

Looking to nature for inspiration

The IFSCC event in Osaka, Japan, clearly stimulated the creativity of the exhibitors at CHI, which was held in Warsaw in October and which is reviewed here.

Nature proved a strong inspiration at the CHI stand of **Roeper**, a German company, which, despite its small booth, was able to demonstrate a vast number of potential ideas from raw materials straight from the 19th Century.

There were hydrocolloids that were thought no longer available, and some never seen before. Alginates, kibbled Arabic and Arabic pieces, arrow root from West India St Vincent, carob flour as kernels and, even, as pods. Carrageenan, cassia powder, gellan gum, ghatti, guar gum, karaya and konjac powder are all tempting enough for a chemist looking for ways to thicken his emulsion, but Roeper also offers locust bean gum, apple and citrus pectins, tamarind and tara seed powders, and natural tragacanth – all materials that are usually only seen in the old Victorian pharmacopoeias and generally thought extinct. To the innovative ‘naturals’ chemist this is a tremendous find.

But the excitement was not to end there. Whole guarana and psyllium seeds were certainly worthy of investigation, as was the mysterious listing of incense mixtures that joined the company’s portfolio of mastics, resins, sandarac and balsamic tears. There were also remarkable natural colours – including genuine indigo from India, only currently seen in literature (and not made in the UK since 1932). This joined a line-up including annatto seed,

bixin/norbixin, Brazil wood extract powder, carmine, carminic acid, cochineal black from the Canary Islands, cochineal silver grey, curcumin, dragon’s blood balls, fustic, guttae and henna powder, as well as logwood, madder, paprika oleoresin and red sandalwood extract.

Cosmetochem also had some excellent ideas on the theme of spa and well-being.

Spa forms such an important part of our current 21st Century lifestyle, that it surprised me to learn that the word ‘spa’ is an abbreviation for *sanus per aquam* or health by water.

There are a vast number of spa treatments from different regions of the world, a fact that Cosmetochem used well to its advantage to demonstrate the marketing potential of its wares.

The company communicated the idea of ayurveda and India through the sanskrit for ‘science of life’, where three universal forces or ‘doshas’ govern our body, namely: vata (air), pitta (fire) and kapha (earth). Ayurveda therapies aim to achieve harmony between the doshas. Gotu kola (*Centella asiatica*) or brahmi, for example, can be used to balance the doshas and stimulate the circulation, while holy basil (*Ocimum basilicum*) is soothing, anti-inflammatory, anti-irritant and anti-bacterial, as well as being a circulatory stimulant. Amla or amalaki (*Phyllanthus emblica*) is astringent, tonic, aphrodisiac, antioxidant, anti-inflammatory and diuretic.

A favourite, though, is Indian blue lotus (*Nelumbo nucifera*) for its calming, skin softening, anti-inflammatory and astringent,

diuretic, tonic properties.

Turning east to China, Cosmetochem used the moniker of traditional Chinese medicine to suggest goji berry or wolfberry (*Lycium barbarum*) for its antioxidant, anti-ageing, skin protectant and anti-irritant properties. Chrysanthemum (*Chrysanthemum morifolium*) has cooling properties, is anti-inflammatory and enhances skin tone, Ginkgo (*Ginkgo biloba*) is a circulatory stimulant, antioxidant and stimulates collagen production and skin regeneration. Scutellaria/huang qin (*Scutellaria baicalensis*) is an antioxidant and an anti-inflammatory, and is relaxing as it stimulates collagen and protein production. Chinese ginger/ginger lily or galangal (*Alpinia spp.*) is a circulatory stimulant and is warming, while antioxidant freshwater pearl (used extensively in Chinese skin care) has anti-ageing and anti-wrinkle properties. It is also a gentle skin polish that can detoxify, smooth and soften the skin.

Japan, as a renowned place for bathing rituals, easily suggests Japanese pagoda tree (*Sophora japonica*) to decrease capillary fragility, reduce skin redness, and offer anti-inflammatory, anti-irritant and antioxidant benefits. Japanese honey suckle (*Lonicera caprifolium*), meanwhile, is a cutaneous tonic that is both astringent and anti-inflammatory. The fabulous-sounding green mandarin (*Citrus reticulata*) is tonic, dermo-purifying, antioxidant and anti-inflammatory, while the new recruit to the portfolio, fruit blossoms, offers gentle and delicate nuances of cherry, quince, apple, plum, apricot and peach.

Thailand, too, can be said to be influenced by ayurvedic medicine, leading to suggestions including the astringent pomegranate and rhubarb, ‘sweet humours’ from coconut, honey and fruit or ‘bitter’ from green tea and chrysanthemum. Other propositions include: sour influences from citrus fruits; hot and spicy affinities from anise, basil, cayenne, cloves, ginger, lemon grass, peppermint or turmeric; aromatic and cool affinities from jasmine tea, edible flowers



Edelweiss (*Leontopodium alpinum*).



Betula alba.



Indian mulberry (*Morinda citrifolia*).



Leopard lily (*Bellamcanda chinensis*).



Purple orchid (*Orchis mascula* L.).



Gotu kola (*Centella asiatica*).

or the beautiful lotus; Thai massage from lemon grass for its analgesic, astringent and tonic properties and tamarind for its astringent, antioxidant, analgesic and circulatory properties, and sesame for its skin conditioning. *Hibiscus spp* (red and white flowers) meanwhile, offers astringent, tonic, demulcent, softening and cleansing properties.

Exotic flowers and plants

The Japanese culture is always a fascinating source for new materials and the sakura leaf (*Prunus speciosa*) from Ichimaru Pharcos was certainly an idea that **Laserson** thought worthy of investigation. It is permitted for use as a quasi-drug in Japan and is used to treat damaged skin, where it also has anti-inflammatory, anti UV and skin whitening properties.

At **Crodarom**, the focus was on noni, or Indian mulberry (*Morinda citrifolia*), a very traditional Caribbean plant with moisturising, conditioning, antioxidant and tonic qualities. Orchids, too, were in bloom at the show. In addition to the **S. Black** orchid oil, **Crodarom** presented a rare Amazonian black orchid, specially made by **Greentech**. **Crodarom** says it is a mysterious flower, shrouded in feminine myth and symbolising absolute beauty, making it perfect for seductive cosmetics, where the use of a flower as a symbol of sensuality and exceptionality drives the marketing concept. The purple orchid (*Orchis mascula* L.) is native to an area stretching from Europe to Asia minor, where it grows in humid grasslands at forest edges and up to alpine mountains. Decoctions of orchid bulb were traditionally used as an anti-inflammatory or drunk as an energizer since the Middle Ages.

The active ingredient spectrum of *Orchis mascula* is composed of cyanidin pigments from the blossoms, phenolic acids and flavonoids from the leaves and the blossoms, and glucomanan polysaccharides from the bulbs. This makes the whole fresh plant a valuable phytotherapeutic asset. Mucilages and

polysaccharides provide an emollient action for smoothing fine lines while the polyphenols (approximately 400 ppm) give bio-protective properties and inhibit matrix tissue-degrading enzymes.

Other flowers and plants going under visitors' microscopes at the show include:

- Edelweiss (*Leontopodium alpinum*), a very rare and specially cultivated Swiss plant, (**Alpafior**, part of **Pentapharm**).
- Blue Lotus (*Nymphaea cearulea*) extract, for its antioxidant, anti-inflammatory, detoxifying, moisturising and veinotonic properties (**Crodarom**).
- Inchi or Inca peanut (*Plukenetia volubilis*), a new oil, very rich in EFAs especially GLA (**Greentech**).
- Leopard Lily (*Bellamcanda chinensis*), which is rich in plant sterols and isoflavones, and is excellent for wrinkles and ageing skin conditions (**Ichimaru Pharcos** through **Laserson**).

Other show highlights

Three novel materials also caught the eye on the **Atrium** stand.

Firstly, made from a very novel marine source is Abyssine 657. In the deepest abyssal zones there are exceptional microorganisms that live despite the very hostile environment. This new material is synthesised by a microorganism located in hydrothermal deep vents and has been proven to soothe and reduce the irritation of sensitive skins.

Secondly, aldavine is a highly potent cosmetic active ingredient crafted from unique polysaccharides derived from two algae: *Ascophyllum nodosum* and *Asparagopsis armata*, which grow in a protected, pollutant-free environment. The biotechnological process makes it possible to create outstanding and biologically active polysaccharides that clinically demonstrate effectiveness in the protection of microcapillary integrity. The inhibitory action on the VEGF pathway is certainly one of the most innovative features of this new material.

Finally, drieline is a highly purified extract of *Saccharomyces cerevisiae*, a yeast used

in a multitude of common fermentation processes such as the making of beer, alcohol and bread. The polysaccharide obtained by biotechnology is composed of β 1-3 glucopyranoses repetitive units. Via mimetic action, this 'sentry molecule' reinforces the natural skin defence system as well as cell renewal.

On the **Greentech** stand, the focus was on anti-inflammatory **Protectol**, *Betula alba* bark in combination with *Scrophularia nodosa* extract.

Vincience, meanwhile, demonstrated an impressive portfolio of ideas.

Achromaxyl, a patented, botanical extract, designed for anti-aging, lightening and anti age spots skin care products, headed the demonstration. Achromaxyl is a brassicaceae extract, the protein fraction of which is hydrolysed and then submitted to a controlled fermentation process.

The company also showed thymophytane, a patented vegetal active ingredient for anti-aging and sensitive skin care products. Thymophytane is obtained by selective extraction of the protein fraction of rice (*Oryza sativa*) grains, and provides skin with rice peptides mimetic to thymic peptides that normalise skin immune defences, protect skin structure and integrity, and reinforce skin barrier function.

Signaline, meanwhile, is its patented active ingredient mainly composed of 1,2-diacylglycerol (1,2-DAG) extracted from olive oil (*Olea europaea*), and of fatty alcohols extracted from jojoba wax (*Simmondsia chinensis*). Signaline activates signaling enzymes, increases cellular energy, and promotes epidermal and dermal regeneration.

Phytoquintescine is a patented botanical anti-aging active ingredient. Einkorn (*Triticum monococcum* L.) is the ancestor of modern cereals, very close to wheat. Phytoquintescine prevents oxidative damage, improves cell functions and tissue integrity, helping to delay premature ageing.

Perhaps, the most interesting but hardest to understand concept on the **Vincience** stand was orsirtine, a patented, anti-aging active ingredient linked with longevity, calorie restriction and sirtuins activation. Orsirtine is botanical extract of rice rich in SIRT-modulating peptides that activates SIRT1 expression in human skin, increases cellular longevity and increases skin repair and protection. This is a unique cellular metabolism and pathway, and deserves good further study.

Finally, **Crodarom** presented a white truffle with tonifying, invigorating, moisture balancing, smoothing properties – and surely one of the most luxurious, exclusive, gourmet and prestigious exhibits of the show.