W., & Dewaele, S. (2008): Fingerprinting of conflict minerals: columbite-tantalite (“coltan”) ores. *SGA News* **23**, 1-14.
- Melcher, F., Graupner, T., Gäßler, H. E., Sitnikova, M., Henjes-Kunst, F., Oberthür, T., Gerdes, A., & Dewaele, S. (2013): Tantalum-(niobium-tin) mineralisation in African pegmatites and rare metal granites: Constraints from Ta-Nb oxide mineralogy, geochemistry and U-Pb geochronology. *Ore Geology Reviews*. <http://dx.doi.org/10.1016/j.oregeorev.2013.09.003>
- Melleton, J., Gloaguen, E., Frei, D., Novák, M., & Breiter, K. (2012): How are the emplacement of rare-element pegmatites, regional metamorphism and magmatism interrelated in the Moldanubian domain of the Variscan Bohemian Massif, Czech Republic? *The Canadian Mineralogist*, **50**, 1751-1773.
- Mezger, K., & Cosca, M.A. (1999): The thermal history of the Eastern Ghats Belt (India) as revealed by U-Pb and $^{40}\text{Ar}/^{39}\text{Ar}$ dating of metamorphic and magmatic minerals: implications for the SWEAT correlation. *Precambrian Research* **94**, 251-271.
- Miao, L., Qui, Y., McNaughton, N., Fan, W., Groves, D.I., & Zhai, M. (2003): SHRIMP U-Pb zircon ages of granitoids in the Wulashan gold deposit, Inner Mongolia, China: Timing of mineralization and tectonic implications. *International Geology Review* **45**, 548-562.
- Miller, J.S., Santosh, M., Pressley, R.A., Clements, A.S., & Rogers, J.J.W. (1996): A Pan-African thermal event in Southern India. *Journal of Southeast Asian Earth Sciences* **14**, 127-136.
- Miller, M.G., & Friedman, R.M. (1999): Early Tertiary magmatism and probable Mesozoic fabrics in the Black Mountains, Death Valley, California. *Geology* **27**, 19-22.
- Miyamoto, T., Satish-Kumar, M., Dunkley, D.J., Osanai, Y., Yoshimura, Y., Motoyoshi, Y., & Carson, C.J. (2008): Post peak (<530 Ma) thermal history of Lützow-Holm complex, East Antarctica, based on Rb-Sr and Sm-Nd mineral chronology. *Geological Society, London, Special Publications* **308**, 165-181.
- Mojzsis, S.J., Devaraju, T.C., & Newton, R.C. (2003): Ion microprobe U-Pb age determinations on zircon from the late Achean granulite facies transition zone of Southern India. *The Journal of Geology* **111**, 407-425.
- Moralez-Gámez, M., Keppie, J.D., & Norman, M. (2008): Ordovician-Silurian rift-passive margin on the Mexican margin of the Rheic Ocean overlain by Carboniferous-Permian periarc rocks: Evidence from the eastern Acatlán Complex, southern Mexico. *Tectonophysics* **461**, 291-310.
- Morillion, A.C., Féraud, G., Sosson, M., Ruffet, G., Crevola, G., & Lerouge, G. (2000): Diachronous cooling on both sides of a major strike slip fault in the Variscan Maures Massif (south-east France), as deduced from a detailed $^{40}\text{Ar}/^{39}\text{Ar}$ study. *Tectonophysics* **321**, 103-126.
- Moritz, R., Ghazban, F., & Singer, B.S. (2006): Eocene gold ore formation at Muteh, Sanandaj-Sirjan tectonic zone, western Iran: A result of late-stage extension and exhumation of metamorphic basement rocks within the Zagros orogen. *Economic Geology* **101**, 1497-1524.
- Mortimer, G.E., Cooper, J.A., & James, P.R. (1987): U-Pb and Rb-Sr geochronology and geological evolution of the Harts Range ruby mine area of the Arunta Inlier, central Australia. *Lithos* **20**, 445-467.
- Moser, D.E., Heaman, L.M., Krogh, T.E., & Hanes, J.A. (1996): Intracrustal extension of an Archean orogeny revealed using single-grain U-Pb zircon geochronology. *Tectonics* **15**(5), 1093-1109.
- Mulchay, S.R., Roeske, S.M., McClelland, W.C., Jourdan, F., Iriondo, A., Renne, P.R., Vervoort, J.D., & Vujovich, G.I. (2011): Structural evolution of a composite middle to lower crustal section: The Sierra de Pie de Palo, northwest Argentina. *Tectonics* **30**, TC1005, 24p.
- Müller, M.A., Kröner, A., Baumgartner, L.P., Dirks, P.H.G.M., & Jelsma, H.A. (2000): Evolution of Neoproterozoic high-grade rocks in the Mavuradonha Mountains, Zambezi Belt, northeast Zimbabwe. *Journal of African Earth Sciences*, Special Abstracts Issue, 18th Colloquium of African Geology **30**(4), 64-65.

- Neiva, A.M.R., & Leal Gomes, C.A.A. (2010): Geoquímica das turmalinas do grupo pegmatítico granítico Li-Cs-Ta de Naípa, Alto Ligonha, Moçambique: *e-Terra* **13**(4), 1-4.
- Nelson, D.R., Myers, J.S., & Nutman, A.P. (1995): Chronology and evolution of the Middle Proterozoic Albany-Fraser Orogen, Western Australia. *Australian Journal of Earth Sciences* **42**, 481-495.
- Neubauer, F., & Handler, R. (1999): Variscan orogeny in the Eastern Alps and Bohemian Massif: How do these units correlate? *Mitt. Österr. Geol. Ges.* **92**, 35-59.
- Nex, P., Kinnaird, J., & Broccardo, L. (2011): Regional zonation of pegmatites and synchronous mineralization in the central zone of the Damara Orogen, Namibia: PEG2011 Argentina, Contributions to the 5th International Symposium on Granitic Pegmatites, *Asociación Geológica Argentina, Publicación Especial* **14**, 145-147.
- Neymark, L. A., Larin, A. M., Yakovleva, S. Z., Srivtsev, N. A., & Buldigerov, V. V. (1991): New age values for rocks of the Akitkan group, the Baikal-Patom fold belt: dating by U-Pb zircon method. In *Dokl. Akad. Nauk. SSSR* **320**, 182-186.
- Novak, M., Cerny, P., Kimbrough, D.L., Taylor, M.C., & Ercit, T.S. (1998): U-Pb ages of monazite from granitic pegmatites in the Moldanubian Zone and their geological implications. *Acta Universitatis Carolinae – Geologica* **42**(2), 309-310.
- Novak, M., Johan, Z., Skoda, R., Cerny, P., Srein, V., & Veselovsky, F. (2008): Primary oxide minerals in the system WO₃-Nb₂O₅-TiO₂-Fe₂O₃-FeO and their breakdown products from the pegmatite No. 3 at Dolní Bory-Hatě, Czech Republic. *European Journal of Mineralogy* **20**, 487-499.
- O'Connor, P.J., Gallagher, V., & Kennan, P.S. (1991): Genesis of lithium pegmatites from the Leinster granite margin, southeast Ireland: geochemical constraints. *Geological Journal* **26**, 295 – 305.
- Orris, G.J., & Bliss, J.D. (2002): Mines and Mineral Occurrences of Afghanistan: *U.S. Geological Survey Open-File Report* **02-110**, 95 p.
- Ortega-Rivera, A. (2003): Geochronological constraints on the tectonic history of the Peninsular Ranges batholith of Alta and Baja California: *Geological Society of America Special Paper* **374**, 297–335.
- Page, R.W., & Hancock, S.L. (1988): Geochronology of a rapid 1.85-1.86 Ga tectonic transition: Halls Creek Orogen, Northern Australia. *Precambrian Research* **40/41**, 447-467.
- Page, J.J., & Larrabee, D.M. (1962): Beryl resources of New Hampshire: *U.S. Geological Survey Professional Paper* **353**, 49 p., 16 plates.
- Pal, D.C., Mishra, B., & Bernhardt, H.J. (2007): Mineralogy and geochemistry of pegmatite-hosted Sn-, Ta-Nb-, and Zr-Hf-bearing minerals from the southeastern part of the Bastar-Malkangiri pegmatite belt, Central India: *Ore Geology Reviews* **30**, 30-55.
- Partington, G.A., McNaughton, N.J., & Williams, I.S. (1995): A review of the geology, mineralization, and geochronology of the Greenbushes pegmatite, Western Australia. *Economic Geology* **90**, 616-635.
- Pedersen, S., Andersen, T., Konnerup-Madsen, J., & Griffin, W.L. (2009): Recurrent Mesoproterozoic continental magmatism in South-Central Norway. *International Journal of Earth Science* **98**, 1151-1171.
- Pedersen, R.B., & Dunning, G.R. (1997): Evolution of arc crust and relations between contrasting sources: U-Pb (age), Nd and Sr isotope systematics of the ophiolite terrain of SW Norway: *Contributions to Mineralogy and Petrology* **128**, 1–15, doi:10.1007/s004100050289.
- Percival, J.A., & Skulski, T. (2000): Tectonothermal evolution of the northern Minto block, Superior Province, Quebec, Canada. *The Canadian Mineralogist* **38**, 345-378.
- Peucat, J.J., Draren, A., Latouche, L., Deloule, E., & Vidal, P. (2003): U-Pb zircon (TIMS and SIMS) and Sm-Nd whole-rock geochronology of the Gour Oumelalen granulitic basement, Hoggar massif, Tuareg shield, Algeria. *Journal of African Earth Sciences* **37**, 229-239.
- Poujol, M., & Robb, L.J. (1999): New U-Pb zircon ages on gneisses and pegmatite from south of the Murchison greenstone belt, South Africa. *South African Journal of Geology* **102**, 93-97.
- Premo, W.R., & Van Schmus, W.R. (1989): Zircon geochronology of Precambrian rocks in southeastern Wyoming and northern Colorado. *Geological Society of America, Special Paper* **235**, 13-32.
- Raimbault, L. (1998): Composition of complex lepidolite-type granitic pegmatites and of constituent columbite-tantalite, Chedeville, Massif Central, France. *The Canadian Mineralogist* **36**, 563-583.
- Ratschbacher, L., Franz, L., Min, M., Bachmann, R., Martens, U., Stanek, K., Stubner, K., Nelson, B.K., Herrman, U., Weber, B., Lopez-Martinez, M., Jonckheere, R., Sperner, B., Tichomirowa, M., McWilliams, M.O., Gordon, M., Meschede, M., & Bock, P. (2009): The North American-Caribbean plate boundary in Mexico-Guatemala-Honduras. *Geological Society, London, Special Publications*, **328**, 219–293.

- Regmi, K.R. (2008): Petrogenesis of the augen gneisses from Mahesh Khola section, Central Nepal. *Bulletin of the Department of Geology, Tribhuvan University, Kathmandu, Nepal* **11**, 13-22.
- Reiners, P. W., Brady, R., Farley, K. A., Fryxell, J. E., Wernicke, B., & Lux, D. (2000): Helium and argon thermochronometry of the Gold Butte block, south Virgin Mountains, Nevada. *Earth and Planetary Science Letters*, **178**, 315-326.
- Reyf, F.G., Seltmann, R., & Zaraisky, G.P. (2000): The role of magmatic processes in the formation of banded Li, F-enriched granites from the Orlovka tantalum deposit, Transbaikalia, Russia: Microthermometric evidence: *The Canadian Mineralogist* **38**, 915-936.
- Reznitskii, L.Z., Kotov, A.B., Sal'nikova, E.B., Vasil'ev, E.P., Yakovleva, S.Z., Kovach, V.P., & Fedoseenko, A.M. (2000): The age and time span of the origin of phlogopite and lazurite deposits in the southwestern Baikal area: U-Pb geochronology. *Petrology* **8**(1), 66-76.
- Rivers, T., Mengel, F., Scott, D.J., Campbell, L.M., & Goulet, N. (1996): Torngat Orogen – a Palaeoproterozoic example of a narrow doubly vergent collisional orogen. *Geological Society London, Special Publications* **112**, 117-136.
- Roda-Robles, E., & Pesquera, A. (2007): Locality No. 3: Lepidolite-spodumene-rich and cassiterite-rich pegmatites from the Feli open-pit (La Fregenda, Salamanca, Spain), in Lima, A., and Roda-Robles, E., editors, Granitic Pegmatites: The State of the Art—Field Trip Guidebook: Univ. de Porto, Departamento de Geologia, *Memórias* **9**, 54-61.
- Rogers, G., Hyslop, E.K., Strachan, R.A., Paterson, B.A., & Holdsworth, R.E. (1998): The structural setting and U-Pb geochronology of Knoydartian pegmatites in W Inverness-shire: evidence for neoproterozoic tectonothermal events in the Moine of NW Scotland. *Journal of the Geological Society, London* **155**, 685-696.
- Romer, R.L. (1997): U-Pb age of rare-element pegmatites at Stora Vika, SE Sweden. *GFF* **119**, 291-294.
- Romer, R.L. & Lehmann, B. (1995): U-Pb columbite age of Neoproterozoic Ta-Nb mineralization in Burundi. *Economic Geology* **90**, 2303-2309.
- Romer R.L., & Smeds, S.A. (1994): Implications of U-Pb ages of columbite-tantalites from granitic pegmatites for the Paleoproterozoic accretion of 1.90-1.85 Ga magmatic arcs to the Baltic shield. *Precambrian Research* **67**, 141-158.
- Romer, R.L., & Smeds, S.A. (1996): U-Pb columbite ages of pegmatites from Sveconorwegian terranes in southwestern Sweden. *Precambrian Research* **76**, 15-30.
- Romer, R.L., Thomas, R., Stein, H.J., & Rhede, D. (2007): Dating multiply overprinted Sn-mineralized granites – examples from the Erzgebridge, Germany. *Mineralium Deposita* **42**, 337-359.
- Romer, R.L., & Wright, J.E. (1992): U-Pb dating of columbite: a geochronologic tool to date magmatism and ore deposits. *Geochim. Cosmoch. Acta* **56**, 2137-2142.
- Saalmann, K., Manttari, I., Peltonen, P., Whitehouse, M.J., Gronholm, P., & Talikka, M. (2010): Geochronology and structural relationships of mesothermal gold mineralization in the Paleoproterozoic Jokisivu prospect, southern Finland. *Geological Magazine* **147**, 551-569.
- Saleeby, J.B., Sams, D.B., & Kistler, R.W. (1987): U/Pb zircon, strontium, and oxygen isotopic and geochronological study of the southernmost Sierra Nevada Batholith, California. *Journal of Geophysical Research* **92** (B10), 10,443-10,466.
- Sal'nikova, E.B., Larin, A.M., Yakovleva, S.Z., Kotov, A.B., Glebovitskii, V.A., Tkachev, A.V., Anisimova, I.V., Plotkina, Yu.V., & Gorokhovskii, B. M. (2011): Age of the Vishnyakovskoe deposit of rare-metal pegmatites (East Sayan): U-Pb geochronological study of manganotantalite. *Doklady Earth Sciences* **441**(1), 1479-1483.
- Sartini-Rideout, C., Gilotti, J.A., & McClelland, W.C. (2006): Geology and timing of dextral strike-slip shear zones in Danmarkshavn, North-East Greenland Caledonides. *Geological Magazine* **143**, 431-446.
- Schärer, U., Cosca, M., Steck, A., & Hunziker, A. (1996): Termination of major ductile strike-slip shear and differential cooling along the Insubric line (Central Alps): U-Pb, Rb-Sr, and $^{40}\text{Ar}/^{39}\text{Ar}$ ages of cross cutting pegmatites. *Earth and Planetary Science Letters* **142**, 331-351.
- Schärer, U., Zhang, L.S., & Tapponnier, P. (1994): Duration of strike-slip movements in large shear zones: the Red River belt, China. *Earth and Planetary Science Letters* **126**, 379-397.
- Scherer, E., Münker, C., & Mezger, K. (2001): Calibration of the Lutetium-Hafnium Clock. *Science* **293**(5530), 683-687.
- Schermer, E.R., Stephens, K.A., & Walker, J.D. (2001): Paleogeographic and tectonic implications of the geology of the Tiefort mountains, northern Mojave Desert, California. *Geological Society of America Bulletin* **113**, 920-938.

- Schmitt, R.S., Trouw, R.A.J., Van Schmus, W.R., & Pimentel, M.M. (2004): Late amalgamation in the central part of West Gondwana: new geochronological data and the characterization of a Cambrian collisional orogeny in the Ribeira Belt (SE Brazil). *Precambrian Research* **133**, 29-61.
- Schmitz, M.D., Bowring, S.A., de Wit, M.J., & Gartz, V. (2004): Subduction and terrane collision stabilize the western Kappvaal craton tectosphere 2.9 billion years ago. *Earth and Planetary Science Letters* **222**, 363-376.
- Schoene, B., de Wit, M.J., & Bowring, S.A. (2008): Mesoarchean assembly and stabilization of the eastern Kappvaal craton: A structural-thermochronological perspective. *Tectonics* **27**, TC5010, 27 p.
- Schwartz, M.O. (1992): Geochemical criteria for distinguishing magmatic and metasomatic albite-enrichment in granitoids – examples from the Ta-Li granite Yichun (China) and the Sn-W deposit Tikus (Indonesia). *Mineralium Deposita* **27**, 101-108.
- Selleck, B.W., McLellan, J.M., & Bickford, M.E. (2005): Granite emplacement during tectonic exhumation: The Adirondack example. *Geology* **33** (10) 781-784.
- Selway, J.B., Breaks, F.W., & Tindle, A.G. (2005): A review of rare-element (Li-Cs-Ta) pegmatite exploration techniques for the Superior Province, Canada, and large worldwide tantalum deposits: *Exploration and Mining Geology* **14** (1-4), 1-30.
- Sevigny, J.H., & Hanson, G.N. (1993): Orogenic evolution of the New England Appalachians of southwestern Connecticut. *Geological Society of America Bulletin* **105**, 1591-1605.
- Shaw, C.A., Karlstrom, K.E., Williams, M.L., Jercinovic, M.J., & McCoy, A.M. (2001): Electron-microprobe monazite dating of ca. 1.71-1.63 Ga and ca. 1.45-1.38 Ga deformation in the Homestake shear zone, Colorado: Origin and early evolution of a persistent intracontinental tectonic zone. *Geology* **29**, 739-742.
- Sheppard, S., Rasmussen, B., Muhling, J.R., Farrell, T.R., & Fletcher, I.R. (2007): Genvillian-aged orogenesis in the Palaeoproterozoic Gascoyne Complex, Western Australia: 1030-950 Ma reworking of the Proterozoic Capricorn Orogen. *Journal of Metamorphic Geology* **25**, 477-494.
- Simmons, W. B., Hanson, S. L., Falster, A. U., & Webber, K. L. (2012): A comparison of the mineralogical and geochemical character and geological setting of Proterozoic REE-rich granitic pegmatites of the north-central and southwestern US. *The Canadian Mineralogist*, **50**, 1695-1712.
- Sims, J. P., Ireland, T. R., Camacho, A., Lyons, P., Pieters, P. E., Skirrow, R. G., Stuart-Smith, P. G., & Miró, R. (1998): U-Pb, Th-Pb and Ar-Ar geochronology from the southern Sierras Pampeanas, Argentina: implications for the Paleozoic tectonic evolution of the western Gondwana margin, in Pankhurst, R. J., and Rapela, C. W., eds., The proto-Andean margin of Gondwana: *Geological Society, London, Special Publications* **142**, 259–281.
- Sirbescu, M.-L.C., Hartwick, E.E., & Student, J.J. (2008): Rapid crystallization of the Animikie Red Ace pegmatite, Florence county, northeastern Wisconsin: inclusion microthermometry and conductive-cooling modeling. *Contributions to Mineralogy and Petrology* **156**, 289-305.
- Skytta P., & Manttari, I. (2008): Structural setting of late Svecofennian granites and pegmatites in Uusimaa belt, SW Finland: Age constraints and implications for crustal evolution. *Precambrian Research* **164**, 86-109.
- Smith, H.A., Chamberlain, C.P., & Zeitler, P.K. (1994): Timing and duration of Himalayan metamorphism within the Indian Plate, Northwest Himalaya, Pakistan. *The Journal of Geology* **102**, 493-508.
- Smith, S.R., Foster, G.L., Romer, R.L., Tindle, A.G., Kelly, S.P., Noble, S.R., Horstwood, M., & Breaks, F.W. (2004): U-Pb columbite-tantalite chronology of rare element pegmatites using TIMS and Laser Ablation Multi Collector-ICP-MS. *Contributions to Mineralogy and Petrology* **147**, 549-564.
- Soman, A., Geisler, T., Tomaschek, F., Grange, M., & Berndt, J. (2010): Alteration of crystalline zircon solid solutions: a case study on zircon from an alkaline pegmatite from Zomba-Malosa, Malawi. *Contributions to Mineralogy and Petrology* **160**, 909-930.
- Spikings, R.A., Foster, D.A., Kohn, B.P., & Lister, G.S. (2002): Post orogenic (<1500 Ma) thermal history of the Palaeo-Mesoproterozoic, Mt Isa province, NE Australia. *Tectonophysics* **349**, 327-365.
- Stahle, V., Frenzel, G., Kober, B., Michard, A., Puchelt, H., & Schneider, W. (1990): Zircon syenite pegmatites in the Finero peridotite (Ivrea zone): evidence for a syenite from a mantle source. *Earth and Planetary Science Letters* **101**, 196-205.
- Steltenpohl, M.G., Carter, B.T., Andresen, A., & Zeltner, D.L. (2009): $^{40}\text{Ar}/^{39}\text{Ar}$ thermochronology of late- and postorogenic extension in the Caledonides of north-central Norway. *The Journal of Geology* **117**, 399-414.

- Stendal, H., Secher, K., & Frei, R. (2006): ^{207}Pb - ^{206}Pb dating of magnetite, monazite, and allanite in the central and northern Nagssugtoqidian orogen, West Greenland. *Geological Survey of Denmark and Greenland Bulletin* **11**, 101-114.
- Stern, R.A., & Rayner, N. (2003): Ages of several zirconium megacrysts by ID-TIMS: potential reference materials for ion microprobe U-Pb geochronology. *Geological Survey of Canada Current Research* **2003-F1**, 7p.
- Stewart, D.B., Tucker, R.D., Ayuso, R.A., & Lux, D.R. (2001): Minimum age of the Neoproterozoic Seven Hundred Acre Island Formation and the Tectonic setting of the Islesboro Formation, Islesboro block, Maine. *Atlantic Geology* **37**, 41-59.
- Sullivan, W.A. (2006): Structural significance of L tectonics in the Eastern-Central Laramie mountains, Wyoming. *The Journal of Geology* **114**, 513-531.
- Sun, S., Sheraton, J.W., Glikson, A.Y., & Stewart, A.J. (1996): A major magmatic event during 1050-1080 Ma in central Australia, and an emplacement age for the Giles Complex. *AGSO Research Newsletter* **24**, 13-15.
- Suwimonprecha, P., Černý, P., & Friedrich, G. (1995): Rare metal mineralization related to granites and pegmatites, Phuket, Thailand: *Economic Geology* **90**, 603-615.
- Symons, D.T.A., Smith, T.E., Kawasaki, K., & Walawender, M.J. (2009): Paleomagnetism of the mid-Cretaceous gem-bearing pegmatite dikes of San Diego County, California, USA. *Canadian Journal of Earth Sciences* **46**, 675-687.
- Symons, R. (1961): Operation at Bikita Minerals (private), Ltd., Southern Rhodesia: *Institution of Mining and Metallurgy Bulletin* **661**, 129-172.
- Tack, L., & Bowden, P. (1999): Post-collisional granite magmatism in the central Damaran (Pan-African) Orogenic Belt, western Namibia. *Journal of African Earth Sciences* **28**, 653-674.
- Teyssier, C., Ferré, E.C., Whitney, D.L., Norlander, B., Vanderhaeghe, O., & Parkinson, D. (2005): Flow of partially molten crust and origin of detachments during collapse of the Cordilleran Orogen. *Geological Society, London, Special Publications* **245**, 39-64.
- Thorne, K.G., Lentz, D.R., Hall, D.C., & Yang, X. (2002): Petrology, geochemistry, and geochronology of the granitic pegmatite and aplite dykes associated with the Clarence Stream gold deposit, southwestern New Brunswick. *Geological Survey of Canada, Current Research* **2002-E12**, 13p.
- Timmermann, H., Parrish, R.R., Noble, S.R., & Kryza, R. (2000): New U-Pb monazite and zircon data from the Sudetes Mountains in SW Poland: evidence for a single-cycle Variscan orogeny. *Journal of the Geological Society, London* **157**, 265-268.
- Tkachev, A.V. (2011): Evolution of metallogeny of granitic pegmatites associated with orogens throughout geologic time. *Geological Society, London, Spec. Publ.* **350**, 7-23.
- Tomascak, P.B., Krogstad, E.J., & Walker, R.J. (1996): U-Pb monazite geochronology of granitic rocks from Maine: implications for late Paleozoic tectonics in the northern Appalachians. *The Journal of Geology* **104**, 185-195.
- Trupe, C.H., Stewart, K.G., Adams, M.G., Waters, C.L., Miller, B.V., & Hewitt, L.K. (2003): The Burnsville fault: Evidence for the timing and kinematics of southern Appalachian Acadian dextral transform tectonics. *Geological Society of America Bulletin* **115**, 1365-1376.
- Tucker, R.D., & Robinson, P. (1995): U-Pb age of the Hardwick pluton and pre-“dome stage” pegmatite, Quabbin Reservoir, and their bearing on the “Acadian” orogeny in central Massachusetts and adjacent New Hampshire. *Geological Society of America Abstracts with Programs* **27**(6), A223-A224.
- Unruh, D.M., Snee, L.W., Foord, E.E., & Simmons, W.B. (1995): Age and cooling history of the Pikes Peak batholith and associated pegmatites. In *Geological Society of America, Abstracts with Programs* **27**(6), 468.
- Vega-Granillo, R., Talavera-Mendoza, O., Meza-Figueroa, D., Ruiz, J., Gehrels, G.E., López-Martínez, M., & Cruz-Vargas, J.C. (2007): Pressure-temperature-time evolution of Paleozoic high-pressure rocks of the Acatlán Complex (southern Mexico): Implications for the evolution of the Iapetus and Rheic Oceans. *Geological Society of America Bulletin* **119**, 1249-1264.
- Viana, R.R., Mänttäri, I., Kunst, H. & (2003): Age of pegmatites from eastern Brazil and implications of mica intergrowths on cooling rates and age calculations: *Journal of South American Earth Sciences* **16**, 493-501.
- Vignola, P., Diella, V., Oppizzi, P., Tiepolo, M., & Weiss, S. (2008): Phosphate assemblages from the Brissago granitic pegmatite, western Southern Alps, Switzerland: *The Canadian Mineralogist* **46**, 635-650.

- Vladimirov, A.G., Lyakhov, N.Z., Zagorskiy, V.E., Makagon, V.M., Kuznetsova, L.G., Smirnov, S.Z., Isupov, V.P., Belozerov, I.M., Uvarov, A.N., Gusev, G.S., Yusupov, T.S., Annikova, I. Yu., Beskin, S.M., Shokalskiy, S.P., Mikheev E.I., Kotler P.D., Moroz, E.N., & Gavryushkina, O.A. (2012): Lithium deposits of spodumene pegmatites of Siberia. *Chemistry for Sustainable Development* **20**, 3-20.
- Volkert, R.A., Zartman, R.E., & Moore, P.B. (2005): U-Pb zircon geochronology of Mesoproterozoic postorogenic rocks and implications for post-Ottawan magmatism and metallogenesis, New Jersey Highlands and contiguous areas, USA. *Precambrian Research* **139**, 1-19.
- Von Knorring, O., & Condliffe, E. (1987): Mineralized pegmatites in Africa: *Geological Journal* **22**, 253-270.
- Von Quadt, A., & Galliski, M.A. (2011): U-Pb LA-ICPMS columbite ages from the Pampean pegmatite province: Preliminary results. PEG2011 Argentina, Contributions to the 5th International Symposium on Granitic Pegmatites, *Asociación Geológica Argentina, Publicación Especial* **14**, 221-223.
- Walsh, G.J., Aleinikoff, J.N., & Wintsch, R.P. (2007): Origin of the Lyme dome and implications for the timing of multiple Alleghanian deformational and intrusive events in southern Connecticut. *American Journal of Science* **307**, 168-215.
- Wang, J., Wu, Y., Gao, S., Peng, M., Liu, X., Zhao, L., Zhao, L., Hu, Z., Gong, H., & Liu, Y. (2010): Zircon U-Pb and trace element data from rocks of the Huai'an complex: New insights into the late Paleoproterozoic collision between the eastern and western blocks of the North China Craton. *Precambrian Research* **178**, 59-71.
- Wang, T., Tong, Y., Jahn, B., Zou, T., Wang, Y., Hong, D., & Han, B. (2007): SHRIMP U-Pb zircon geochronology of the Altai No. 3 pegmatite, NW China, and its implications for the origin and tectonic setting of the pegmatite. *Ore Geol. Rev.* **32**, 325-336.
- Wanhainen, C., Billstrom, K., Martinsson, O., Stein, H., & Nordin, R. (2005): 160 Ma of magmatic/hydrothermal and metamorphic activity in the Gallivare area: Re-Os dating of molybdenite and U-Pb dating of titanite from the Aitik Cu-Au-Ag deposit, northern Sweden. *Mineralium Deposita* **40**, 435-447.
- Whitmore, R.W., & Lawrence, R.C., Jr. (2004): The pegmatite mines known as Palermo: Palermo Mines Ltd., Weare, N.H., 219 p.
- Wilde, S.A., Wu, F., & Zhang, X. (2003): Late Pan-African magmatism in northeastern China: SHRIMP U-Pb zircon evidence from granitoids in the Jiamusi Massif. *Precambrian Research* **122**, 311-327.
- Wise, M.A., & Brown, C. D. (2009): Extreme rare-element enrichment in a muscovite-rare-element class granitic pegmatite: A case study of the spodumene-amazonite McHone pegmatite, North Carolina. *Southeastern Geology* **46**, 155-172.
- Wise, M.A., & Brown, C. D. (2010): Mineral chemistry, petrology and geochemistry of the Sebago granite-pegmatite system, southern Maine, USA: *Journal of Geosciences* **55**, 3-26.
- Wodicka, N., Ketchum, J.W.F., & Jamieson, R.A. (2000): Grenvillian metamorphism of monocyclic rocks, Georgian bay, Ontario, Canada: Implications for convergence history. *The Canadian Mineralogist* **38**, 471-510.
- Wuxian, L., Xinmin, Z., Xianhua, L., Guogang, X., & Junhui, L. (2001): Zircon U-Pb dating of pegmatite from Xingzi metamorphic core complex of Lushan mountain and its geological implication. *Earth Science – Journal of China University of Geophysics* **26**(5) 491-495.
- Wu, Y.B., Zheng, Y.F., Zhang, S.B., Zhao, Z.F., Wu, F.Y., & Liu, X.M. (2007): Zircon U-Pb ages and Hf isotope compositions of migmatite from the North Dabie terrane in China: constraints on partial melting. *Journal of Metamorphic Geology* **25**, 991-1009.
- Xue, G., Mashall, D., Zhang, S., Ullrich, T.D., Bishop, T., Groat, L.A., Thorkelson, D.J., Giuliani, G., & Fallick, A.E. (2010): Conditions for early Cretaceous emerald formation at Dyakou, China: Fluid inclusion, Ar-Ar, and stable isotope studies. *Economic Geology* **105**, 339-349.
- Zagorsky, V.E., & Peretyazhko, I.S. (2010): First $^{40}\text{Ar}/^{39}\text{Ar}$ age determinations on the Malkhan granite-pegmatite system: Geodynamic implications. *Doklady Earth Sciences* **430**(2) 172-175.
- Zaw, K. (1998): Geological evolution of selected granitic pegmatites in Myanmar (Burma): constraints from regional setting, lithology, and fluid inclusion studies: *International Geology Review* **40**, 647-662.
- Zhao, G., Kroner, A., Wilde, S.A., Sun, M., Li, S., Li, X., Zhang, J., Xia, X., & He, Y. (2007): Lithotectonic elements and geological events in the Henshan-Wutai-Fuping belt: a synthesis and implications for the evolution of the Trans-North China Orogen. *Geological Magazine* **144**, 753-775.

Zhao, G., Wilde, S.A., Cawood, P.A., & Sun, M. (2002): SHRIMP U-Pb zircon ages of the Fuping Complex: Implications for late Archean to Paleoproterozoic accretion and assembly of the North China Craton. *American Journal of Science* **302**, 191-226.