

The Avon Lady comes collecting Asian medicinal plants

Iconic cosmetics firm seeking to patent numerous Asian medicinal and food plants

by **Edward Hammond**

Avon Products, the US-based cosmetics firm internationally known for its “Avon Ladies”, has taken a strong interest in Asian medicinal plants, patenting and incorporating them into its skin care products. The company has filed six patent applications on use of Asian plants in skin creams in the past several years. These claims collectively cover 16 different Asian plant species. To date, three US patents have been issued, and Avon is seeking rights in other countries, including inside Asia itself.

Five of the 16 plants claimed in the patent applications are already in use by Avon, and one or more of them can be found in more than two dozen Avon skin and eye care products currently sold worldwide. Four of the company’s major skin care product lines contain these patented, or patent-pending, plant ingredients.

All of the plants that Avon claims have traditional medicinal use in Asian countries, and some of them have been used to treat skin disorders. Most of the plants are found in more than one Asian country, and are traditionally used in multiple cultures. It would thus likely prove difficult for any single country to exclusively assert sovereignty over the claimed resources.

This signals the importance of regional cooperation under the Convention on Biological Diversity (CBD) and its Nagoya Protocol on Access and Benefit-Sharing. Because many of the plants Avon claims, and relevant traditional uses of them, occur in multiple countries, collective action is more likely to bring a positive result in cases such as this. Avon’s claims also indicate the need for a robust clearinghouse mechanism under the Nagoya Protocol so as to promote awareness of regional access and benefit-sharing issues.

The lucrative skin care market

The skin cream market is bigger business than many might suspect. It is the largest segment of the global “personal care products” industry which, according to analysts, will reach \$333 billion in annual sales by 2015. Skin care is estimated to account for more than one-quarter of that amount, or roughly \$90 billion per year.¹

To put that large number in perspective, each year across the globe people spend about as much money on skin cream as they do on Sony electronics (\$87 billion), and more than is spent on pet food (\$80 billion). Skin cream sales sum three to four times as much as the United Nations Development

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Programme (UNDP)'s estimate for the annual cost to provide universal safe drinking water *and* sanitation services (\$20-\$30 billion).²

Analysts say that the worldwide market growth is driven by the larger number of women over 50 years of age, increases in women's disposable income and greater male interest in skin care products. The skin cream market is particularly strong for products that make "anti-ageing", "firming" and "anti-cellulite" claims.

Not coincidentally, these claims are precisely the subject of Avon's patent applications on Asian plants. In 2009, the Asia-Pacific market for such products was 41% of the world total, or about \$33 billion, and continued expansion in Asia is considered a priority for the industry,³ which is dominated by US and European companies.

Avon Products, Inc.

With \$11 billion in annual sales and a market capitalization of over \$9 billion, US-based Avon is a significant player in the cosmetics and personal care industries. Founded in 1886, the company was a pioneer of multi-level marketing and, in many parts of the world, the "Avon Lady" is a familiar phenomenon.

The company pursues a similar business strategy everywhere, focusing on what industry calls "direct sales", by putting women into the business of selling Avon products to friends and acquaintances. These saleswomen, in turn, convert some of their customers into dealers themselves, building and perpetuating a sales chain in which transactions largely occur in living rooms and on street corners, rather than in Avon-branded storefronts.

More recently, the company has also started online and kiosk sales, especially in countries that have restrictions on multi-level marketing, including China. The company has also simplified global product lines, with its current offerings varying little from country to country.

Avon is profitable, paying an annual dividend of nearly \$1 per share of its stock. Through a charitable foundation the company claims (in confusing and perhaps misleading language) to be the "*largest corporate supporter focused solely on women's issues across the globe*".

The company's marketing tends toward images of a "high-tech" product development process

led by scientists in laboratory coats at a research headquarters in the US state of New York. Although natural products are not the main thrust of Avon's marketing, review of the Avon product ingredients reveals very frequent use of plant extracts (discussed in more detail below).

Avon appears eager to expand its skin care offerings. In 2010, it bought UK-based Liz Earle, a skin cream company with a different marketing approach, selling in storefronts and on television shopping channels. Botanical ingredients are a matter of emphasis for Liz Earle, whose corporate tagline is "naturally active skincare".

Advertised or not, however, plants are an important part of Avon's skin products.

Avon's patent claims on Asian plants

Avon's intellectual property claims reveal the company to be particularly interested in Asian medicinal and food plants. The company has recently obtained three patents on such plants, and three more patent applications are pending. Collectively, the plants are associated with countries across the region, including Southeast Asia, China and South Asia. In total, claims are made on the use of 16 different Asian plants in skin care products. Avon's patents and patent applications are summarized in the chart on the following page, which includes some of the common names used for the plants that are claimed.

Avon appears to be pursuing its claims not only in the US, Canada, Japan and Europe, but in developing countries as well. Only limited information on the international status of patent applications is available online. However, the World Intellectual Property Organization (WIPO)'s Patentscope database indicates that at least three patent applications have been lodged in China and two in Mexico. More may exist without being reflected in the WIPO data.

The plants that Avon claims

How Avon accessed the plants that it claims is not known. Some, such as *Eclipta prostrata*, are relatively ubiquitous and could be obtained virtually anywhere. Others, such as *Stephania rotunda*, are far more likely to be sourced from Asia itself, certainly if needed in any considerable quantity. In the past, Avon has maintained company researchers in Asia and relationships with Asian academic institutions. In all of the patents described here, however, Avon company employees based in

Avon's Objects of Desire: Asian Medicinal Plants

PATENT/ APPLICATION NUMBERS	TITLE	GENERAL TOPIC	PLANT CLAIM
WO2012002950 US2012003331	Use of <i>Tiliacora triandra</i> in cosmetics and compositions thereof	Skin care products	Use of bai yanang (no English common name), food and medicinal plant used in Laos, Thailand, Vietnam, Cambodia, etc. (dây sương sâm [VN], ស៊ីវាវាវា [LA], ใบย่านาง [TH]).
WO2012005876 US20120003332	Compositions and methods for stimulating MAGP-1 to improve the appearance of skin	Skin care products that work by stimulating production of microfibril-associated glycoprotein 1 (MAGP-1)	Claims several Asian plants that may be used to create MAGP-1 skin care products. These are: <i>Antidesma bunius</i> : bignay [PH], buni [MY], wooni [ID], etc.; <i>Operculina turpethum</i> : turpeth, pitohri [IN], St. Thomas lidpod; <i>Ixora chinensis</i> : pechah priok [MY], siantan [ID], etc.; <i>Clerodendron lindleyi</i> : 尖齿臭茉莉 jian chi xiu mo li [CN] The patent application claims additional plants when they are mixed with an extract of the above plants, or a functionally equivalent chemical.
US Pat 7,618,662 WO2006068777 MX/a/2007/007376 JP2007548241 EP2005825815 CN200580035328.6	Use of natural plant extracts in cosmetics compositions	Skin care products that work “to stimulate lipid production, adiponectin production, adipocyte differentiation, PPAR-gamma induction, and/or any combinations thereof”	Claims several Asian plants that may be used to create skin care products of the invention. These are: <i>Humulus scandens</i> : 葎草 lü cao [CN], widely naturalized; <i>Amorphophallus campanulatus</i> : elephant foot yam, etc.; <i>Pouzolzia pentandra</i> (syn: <i>Gonostegia pentandra</i> Roxb. Miq.); <i>Rhinacanthus nasutus</i> : snake jasmine, kabutar ka phul [IN], etc.; <i>Sesbania grandiflora</i> : agati, agathi, food plant, widely distributed; <i>Piper betel</i> : betel nut
US Pat 7,514,092 WO2006068786 CN200580040937.0 CA2588128 EP2005852369 JP2007548242	Compositions and methods of their use for improving the condition and appearance of skin	“A method of ameliorating, reducing, or treating progressive degradation of a dermal-epidermal junction and/or degradation of a cell-cell cohesion in skin”	Claims several Asian plants that may be used to create skin care products of the invention. These are: <i>Plumbago indica</i> : scarlet leadwort, India native, widely grown; <i>Sapindus rarak</i> : lerak [ID], “soap nut”; <i>Stephania rotunda</i> : bình vôi [VN], “saboo leard”
US Pat 7,410,658 WO2006068776 EP2005825830 MX/a/2007/007510 CN200580036088.1	Use of <i>Alisma orientale</i> in cosmetics and compositions thereof	Treatment to reduce cellulite	Claims use of <i>Alisma orientale</i> (东方泽泻 dong fang ze xie) to treat skin problems.
US20110305781 WO2011156136	Use of <i>Eclipta prostrata</i> and other PPAR-GAMMA inhibitors in cosmetics	Treatment to reduce cellulite	Claims <i>Eclipta prostrata</i> (false daisy) for cellulite treatment. Widely distributed, with traditional Asian medicinal use on skin.

Note: CN – China; ID – Indonesia; IN – India; LA – Laos; MY – Malaysia; PH – Philippines; TH – Thailand; VN – Vietnam

New York are indicated as the inventors, strongly suggesting that the research and product development occurred there.

The company's claims are of varying specificity. All of the claims relate to use of the Asian plants

in skin care products. Some patent applications appear relatively specific, for example, claiming the use of plants to stimulate production of a particular protein by the skin (e.g., application WO2012005876), while others, such as the claims on *Tiliacora triandra* (WO2012002950), are broader

and in effect claim use of that plant as an ingredient in any product that improves “the aesthetic appearance of aging skin”.

Most of the 16 plants Avon claims are familiar food and medicinal plants in different Asian countries, including the following examples:

Bignay: In patent application WO2012005876, Avon claims use of four different Asian plants used in skin care products that stimulate production of a skin protein called MAGP-1. Among them is the bignay (*Antidesma bunius*), a fruit tree grown across Asia. Also called “mao luang” or “currant tree”, the bignay’s striking strands of multicoloured fruit are a popular food in Indonesia, while in the Philippines and Thailand, the fruit is both eaten and made into a wine. Bignay is very frequently cited among inventories of medicinal plants of diverse cultures across the region.

Elephant foot yam: In US patent 7,618,662, Avon claims use of six different Asian plants in products that stimulate fat production by the skin (which is said to improve appearance). Among the plants claimed is *Amorphophallus campanulatus*, an aroid known in English as the elephant foot yam. Grown for its edible tuber, the elephant foot yam plant has a pungent odour and many documented traditional medicinal uses, including to treat skin disorders.⁴

Agati: Also claimed in US patent 7,618,662 is *Sesbania grandiflora*, or agati (sometimes “agathi”). Frequently grown in Southeast Asia and India, the plant’s leaves are used for food and, in Thailand, its flowers used in soups. It is also used in both Ayurvedic medicine and traditional medicine in Southeast Asia, including for skin problems.

Bai yanang: Avon claims use of *Tiliacora triandra* in skin care products in patent application WO2012002950. With no English common name, the plant is usually called bai yanang, or simply yanang, its name in Laos and Thailand. Bai yanang is closely associated with the foods of Laos and the Isan culture of Thailand, where the leaves of this commonly cultivated plant are used in soups. In Vietnam, the plant is used to create a popular jelly.

False daisy: In patent application WO2011156136, Avon claims *Eclipta prostrata*, known as false daisy, as a cellulite treatment. False daisy is a native of the Americas that is widely distributed around the world. It can be considered Asian, however, because its medicinal use has mainly been developed

there. In China, its use for many health problems was advised in the manual for that country’s famous “barefoot doctors”,⁵ while it also appears in accounts of Indian traditional medicine, including use to treat skin problems.⁶

Alisma orientale: Avon has obtained exclusive rights to another Chinese plant in US patent 7,410,658, which claims use of *Alisma orientale* to treat skin problems. Known as dong fang ze xie, the plant grows on the margin of lakes and ponds in a large part of China and in some surrounding countries.

Bình vôi: In US patent 7,514,092, the company claims skin treatments using any of three Asian plants, including *Stephania rotunda*, an unusual plant cultivated in Vietnam. There it is called bình vôi, meaning “lime pot”. The name refers to the shape of the plant’s unusual tuber, which is mostly above the soil, and which resembles the shape of ceramic pots used to hold lime (for betel nut chewing). English sources sometimes give the plant’s name as “saboo leard”.

Soap nut: Also claimed in US patent 7,514,092 is *Sapindus rarak*. This species is one of several that are sometimes called “soap nut” in English. *S. rarak* is particularly well known in Indonesia, where it is called lerak. As its English name implies, the plant’s seeds produce soapy compounds and, in Indonesia, lerak is favoured for use in washing traditional batik fabrics. Like many other plants claimed by Avon, lerak is well known in Asia for traditional medicinal uses, including on the skin.

The Fountain of Youth: Asian medicinal plants in Avon products

The ingredients of Avon products were reviewed to determine how the plants that the company claims are being used. To date, five of the plants claimed in the patents and patent applications can be found in Avon’s skin care products: false daisy (*Eclipta prostrata*), elephant foot yam (*Amorphophallus campanulatus*), agati (*Sesbania grandiflora*), *Pouzolzia pentandra*⁷ and soap nut (*Sapindus rarak*). Because each plant is used in several items within an Avon skin care product line, the five plants can collectively be found in more than 24 Avon products.

Like a modern commercial version of the Fountain of Youth legend, all of the four product lines that contain the Asian plant extracts consist of items that claim to make the skin of users ap-

Plant	Related patent claim	Avon products
<i>Eclipta prostrata</i>	WO2011156136	“Anew Ultimate” and “Anew Rejuvenate” product lines
<i>Amorphophallus campanulatus</i>	US Pat 7,618,662 WO2006068777	“Anew Reversalist” products
<i>Sesbania grandiflora</i>	US Pat 7,618,662 WO2006068777	“Anew Reversalist” products
<i>Pouzolzia pentandra</i>	US Pat 7,618,662 WO2006068777	“Anew Platinum” products
<i>Sapindus rarak</i>	US Pat 7,514,092 WO2006068786	“Anew Platinum” products

pear younger. Each product line is marketed to women of a particular age range, for whom the product is allegedly specifically formulated. For example, “Anew Platinum” products are marketed to women over 60 years of age.

The company’s financial statements report all “beauty” sales together; thus, specific figures for sales of products containing the patented and patent-pending ingredients are unavailable. As they constitute a large proportion of Avon’s entire skin care offerings, however, they are likely to be a significant part of the company’s approximately \$8 billion annual beauty category sales.

Avon’s formidable marketing promotes the products as restorative of youth, with claims that can approach the absurd, such as the assertion that after using one product “75% of people felt like they had new skin overnight”.⁸

A stable of Hollywood stars makes global product endorsements – Jacqueline Bisset for the older set, Reese Witherspoon for the 30- and 40-somethings, etc. These actresses are supplemented by regionally known fashion models and celebrities who push sales at events hosted by Avon’s national sales offices. “‘I am excited to be working with Avon on the Anew Platinum Collection, as it specifically addresses the needs of women with my skincare concerns,’ reveals Jacqueline,” gushes one Avon press release, quoting the 67-year-old star of the late 1960s and 1970s.⁹

Biodiversity Convention and Nagoya Protocol implications

Where and when did Avon acquire the plants it claims, and what, if any, benefit-sharing arrangements are in place? The answers to these questions may clarify the implications of Avon’s patent claims for countries that are CBD Parties, particularly those that have joined the Nagoya Protocol

or that already have national access and benefit-sharing (ABS) laws. Unfortunately, however, there is little concrete information available.

No documentation could be located regarding any benefit-sharing agreements in relation to Avon’s patent claims, and it appears unlikely that any exist. All of the inventors in Avon’s patent claims are indicated to be at Avon’s research facility in New York. Avon’s philanthropic arm, the Avon Foundation, is exclusively focused on funding breast cancer research and programmes aimed at preventing violence against women. While worthy causes, these do not appear to have any benefit-sharing relationship with the company’s use of biodiversity, particularly considering that the Foundation’s publications do not reflect any interest in environment, biodiversity or traditional knowledge issues.

What is clear, however, is that all of the plants that Avon has claimed are native to more than one Asian country or have been long used in more than one Asian country. It is also unmistakable that in at least some cases, Avon’s use of the plants in skin care products was preceded by use of the same plants to treat skin ailments in traditional medicine. This situation is indicative of the need for a robust clearinghouse under the Nagoya Protocol and for regional cooperation when plants and knowledge about them spill over borders. For example, in the case of bai yanang, it appears that cultivation and traditional use is common in Laos, Vietnam and Thailand, and that any response to Avon’s patent application would be stronger if it included participation of more than one country.

A robust clearinghouse mechanism under the Nagoya Protocol would increase the possibility of early detection and response to cases involving genetic resources found in more than one country. For example, Avon’s use of *Eclipta prostrata* may

implicate traditional knowledge, even if the plant itself could be obtained from a variety of locations. Similarly, *Pouzolzia pentandra* is a herb that could be sourced from several countries, although traditional knowledge pertinent to Avon's use of the plant may not be held in all of those places.

Conclusion

Avon Products, Inc. is freely availing itself of Asian medicinal plants, with patents or patents pending on 16 different species at the time of writing. Five species under patent claim are already incorporated into commercialized Avon products that anchor its skin care business worldwide. The plants are found in countries across Asia and frequently have traditional use in multiple cultures. Avon's patent claims are of varying breadth and, in some cases, appear to mimic traditional uses. Because the plants and their uses are diffused through the region, cooperation among countries appears key to addressing the situation.

What can be done? Firstly, documentation of the relevant traditional medicinal uses (e.g., on the skin, in eye care) of these plants should be assembled. Most of this knowledge may be held by indigenous peoples and traditional communities and/or otherwise recorded in countries of origin. This information may be important in any discussions with the company.

Secondly, governments may ask Avon to produce documentation of where, when, and with what informed consent and benefit-sharing arrangement it has collected plants and possibly knowledge. Because the plants and knowledge are geographically dispersed, and because several patent applications claim multiple plants, this request to Avon would be most appropriately advanced by countries working in cooperation with each other. It appears likely that informed consent and benefit-sharing arrangements are inadequate, and may be non-existent.

With those facts established, the degree of Avon's respect for the CBD and pursuant national ABS legislation can be gauged. Although Avon is a US-based company (the US has not ratified the CBD), it is engaged in the skin care business through subsidiaries it controls in Asia, where all countries are CBD Parties. This business is

important for Avon. Current sales and future sales growth in Asia are critical to the company's long-term success, and this factor may be used to encourage the company to redress the present situation and to undertake to respect CBD obligations, ABS law and traditional knowledge in its future business use of plant ingredients.

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Endnotes

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