News from the SSEF

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“Africa semper aliquid novi”
Plinius the Elder (23 - 79 ad.) in Naturalis historia

New ruby mines in Northern Mozambique

Niassa Montepuez

Ruby from Niassa in Mozambique
Generally flat crystals and fragments, often heavily fractured and included.

Host rock is a kyanite- and siderite-bearing amphibolite.

Thinsection under crossed polarizers: amphibole (multicoloured grains), kyanite (orange-yellow) and iron-bearing carbonate (pastel-colour with distinct cleavage). Image size ca. 6 mm.

Photo © Dr. Leander Franz, Mineral.-Petrogr. Institut, Universität Basel
Montepuez

Excellent ruby of 8 ct from Montepuez in Mozambique. This stone is unheated and exhibits an impressive purity and a well saturated colour.

However, many stones are heated either with a borax flux or fissure filled with lead glass.

Inclusions:

Rounded crystal inclusions, rutile needles, twinning planes, green amphibole.

- Inclusions ± similar to Mogok, Burma
- Trace elements ± similar to Winza
Rough rubies of 105 and 83 ct

Sapphire of 196 ct from Burma
An outstanding pair of Kashmir Sapphires (14 ct each)

Bling bling for your most precious stones...

SSEF Photocard

Bling bling for your most precious stones...
Engraved emeralds

The longwave UV test...

From the La Pita mine in Colombia, ca. 10 cm long and 2.5 cm thick.

El-Itoco Emerald, 472 ct

From the La Pita mine in Colombia, ca. 10 cm long and 2.5 cm thick.
Aquamarine of approximately 500 ct
Large carved nephrite plates

Diamond necklace set in white nephrite, designed by Wallace Chan. The nephrite is actually “holding” the diamonds.

...but nephrite can also be used in a different way
New Chinese medicine...

Chalcedony

Patchy colours, high Zr concentration ± columnar structure from the side.

Inamori synthetic opal

Patchy colours, high Zr concentration ± columnar structure from the side.
New opal from Welo province in Ethiopia

Ouups!
Brown patchy opal from Shewa province in Ethiopia has broken in the safe!
**Fissure filled opal**

These opals often craze and form cracks due to drying out. They often are treated with a artificial resin (e.g. polyacryl nitrile)

Small cavity filled with colourless artificial resin (including small air bubbles and reddish pigments) and a thin slice of artificial resin on the conchoidal surface of a opal crack.

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**Fissure filled opal**

- Opal varnished with epoxy resin
- Opal untreated
- Opal fissure filled
- Polyacrylic fissure filling

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“Liquid” opal ???

Although claimed to be still “dripping” with liquid natural silica gel, our samples showed only clear evidence that they had been soaked in an artificial resin!

PEARLS...
Historic pearl objects

A ring with a “pearl” formed by two blisters.

Historic brooch with bohemian garnets

Non-nacreous pearls...
This is the shell, from which we were told, the “pearl” below originated.

Dyed fiber glass bead

Natural Quahog pearl

Dyed fiber glass bead

Natural non-nacreous pearls

White glass beads
Bahrain und Qatar 2010

Visit of the impressive pearl exhibition in Qatar

Chanthaburi, Thailand

Small workshop
To cut sapphires

© Swiss Gemmological Institute SSEF
Sri Lanka
A visit to Elahera, Pelmadulla and Ratnapura
Sri Lanka

near Ratnapura

© Swiss Gemmological Institute SSEF
Low temperature heating (<1000 °C), e.g. Mong Hsu rubies and pink sapphires.

Effect: colour shift, blue colour component is reduced.

Ruby treatment

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Gemstone market in Ratnapura

Thank you for your attention