

Abstracts (continued)

repairs. During torch repairs diamonds are protected by coating with a borax compound; however, the same compound attacks rubies, sapphire and other gems during soldering. When borax is not used, diamond surfaces can be burned. Soldering can also cause heat stress and fracture in some set stones. An example shows a crater-shaped chip in a diamond caused by a soldering laser shot to a prong. Other examples show damage by removal of the polymer-filler in jade by ultrasonic cleaning and serious etching to peridot from acid cleaning after soldering. E.S.

Das neue Rubinorkommen von Montepuez, Mosambik.

H.A. HÄNNI and M.S. KRZEMNICKI. *Gemmologie. Z. Dt. Gemmol. Ges.*, **58**(3/4), 2009, 127–30. 6 photographs, bibl.

The new deposit is in the north-east of Mozambique and the first faceted stones from there were shown at the Hong Kong autumn Fair 2008. The rubies are found in an amphibolite, a metamorphic rock that also hosts the Winza deposit in Tanzania. Crystal habit is tabular to prismatic. The iron-containing rubies often show twin lamellae, contain minor rutile silk, corroded amphibolite grains, some zircons, fluids and secondary minerals in fissures. E.S.

Mit Kunstharz stabilisierter Seraphinit (Klinochlor).

U. HENN. *Gemmologie. Z. Dt. Gemmol. Ges.*, **57**(3/4), 2008, 143–5. 2 photographs, 1 graph, bibl.

Radial to fibrous aggregates of clinocllore are known in the trade as seraphinite. Material from Korshunovskoye in Siberia has been found to be polymer impregnated. Infrared spectra and density proved the material to have been treated. E.S.

Zirkone von Tansania: 'Malaya-Zirkon'.

U. HENN. *Gemmologie. Z. Dt. Gemmol. Ges.*, **58**(1/2), 2009, 67–72. 4 photographs, 2 graphs, 2 tables, bibl.

The zircons are found in the Tanga province in northern Tanzania. They are transparent and brown, yellow or red,

known in the trade as Malaya zircons. They are 'high crystalline', with high density and RI values, and with typical absorption spectra with narrow bands and fine lines of tetravalent uranium. All Malaya zircons fluoresce in brown or yellow-brown colours. E.S.

Sultanit — farbwechselnder diaspor aus der Türkei.

U. HENN. *Gemmologie. Z. Dt. Gemmol. Ges.*, **58**(1/2), 2009, 73. 1 photograph.

Diaspore from Mugla in Turkey shows an interesting colour change from greenish-brown in daylight to pink-brown in incandescent light. Material is called sultanate/zultanite. E.S.

Tiefgrüne Sphene aus Tansania.

J. HINTZE. *Lapis*, **34**(10), 2009, 29–30.

Specimens of green sphene, some translucent, are reported from Tanzania. M.O'D.

Vorkommen von Achaten in rhyolitischen bis dacitischen Vulkaniten Deutschlands und deren historische Gewinnung sowie Nutzung — Teil I.

G. HOLZHEY. *Gemmologie. Z. Dt. Gemmol. Ges.*, **57**(3/4), 2008, 77–102. 27 photographs, 1 map. Bibl.

The article deals with agates from rhyolitic to dacitic volcanic rocks with relatively little free silica, which are generally less known. In Freiburg these types of agates were already worked in the fifteenth to sixteenth centuries, while other agates from the Black Forest came into favour in the eighteenth to nineteenth centuries. In Thuringia rhyolite balls were well known in the seventeenth and eighteenth centuries, while about the same time Saxony produced many agate articles. E.S.

Vorkommen von Achaten in rhyolitischen bis dacitischen Vulkaniten Deutschlands und deren historische Gewinnung sowie Nutzung — Teil II (Sachsen).

G. HOLZHEY. *Gemmologie. Z. Dt. Gemmol. Ges.*, **58**(1/2), 2008, 3–46. 44 Photographs, 1 table.

The author deals in some detail with the locations and occurrences in Saxony. Mining first became important under

the reign of August I of Saxony in 1694 and gained popularity during the first half of the eighteenth century. Lapidary and goldsmiths' skills were developed in Dresden and master goldsmiths such as Taddel, Stiehl and Nueber produced beautiful pieces of hardstone mounted in gold, such as snuff boxes, table tops, fireplaces and cabochons for personal jewellery, mostly from banded jasper. E.S.

Fact or fiction: lessons from the history of gems.

D. HOOVER. *The Australian Gemmologist*, **23**(3), 2007, 117–25.

A transcribed lecture stating how erroneous, fabricated and misinterpreted information passed down through history has skewed information we perceive to be true today. As the lecturer quotes from Thomas Katz: "Frequent repetition can turn fictional breakthroughs into common lore." Without proper correction the future will continue to believe these stories as true. Several interesting examples are given to illustrate how false information has been handed down and what the correct information really is. (NB: A 'must read', if not for the information the author provides, then for the strength of character to believe not what others deem to be true, but what you do). J.S.

Magnetic susceptibility for gemstone discrimination.

D.B. HOOVER and B. WILLIAMS. *The Australian Gemmologist*, **23**(4), 2007, 146–59.

Delving into the past history, beginning with Pliny's writings of 2000 years ago, the author presents how magnets were used to aid in medicine, science and gemmology. Once calibrated, the presence and amount of a magnetic pull is an important indicator of the nature of growth and in differentiating between gem materials. For example, based on the amount of iron content in corundums, magnetic pull can differentiate between magmatic or metamorphic growth. In this example, the first of four magnetic principles is explored; the elemental make-up is magnetic (iron and magnesium). The other three are: diamagnetic (diamond and quartz),

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paramagnetic (peridot and garnet) and ferromagnetic (inclusions in a diamond).
J.S.

Lune River petrified ferns: an overview.

R.E. JONES. *The Australian Gemmologist*, **23**(3), 2007, 131–5.

Tectonic movement led to volcanic activity creating the Lune River flora, an area of petrified plants in Tasmania. Dating zircon in the ash and sandstone in the area using Pb-U indicates that the specimens are from the Toarcian stage of the early mid-Jurassic period. Six genera are represented: *Cibotium tasmanense*, *Oguracaulis banksii*, *Osmundacaulis sp.*, *Lunea jonesii*, *Asbicaulis wrightii* and *Tasmanopteris richmondii*.
J.S.

Role of polyenes in the coloration of cultured freshwater pearls.

S. KARAMELAS, E. FRITSCH, J.-Y. MEVELLEC, S. SKLAVOUNOS and T. SOLDATOS. *European Journal of Mineralogy*, **21**(1), 2009, 85–7.

The examination of 21 untreated cultured freshwater pearls from *Hyriopsis* by diffuse reflectance UV-Vis-NIR and Raman scattering measurements at high resolution is reported. All natural colour samples show the two major Raman resonance features of unmethylated (unsubstituted) polyenes, not carotenoids. Their general formulae are $R-(CH=CH)_N-R'$ with $N = 6$ to 14, and they give absorptions from violet to yellow-green.
R.A.H.

Aquamarine, quartz and topaz in kimberlites: case studies from Minas Gerais State, Brazil.

J. KARFUNKEL, G.N.C. SGARBI, P.B. DE A. SGARBI, P.A.F. DE BROU, O.S. FRANCA, D.B. HOOVER and R. WEGNER. *Gemmologie. Z. Dt. Gemmol. Ges.*, **58**(3/4), 2009, 105–14. 10 photographs, 2 maps, bibl.

Most gems form in magmatic rock, with many coloured stones coming from pegmatites. Diamonds originate mainly from kimberlites. Recent finds of aquamarine, quartz and topaz in kimberlites from central-west Minas Gerais State apparently contradict accepted genetic aspects. The study from this region explains their occurrence in weathered pipes as 'hitchhikers'. Pegmatite fragments detached probably

many hundreds of metres below surface from their original rock were plucked and incorporated into the ascending magma and transported to the surface. The gems were released near the surface and tropical weathering processes did not affect them as much as some kimberlite minerals. These finds might be important for coloured gem prospectors in avoiding wrong interpretations.
E.S.

Identification of the endangered pink-to-red Stylaster corals by Raman spectroscopy.

S. KATAMELAS, E. FRITSCH, B. RONDEAU, A. ANDOUCHE and B. MÉTIVIER. *Gems & Gemology*, **45**(1), 2009, 48–52.

Raman scattering revealed that corals of the *Stylaster* genus (as opposed to those of the *Corallium* genus which include most pink-to-red corals used in jewellery) are made of aragonite and contain carotenoid pigments (polyenic pigments substituted with methyl groups), whereas those of the *Corallium* genus are coloured by unmethylated polyenic pigments and consist of calcite.
R.A.H.

Solution-generated pink color surrounding growth tubes and cracks in blue to blue-green copper-bearing tourmalines from Mozambique.

J.I. KOIVULA, K. NAGLE, A. H-T. SHEN and P. OWENS. *Gems & Gemology*, **45**(1), 2009, 44–7.

From the examination of several transparent, faceted, blue to blue-green copper-bearing tourmalines containing growth tubes and cracks surrounded by sleeves of pink colour, it is suggested that the probable cause of the pink colour is treatment with a radioactive solution. There was no visual evidence of heat treatment.
R.A.H.

Hackmanite/sodalite from Myanmar and Afghanistan.

D. KONDO and D. BEATON. *Gems & Gemology*, **45**(1), 2009, 38–43.

Many samples of sodalite from Myanmar and about half of those studied from Afghanistan showed the distinct tenebrescence characteristic of hackmanite, but a few saturated blue-to-purple Myanmar specimens and some very desaturated Afghan specimens showed little or no colour change on exposure to UV radiation or bright

white light. Such stones with no or only very weak tenebrescence may best be referred to as sodalite (despite containing sulphur). It is suggested that only sodalite with notable tenebrescence be called hackmanite.
R.A.H.

Gem news international.

B. LAURS (ED.). *Gems & Gemology*, **44**(3), 2009, 262–82.

Items mentioned include fluorite impersonating colour-change garnet, colourless cut forsterite from the Mogok area and from Tadjikistan, a tourmaline crystal within a crystal, a cluster of aquamarine crystals from Namibia showing trapiche structure and long crystals of spodumene extending from a matrix of K-feldspar reportedly from Afghanistan.
R.A.H.

Gem News International.

B.M. LAURS (ED.). *Gems & Gemology*, **44**(4), 2008, 369–79.

Items mentioned include a visit to andesine mines in Tibet and Inner Mongolia, a particularly vivid gem-quality kunzite from Pala, California, synthetic citrine with abundant nail-head spicules and a cobalt-blue synthetic quartz.
R.A.H.

Gem news international.

B. LAURS (ED.). *Gems & Gemology*, **45**(1), 2009, 59–75.

Items noted include opals from Ethiopia, gem-quality rhodochrosite from China, colour-zoned Moroccan amethyst, cabochons of intergrown malachite and azurite, kornepupine from Tanzania, crystals of pink zoisite from Afghanistan, gem-quality blue kyanite from Myanmar, Australian chrysoprase with dendritic inclusions and inclusions of ankangite and celsian in quartz from Brazil (for which analyses are given).
R.A.H.

Gem News International.

B.M. LAURS (ED.). *Gems & Gemology*, **45**(2), 2009, 142–55.

Items mentioned include the first occurrence of a star apatite, translucent bluish-green crystals from Bahia State, Brazil, of 'sugarcane emerald' with white mottled veins (some set as jewellery), distinctly orange kyanite crystals from Tanzania, and unusual colourless cut stones of petalite (14.98 ct) and pollucite (11.30