

### **Dear GP-TCM RA Members and Friends,**

Greetings from London, Mons, Shiyan and Taichung!

### Highlights of the GP-TCM RA Newsletter December 2019:

- Nature's 10, 2019
- China: 2009-2019
- 2019: a year in review
- Giving thanks in China
- 2019 Top 10 Innovations
- China' population (1949-2019)
- It's time to prepare your anti-CV
- End-of-the-year Presidential Editorial
- Highlights 2019: fresh focus on health
- A Historic Documentary on Li Shizhen
- Donkeys face worldwide existential threat
- The 54<sup>th</sup> GP-TCM RA BoD Meeting report
- Principal's Award to Professor Peter Hylands
- Horizon Europe Implementation: State of Play
- Metabolic rewiring of the hypertensive kidney
- Where are the world's best English-speakers?
- Highlights on aristolochic acid carcinogenesis
- WHO's proposal for a decade of healthy ageing
- Researchers sound alarm on European data law
- Three-dimensional genome structure of a single cell
- Health and medicine in 2019: what have we learned?
- TCM in cancer patients: Will it do more harm than good?
- Medical Ethnobotany and Ethnopharmacology of Europe
- Recent prizes and honours to TCM experts and scientists
- Prof Zhongzhen Zhao reports "Herbal Medicine in Mexico"
- Science's 2019 Science Breakthrough (and Breakdown) of the Year
- World RePORT: a database for mapping biomedical research funding
- A comprehensive assessment of universal health coverage in 111 countries
- An Overview of Machine Learning and Big Data for Drug Toxicity Evaluation
- China's State of Council guidelines on promoting the TCM heritage and innovation
- The 8th GP-TCM RA Annual Meeting will be held in Lithuania, on 8th-9th July 2020
- Monthly Chinese Materia Medica Highlights: Shan Zhu Yu (山茱萸) and Wu Zhu Yu (吴茱萸)

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Photos of London's Christmas lights are borrowed from here:

https://mp.weixin.qq.com/s/QGu4wmdSL82-SBfGXvYhdQ (中文)

We wish you merry Christmas, happy New Year and a prosperous 2020!

Best wishes,

Qihe Xu, London; Pierre Duez, Mons; Yuan-Shiun Chang, Taichung; Xuanbin Wang, Shiyan





### End-of-the-year Presidential Editorial

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### **Looking Back and Moving Forward**



Professor Aiping LU, MD PhD
President, Chairman of Board of Directors (BoD), Executive Council (ExC), GP-TCM RA
Dean and Chair Professor in Chinese Medicine
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As we embrace the joy of this festive season and get ready to usher in the New Year, it's only fitting to close out the year with a look back on some of our major achievements in 2019.

It has been a privilege for me to serve as the 4<sup>th</sup> president of GP-TCM RA since 2019. I knew I had some big shoes to fill when I took over from Dr Tai-Ping Fan. Thanks to the concerted efforts and unwavering dedication of the BoD, the ExC and our Interest Groups, as well as the ardent support of our members, the year of 2019 has been nothing short of success.

#### From 2019...

The Annual Meeting has always been the high point of the year. Following months of preparatory work, the 7<sup>th</sup> Annual Meeting, which was held in conjunction with the International Conference for Global Cooperation in Traditional Medicine and co-hosted with National Institute for Korean Medicine Development and Daegu Hanny University (DHU), came to a successful close in July. About 300 participants including research professionals and industry leaders from all over the world gathered at the beautiful campus of DHU in South Korea not only to hear exciting updates from GP-TCM RA, but also to discuss issues of common interest in multiple aspects of traditional medicine at the two-

day conference. For members of GP-TCM RA, it was both a rewarding academic gathering and a long-awaited reunion.

This year, we also saw the formation of a new Interest Group on "Good Clinical Practice Guidelines" with Vivian Wong as the Chair and Zehuai Wen as the co-chair. In line with our advocacy of high-quality evidence-based research, we have set ourselves on a mission to drive and facilitate constructive dialogue on good clinical practice, which we hope will ultimately lead to the establishment of an overarching framework for the formulation of clinical practice guidelines that are well informed by the best available evidence from both Chinese and Western medicine.

To ensure smooth operation and quality management of GP-TCM RA as

well as to protect the rights and reaffirm the responsibilities of all members, the Bylaws are reviewed from time to time. This year, relevant terms under Membership were modified. By simplifying the membership categorisation, streamlining the application procedures and waiving the membership fees for the majority, we hope to attract more members, both institutional and corporate, to further expand our global presence.



The next leap year is just around the corner. Let's head into the New Year with renewed commitment to our shared values and goals. Although substantive progress has been achieved over the years, much remains to be done. The Association will step up efforts to promote good practice in TCM research and development; address issues of concern, in particular those related to safety, quality control and regulation; and instigate the development of guidelines to provide practical and effective solutions to the identified problems.

One thing we can certainly look forward to in 2020 is the 8<sup>th</sup> Annual Meeting. This time around, it will take us to Lithuania where Vytautas Magnus University will play host to our Meeting from 8 to 9 July. I hope you are all as excited as I am. Please mark your diaries and I look forward to seeing you all soon.



### Report from GP-TCM RA

1. The 54<sup>th</sup> GP-TCM RA BoD Meeting was held on 16<sup>th</sup> Dec. 2019 as a teleconference. The meeting was attended by BoD members Aiping Lu (President & Chair), Tai-Ping Fan (Past-President/Treasurer), Clara Lau (Secretary-General), Monique Simmonds (President-Elect), Rudi Bauer, Vivian Wong, Rob Verpoorte and Qihe Xu, as well as IG chair Nicky Robinson and member of the Secretariat Grace Yue. Apologies were received from Abraham Chan, Pierre Duez, Thomas Efferth, Rong-Rong He and Min Ye. The meeting approved the minutes of the 53<sup>rd</sup> BoD meeting and received reports and updates from the Secretariat and the Treasurer, on preparation of the 8<sup>th</sup> GP-TCM RA Annual meeting in 2020 (hosted by Vytautas Magnus University, Kaunas, Lithuania), as well as on set-up of the 7<sup>th</sup> IG on Good Clinical Practice Guidelines. The matter of the hosts of the 9th GP-TCM RA Annual Meeting in 2021 will be followed up by Aiping and Taiping; the hosts of the GP-TCM GxP training course has been discussed and will be discussed further at the 8<sup>th</sup> annual meeting. The BoD agreed to the proposal of Qihe for future leadership of the GP-TCM RA Newsletters Editorial Board and the meeting was informed that abstracts of 7<sup>th</sup> Annual meeting had been published in the Dec. issue of *WJTCM*. The next BoD meeting will be held in Feb. 2020.

### **Special Features**

1. Prof Ting-Dong Zhang, Prof Chen Wang and Prof Wei-Dong Zhang, et al. received Wu Jieping Medical Awards and Medical Innovation Awards.

https://www.cn-healthcare.com/article/20191201/wap-content-526988.html (中文) https://www.360zhyx.com/home-research-index-rid-72814.shtml (中文)



2. **An introduction to Professor Liang Liu's research.** Prof. Liu is a TCM expert and has recently been elected a member of Chinese Academy of Engineering. <a href="https://wapbaike.baidu.com/item/刘良/8859774">https://wapbaike.baidu.com/item/刘良/8859774</a> (中文) <a href="https://www.must.edu.mo/en/news/30993-article11221554-e">https://www.must.edu.mo/en/news/30993-article11221554-e</a>

3. An introduction to Prof Xiaolin Tong's research. A TCM expert at China Academy of Chinese Medical Sciences, Prof Tong has recently been elected to Chinese Academy of Science. https://mp.weixin.qq.com/s/PoB95qGAPD8YwTE166J--w (中文)

4. An introduction to Professor Qi Wang's research. Prof. Wang is a TCM Grand Master and has recently been elected a member of Chinese Academy of Engineering. https://mp.weixin.gg.com/s/EcJHGChkyplhLG9n-xJ58Q (中文)







Prof Liang Liu (Left), Prof Xiaolin Tong (Middle) and Prof Qi Wang (Right)



5. 2019 TCM International Contribution Awards (S&T Progress Awards) were conferred on TCM scientists, including Prof Jiao Guo (Guangzhou), Prof Jianxun Liu (Beijing), Prof Liguo Zhu (Beijing), Prof Huan-gan Wu (Shanghai), Prof Cheng Peng (Chengdu), Prof Hongcai Shang (Beijing) and Prof Zhongzhen Zhao (Hong Kong), Dr Yongming Li (USA), et al. The awards were made at the 2<sup>nd</sup> World TCM Science & Technology Conference held in Fuzhou, China, on 7th December 2019. The meeting was under the patronage of China's State Administration of TCM and organised by the World Federation of Chinese Medical Sciences, as well as the World Federation of Acupuncture & Moxibustion.

https://mp.weixin.qq.com/s/uXPHPaB nDrA8H7Hy7HOYA (中文)





6. King's College London presents Principal's Award to Professor Peter Hylands, our late founding Treasurer. The award was presented to Peter's family by Professor Ed Byrne,



President and Principal, King's College London at Peter's Memorial Service on 9<sup>th</sup> October 2019 and was announced at The King's Awards 2019 on the evening of Thursday 21 November. The award tribute reads as follows.

"The presentation of this award is tinged with sadness as Professor Peter Hylands passed away in June this year. Peter not only developed a vision for the future of Pharmacy at King's but he also delivered it, with a good sense of humour, openness and fairness. His work ethic was second to none and made him a highly respected and influential academic.

Through the creation of the Institute of Pharmaceutical Science, to the establishment of the Pharmaceutical Sciences Clinical Academic Group, within KHP, Peter managed to integrate the core science of pharmacy with the clinical application across academic and NHS platforms. But it wasn't just Peter's expertise that made IPS a leading international research and teaching Institute It was also his drive and passion that put the institute among the top 10 world rankings.

Peter's lasting contribution reaches far beyond the university. He was a pioneer in the use of metabolomic studies of herbal products, and a true expert in his filed, filing a series of patents on the use of such technology for quality control of complex herbal products. Many of his novel ideas are now being widely adopted in China and provide a springboard for King's to foster collaborations.

More locally he forged a strong relationship between KHP NHS partner organisations and nationally, he established a centre that will address patient challenges with taking medicines. As an individual he saw the potential in others, providing encouragement and support to achieve what they themselves thought was not possible. He educated, employed and nurtured many students and a team of academics who, under his skilled leadership, are thoughtful, determined and demand the same high quality that he instilled."





7. **Herbal Medicine in Mexico** — A report from Prof Zhongzhen Zhao, Hong Kong Baptist University (Translated by Elizabeth Qi, HKBU).







The Herbal Market. After landing in the capital of Mexico City, we headed straight to the herbal market. As it was my first time in Mexico and understood no Spanish, I was grateful to our guide, Secretary-General Wang Weibo. Well versed in Spanish and Mexican culture, Wang Weibo was also the host for the Mexico conference. Also accompanying us was a former

disciple of mine, Dr. Eric Brand; he studied Spanish for three years before learning Chinese. His language skills once again became a great asset! The herbal stores were scattered about a large, free-market with temporary stalls and fixed stores. The crowds were bustling, and business was booming. Some sellers cleaned and processed their herbs while calling out into the busy market, while others sat at counters with medicine containers surrounding them. At first glance, the scene seemed chaotic, but, upon closer inspection, there did seem to be some method in the chaos.

There are three main categories for Mexican herbal medicines: crude drugs, tinctures, and volatile oils. For Mexican herbal medicine, tinctures are one of the traditional dosage forms--seeped in alcohol and taken orally. Alcohol is an excellent solvent for both fat- and water-soluble ingredients. The presence of tinctures also highlights the availability of alcohol production in Mexico. Volatile oils were dispensed in 5mL glass bottles, and there were around 100 different kinds. The crude drugs were mainly local fresh herbs such as lemongrass, basil, purslane, loquat leaves, orange leaves, valerian, cat claw grass, cactus, aloe vera, peppermint, rosemary, marigold, hibiscus, oregano, lavender, black locust, bay leaf, sage, etc.

Another type is paste made from fresh herbs for external application, using the active ingredients of fresh herbs. Among animal medicinals, there were various types of land animals and birds as well as reptiles. The most eye-catching was a rattlesnake hung high on a rack, spanning more than two meters in length. We asked the store owner and learned that rattlesnake was mostly used to treat rheumatism. In Mexico, the abundant resources of various animals such as lizards, vultures, toads, bears, deer, turtles, foxes, monkeys, cats, hummingbirds, etc. lead to their use in medicine. The fat, meat, blood, and shells could all found in remedies. Mineral medicinals such as alum, chalk, and others were also present. Mexican cuisine tends to be more flavorful, taking full advantage of the various spices. There's a common saying: Sichuan natives don't fear spicy, Hunan natives fear having no spice. However, it wasn't until we arrived in Mexico that we learned what spicy truly was. It was as though the origin of hot peppers, South and Latin America, didn't have a word for spicy because spiciness was a given. Last month, I saw the highest quality chili peppers at the World Horticultural Exposition, and now, I'm finally visiting its native soil. Among the foreign drug varieties, frankincense, myrrh, saffron, cinnamon, and borneol took up the most substantial proportion. The imported "myrrh" sold here is original, not only the pure resin but also the bark of the original tree, without adulteration. In the market, frankincense, myrrh, saffron, cinnamon, and borneol take up the largest proportion of imported medicinals. The imported myrrh sold in Mexico is the raw product the bark of the original tree without processing, not just the pure resin. There are also imported medicinals from China, such as goji berry, tea, jujube, etc. Another feature of the herbal market was how their goods could be both food and medicinals. For example, they sold many vegetables, such as fresh ginger, black radish the size of a 12 pound shot put, processed and cooked black garlic, onions, tomatoes, broadbeans, potatoes, and peppers in various colors. However, a common ingredient of a Chinese kitchen, spring onions, could not be found. A wide variety of mouthwatering fruit was also easily found, including avocado, passion fruit, guava, jackfruit, sugar apple, dragon fruit, orange, mango, fig, chayote, coconut, papaya, watermelon, apple, etc. In any small store,



Mexican specialty products line the shelves: tequila, honey, chili sauce, popcorn, ceviche, Mexicanstyle roast pork, etc.

Mexico is an important producer of cocoa with high-quality products and excellent reputation. 100% cocoa chocolate can be found here, and while it is bitter at first taste, there is something refreshing about 100% cocoa. Allegedly, in the 52<sup>nd</sup> year of Kangxi or 1713, the emperor Kangxi was the first Chinese person to have had chocolate. He had been told that the flavor would be bittersweet, and the properties were warm. After he tasted the chocolate, Kangxi wrote: There is no need to send me more. There is a possibility he had eaten something similar to the 100% cocoa chocolate I had in Mexico. Maybe if Sir Sloan's recipe of mixing cocoa with milk had arrived in China as well, chocolate might have spread through China sooner. At food stalls on the street, the plantains were completely charcoal grilled black and purple. At first glance, they looked like eggplants, but the cooked insides were sweet. On residential streets, carts with small ovens were often seen with piles of baked sweet potatoes—ah, the mouthwatering aroma follows you in every direction! In the Ming Dynasty, tobacco was introduced to China from South America. Nowadays, the most popular type of tobacco product is cigarettes. Cigars, on the other hand, seem to be more of a symbol of status, and they are smoked for appearances. The average price of a good quality cigar is about 20 US dollars. The large, most common sized ones are called cigars, while the shorter and thinner ones are referred to as cigarillos. Cigars are mainly produced in Cuba, but Cuban products cannot be directly imported to the United States. As a result, Mexico has become a transit point. The price of cigars produced locally in Mexico is much cheaper, and there are many shops that sell these cigars freshly rolled. On the streets, it is quite easy to find cigar shops with someone rolling cigars out front. Our time in Mexico was before Día de Muertos, or Day of the Dead. Therefore, the streets were filled with decorative ghouls and other delightful haunts, giving the busy market a flair of festive color.

### **Cactus and Agave**

The capital of Mexico, Mexico City, is located on a 2,200 meters high plateau. There is a legend as to why the city was established in this location. When the Aztecs, also referred to as the Mexica, were still wandering tribes, there was a prophecy that an eagle with a snake in its beak perched atop of a flowering nopales, or prickly pear cactus, would be the location of a great city. In accordance with the prophecy, the Aztecs built their city of Tenochtitlan, the predecessor of Mexico City, in 1345. The relationship between the Mexican people and cacti can be seen through such legends. In Mexico, the cactus can be found everywhere—both the actual plant as well as the image, which is also found on the Mexican flag. Cactus is used in folk medicine and is mainly used to treat mumps. I've tried it before, and the effects aren't bad. This time in Mexico, we enjoyed a cactus feast and got to enjoy the sweet, delicious cactus fruits. Cacti are native to the Americas—located in the dry arid heat of the deserts and subtropics. A few years ago, I visited Arizona which is a state in the United States adjacent to Mexico. The numerous cacti stood like a natural boundary between the two countries. Agave is also a representative plant in Mexico. Blue agave (*Agave tequilana*) is a plant that bears a resemblance to a large pineapple. The plant stands about one meter high. Other types of agave can even grow up to 3-5 meters high, seemingly to be a tree at a distance. This species is often mistaken



for cacti but is a part of the Liliceae family. Blue agave has fleshy leaves and a large core that is succulent and rich in sugars, making them ideal for producing alcohol. After the fermentation and distillation, blue agave becomes strong alcohol, better known as tequila.

Blue agave is considered to produce the highest quality tequila. Tequila has been named the national alcohol of Mexico and given the nickname of the soul of Mexico. Tequila is one of Mexico's most important



exports and an important economic pillar. Therefore, tequila is subject to strict government restrictions and protections. Generally speaking, the agave plant must be grown in Mexico for at least eight years before harvesting to guarantee the quality of the tequila. The production of tequila is also strictly managed. Only alcohol made from a specific type of agave, agave tequiliana var. azul, can be recognized as tequila. All others are not considered to be tequila.

I don't drink a lot of alcohol. Therefore, I used this opportunity in Mexico to learn more about this subject matter. Fermented alcohol, also known as brewed alcohol, is obtained by directly extracting or pressing raw materials such as grains and fruits. Beer, wine, yellow wine, rice wine, and Japanese sake are all considered brewed alcohol. Distilled spirits are obtained by first fermenting raw materials such as grains and fruits, and then distilling the fermentation several times. A common saying is that there are six distilled spirits in the world: gin, whisky, brandy, vodka, rum, and tequila. However, it sounds like they don't know much about China's distilled spirits as there is an equal and maybe even longer history and culture. Mexico has a wealth of herbal resources, and about 25% of the more than 6,000 herbs listed in local books are Mexican-specific herbs. Other than cacti and agave, many of these can only be identified up to the family. It is difficult to identify the species, and many of them have no Chinese name. Here are a few Mexican herbs:

- Chaya or tree spinach (*Cnidoscolus chayamansa*) is native to the Yucatan Peninsula. It is an analgesic with no side effects. It also promotes digestion, prevents constipation, and helps drain urine and breast milk.
- Acalypha alopecuroides is widely used in the treatment of asthma and wound healing.
- Dysphania ambrosioides is a traditional Mexican seasoning used to treat flatulence.
- Cucumber tree (*Parmentiera aculeata*) is used as a laxative and diuretic. The bark and root are beneficial to the kidneys, and its fruit is used to treat stones and problems with the urinary tract.
- Maize (*Zea mays*), or corn, can most definitely be used as a medicinal. Corn silk infused water is a good diuretic.
- Cuachalalate (Amphipryptogium adstringens) is commonly used for anti-inflammatory. Its use is very common in central and southern Mexico, especially for the treatment of gastrointestinal diseases.
- Passion fruit (*Passiflora edulis*) can be used to treat insomnia, stomach upset, anxiety, etc. The fruit is spherical and is nicknamed the king of juice. The taste might be difficult to adjust to at first. Originally produced in Mexico and the Caribbeans, passion fruit is now common in China as well.
- Lastly, achiote (*Bixa orellana*) was used by the Mayans as a dye and spice, and its seeds can be used to treat oral burns, ulcers, or papules.

#### The Native Land of Corn

Diet is closely related to the development of a culture. Chinese people often say that northern culture is based on dough while southern culture revolves around rice. However, the world's other staple

food, corn, has its humble origins in Mexico. With the first corn, this staple facilitated the development of the Mayan civilization and culture. As the ancestors of the Mexican people, the ancient Mayans had a diet of 80% corn. All of their agriculture seemed to revolve around the cultivation of corn. It can be said that corn is the cornerstone of the Mayan civilization. The Mayan people did not lack water in the summer or firewood in the winter. There was ample wood to build houses, rich fibers to weave clothes, and plentiful food resources to sustain them. As the growth cycle of corn is about 190 days, the Mayans could engage in activities outside of agriculture for about half a year.

When I planted corn back in the day, I used to count one kernel at a time. The best quality corn variety was called "大马牙", or large horse teeth. When I harvested it, I could have more than 500 kernels on an ear of corn. This time in the Universidad Nacional Autónoma de





México (UNAM) Botanical Garden in Mexico, I finally saw the native corn species from 5,000 years ago. These "corncobs" were the size of a large finger and only had about ten kernels a piece. After thousands of years of cultivation, it gradually changed into the large corncobs we know today, spreading throughout the world and helping to solve food resources. Now it has also become the main ingredient of industrial alcohol.

Being able to eat corn tortillas every day was one of the greatest pleasures of this trip to the Americas. It was much more suitable for me than any other Western-style meal. These corn tortillas were firm but chewy and had a subtly sweet flavor like the mandarin pancakes for Beijing roast duck.

#### The Castle of Herbs

Secretary-General Wang Weibo is an impressive person and always manages to procure surprises



along the way. When chatting for dinner, he mentioned that there was a castle of herbs in Mexico City and asked if I were interested. I immediately responded: Yes.

The castle of herbs, also known as the Farmacias París, is officially known as the "Paris" company. This company has 75-years of history in processing, producing, and selling traditional natural botanicals in Mexico City. The pharmacy is

located on an old street. When you look down this street, you will realize that the entire block is of old, historical buildings. As we slowly entered the building, we were immediately shocked by the sight in front of us. Pots of various fresh herbs! Did we come to the greenhouse in Harry Potter? The main building of the pharmacy was once the monastery of the 16th-century Augustinian monks. Arches, columns, fountains, and stained glass windows integrate Baroque, neoclassical, and modern style. The building itself was a museum. The office walls were painted with elegant pictures of ancient herbal medicines. The outside of the main building remains just as it has always been—impervious to the changing times.

In the 400-year-old estate, I heard 77-year-old Mr. Ignacio Merino tell stories about generations of entrepreneurship.

The founder of Farmacias París was a Spanish chemist and pharmacist at UNAM with an entrepreneurial vision. As this continued as a family business, Mr. Ignacio Merino is the second-generation owner of the family business as well as an artist specializing in photography and stage design with many works. The current head of Farmacias París is now the third generation.

Opened in 1944, this pharmacy was a company specializing in herbal and traditional medicine. Although it has experienced floods and earthquakes throughout its time, Farmacias París has never closed. As it is open for business 365 days a year, Farmacias París has gained a reputation as "the pharmacy that never closes."

The pharmacy continues using traditional selling methods. People still need to order medicinals at the counter, then go to the payment office to pay, and then return to the counter to receive their medicinal. Every day, hundreds of customers line up for long-awaited, personalized health and skin care products.

The elderly Mr. Merino accompanied us to visit his assembly line of pharmaceutical production and inspection. He also introduced us to a product called "Panpuerco", an herbal ointment made from lard for children with stomachaches. This ointment was produced in the pharmacy building we visited. In their private museums, they have accumulated hundreds of years of standard herbal formulas and physician prescriptions as well as a collection of ancient books, pharmaceutical tools, mortars,



and porcelain devices. Inside numerous glass bottles, there were specimens of animals, plants, and minerals of the time. In Farmacias París, time seems to have stopped in the 16th century. There were some beautiful herbal pictures hanging on the museum wall, which were copied from the first edition of the 1553 *Libellus de Medicinalibus Indorum Herbis*, or Little Book of Medicinal Herbs of the Indians. This book was a handbook of Aztec herbals.

Every year, the pharmacy distributes the annual calendar free of charge, including advertisements, important dates, and articles of interest to the general public. Mr. Merino also gave us with two calendars. Mr. Merino was very pleased to accept Encyclopedia of Medicinal Plants that I gifted him and even placed it in the museum's collection adjacent to the 1553 edition of the ancient herbal book. Two days later, Mr. Merino made a special trip to UNAM to participate in our academic forum and presented me with a photocopy of his family's five-year-old "Traditional Botanical Pharmacopoeia". Ignacio Merino and his Family have the earliest copies of the Mexican Pharmacopeia and Traditional Botanical Plant Encyclopedia, whose original editions were collected by the Vatican Museums and the National Museum of Anthropology in Mexico. Looking at the precious books in my hand, well, aren't these the treasures we've come to seek?

8. A Historic Documentary on Li Shizhen, the Author of Ben Cao Gang Mu. https://www.youtube.com/watch?v=hmnrqe1blio&feature=youtu.be&app=desktop

### **Pictorial Brief Meeting Reports**

<sup>4</sup>1. Health China and Academic Forum on Medicinal Botanical Garden Construction was













held in Nanning, China, on 17-21, December 2019. The meeting was attended by more than 700 delegates from 55 Chinese botanical gardens as well as experts from ASEAN and Europe. Senior GP-TCM RA Members Prof Rudolf Bauer (Graz) and Prof Zhongzhen Zhao (Hong Kong) attended the meeting as speakers. The meeting also served as the 2019 China Botanical Garden Annual Academic Conference Annual Academic Meeting of

Chinese Medicine Resources Committee, Chinese Pharmaceutical Association & Annual Working Meeting of National Technical System of China Medicinal Materials Industry.

https://live.xinhuaapp.com/xcy/reportlist.html?liveld=1576630750415861 (中文)

2. Big Bay Area International Congress on Southern Chinese Materia Medica was held in Guangzhou on 30<sup>th</sup> Nov.-2<sup>nd</sup> Dec. 2019. The meeting was attended by about 200 delegates.

https://static.nfapp.southcn.com/content/201912/02/c2857340.html (中文)









### **European Reports**

1. Rabesandratana T. Researchers sound alarm on European data law. Science 2019;366:936. For many people, the most apparent effect of the European privacy law called the General Data Protection Regulation (GDPR) has been a flourishing of website pop-ups, demanding your consent to store browsing behavior as cookies. An annoyance, perhaps, but hardly more than an inconvenience. For Francis Collins, director of the U.S. National Institutes of Health (NIH), however, the regulation has turned out to be a serious impediment to research. Since 1993, Collins has been principal investigator for a project studying type 2 diabetes in Finnish people, who have relatively homogenous genetics and detailed health records. Finland's National



Institute for Health and Welfare has sent 32,000 DNA samples to Collins's laboratory. He and his U.S. collaborators used the data to discover more than 200 places in the genome where variants increase the risk of illness. But in May 2018, when GDPR came into force, the Finnish institute stopped all data sharing on the project, because NIH could not provide guarantees that would satisfy the institute's interpretations of the law's requirements. Progress has since "slowed to a crawl," Collins says...

https://science.sciencemag.org/content/366/6468/936?utm

2. Pardo-de-Santayana M et al. **Medical Ethnobotany and Ethnopharmacology of Europe**. *Ethnopharmacology* [1-118-93074-6; 1-118-93071-1] https://doi.org/10.1002/9781118930717.ch29

3. Russel P. **UK Pharmacists Call for Clearer Regulation of Medicinal Cannabis.** *Medscape* 14 Dec. 2019. The call was based on a poll by the Association for the Cannabinoid Industry identifying lack of regulation as a major barrier to trust in the UK cannabis industry.

- 62% of UK adults were aware of CBD-based products
- 16% had bought a CBD based product
- 45% of those surveyed said they were not confident that all CBD products were labelled with the correct information and were properly tested by a regulatory authority
- 48% of people in the UK said they would be more likely to try CBD products if they could be certain that they had been produced to tight regulatory standards

https://www.medscape.com/viewarticle/922518?

4. Horizon Europe Implementation: State of Play. 26 NOV. 2019. UK Research Office. In parallel to developing the first Horizon Europe Strategic Programme, the European Commission is also making progress on the accompanying Implementation Strategy. This strategy details the way the new programme will function in practice, including information on work programmes, submission and evaluation criteria, the Model Grant Agreement (MGA), dissemination and exploitation of results, data and reporting, audits and controls as well as outreach activities.

Areas under particular consideration include the extended use of so-called 'simplified cost' models and suggested changes to the way personnel costs are recorded. The strategy also outlines further information on the digital transformation of Horizon Europe (including the role of the Participant Portal) as well as 'novelties' such as mission-oriented funding and European Partnerships. The Implementation Strategy is also expected to focus on synergies and help with simplifying international cooperation.

#### Implementation consultation and co-design

Over the summer, the European Commission launched an online consultation on the Implementation Strategy, with a report summarising the results expected to be published shortly. UKRO understands that over 1500 responses were received in response to this consultation, with a reasonable balance between types of organisations (the two largest groups of contributors being research organisations and industry). In addition, events with Member States were organised (UKRO held a large



stakeholder event jointly with BEIS in October) and the R&I days in September were also used by the Commission to discuss the strategy with experts.

### Implementation Strategy: First insights and measures under consideration

The guiding principles for the Horizon Europe Implementation Strategy are:

- · Maximising impacts;
- Easing access, greater transparency and further simplification;
- Digital transformation;
- Fostering synergies with other EU programmes.

UKRO understands that the following measures are under consideration:

**Work programmes**: The aim is to design a simpler, less complex work programme, with greater clarity on expected outcomes.

**Proposal submission and evaluation**: The aim is to request less information and allow more references to external resources, reducing the maximum proposal length. New modalities will have to be developed for mission-oriented funding and the European Innovation Council (EIC) pathfinder. UKRO understands that a Principle Investigator 'right to react' scheme, as well as anonymised first stage proposals, could be piloted in early calls of Horizon Europe.

**MGA** corporate approach and synergies: A corporate approach is being developed with a single MGA (three versions depending on the cost model used) for all EU spending programmes. UKRO understands that personnel costs are a major area for change, with a likely move from using hourly to daily rates and the option to use monthly declarations instead of timesheets. Another objective behind the corporate approach is to enable synergies between different EU funded programmes and to create conditions that allow cumulative funding on the same projects.

**Dissemination and exploitation**: The Commission is considering the use of incentives for continued reporting after the end of a project, and is also considering enhanced support in the area of dissemination and exploitation. There is also the aim to create a framework for informing evidence-based policies.

### Reports on China and China's International Cooperation

1. The Lancet. Research integrity: time for global action. Lancet 2019;394:1965. China has become a formidable global leader in scientific—including medical—research, with the world's largest publication output, a rapid surge in the number of highly cited researchers, and an increasingly unparalleled quality of scientific publications. However, there is often a shadow hanging over any country's progress, especially a nation that has advanced with spectacular velocity. China is no exception. And the current concern, escalated to the highest levels of the Chinese Government, is research integrity...

https://www.thelancet.com/journals/lancet/article/PIIS0140-6736(19)32933-2/fulltext

2. Gastel B. **Giving thanks in China**. *Science* 2019;366:1162. Golden autumn. The best time of year in Beijing. I'd just flown in from the United States to start a position teaching scientific writing in English. I hadn't been to China before, much less taught there, so I didn't know what to expect. "Will I be able to establish rapport with my students?" I wondered. "Will we communicate adequately?" At the start of my first class, I looked around at my students: 17 scientists. The year was 1983, ...https://science.sciencemag.org/content/366/6469/1162?utm

3. China' population (1949-2019)

https://www.toutiao.com/i6763495939756818958/?app=news article (中文)

4. China: What has happened between 2009 and 2019?

https://page.om.gg.com/page/OLyR8uZSvK-fVse7IgmQ4NaA0?source=omapp&ADTAG (中文)

**Acupuncture, TCM and Other Traditional Medicine** 

1. Zhan Z. Advances in Molecular authentication and Functional Genetics Research of Rehmannia Libosch. ex Fisch. et Mey (地黄). ZhongCaoYao 2019;50:5611-5620.

ie Christmas & New Year

https://mp.weixin.gq.com/s/BZELqzUeOavwvn2rCm-tAw (中文)

2. Zuo TT et al. Guideline of risk assessment of exogenous harmful residues in traditional Chinese medicines. Chinese Journal of Pharmaceutical Analysis. 2019;39(10):1902-1907. http://www.xml-data.org/ywfxzz/weixin/20191020.htm

3. Dong P. Western and Chinese Medicines as a Community. WeChat ID: cjcsmjlgpc; 15<sup>th</sup> Dec. 2019. https://mp.weixin.gq.com/s/9IM5e9ax6ux5tl6uFpmYmw (中文)

4. Gong C, Liu W. Advanced research validates classical principles—the neurobiological mechanisms involved in acupuncture for pain management. Longhua Chinese Medicine 2019;2:16. Classical acupuncture principle states that acupuncture produces a combination of local effect, distal effect and whole-body effect. How does modern science validate this combination-of-effect principle? This paper presents evidence that the effectiveness of acupuncture results from its local effect, segmental effect and general effect from a neurobiological perspective, which validates the classical principle. http://dx.doi.org/10.21037/lcm.2019.10.02

5. On 26<sup>th</sup> October 2019, China's State of Council published guidelines on labour division among ministries and stakeholders in promoting the TCM heritage and innovation. http://www.gov.cn/zhengce/2019-10/26/content 5445336.htm (中文)

6. TCM in cancer patients: Will it do more harm than good?

https://www.cn-healthcare.com/article/20191120/wap-content-526447.html (中文)

Complementary cancer therapies 'do more harm than good', *BBC*, 14 Nov. 2019.

https://www.bbc.co.uk/news/health-50409431

Some European doctors think Chinese medicine should come with a health warning, CNN, 17 Nov. 2019 <a href="https://edition.cnn.com/2019/11/16/health/traditional-chinese-medicine-facebook-intl-hnk-wellness/index.html">https://edition.cnn.com/2019/11/16/health/traditional-chinese-medicine-facebook-intl-hnk-wellness/index.html</a>

7. Lesté-Lasserre C. **Donkeys face worldwide existential threat**. *Science* 2019;366:1294-5. Over the past 6 years, Chinese traders have been buying the hides of millions of butchered donkeys from developing countries and shipping them to China, where they're



used to manufacture *ejiao*, a traditional Chinese medicine. The trade has led to an animal welfare nightmare, along with a threat to donkey populations, the severity of which is only now emerging. Without drastic measures, the number of donkeys worldwide will drop by half within 5 years, according to a recent report. The crisis threatens many of the world's rarer donkey breeds and a vital means of transport for the poor. But it is also spurring new studies of donkey biology—including how to speed their reproduction… <a href="https://science.sciencemag.org/content/366/6471/1294?utm">https://science.sciencemag.org/content/366/6471/1294?utm</a>

8. Modernization of Traditional Chinese Medicine and Materia Medica – World Science & Technology highlights aristolochic acid carcinogenesis.

- Thinking and Discussion on the Carcinogenicity of Aristolochic Acids, A Class of Compounds from Traditional Chinese Medicine: A Summary of the Presentations in the International Symposium on the Safety of Traditional Chinese Medicine
- Critical Issues in Molecular Toxicological Study of Carcinogenic Effect of Aristolochic Acid
- Research Progress on Aristolochic Acids
- Critical Issues in Molecular Toxicological Study of Carcinogenic Effect of Aristolochic Acid
- Distribution and Content of 3 Aristolochic Acids and 2 Aristololactams in Different Parts of Asarum Heterotropoides var. mandshuricum, A. sieboldii and A. sieboldii var. seoulense
- A Liquid Chromatography Tandem-Mass Spectrometry (Lc-Ms/Ms) Study of the in Vitro Formation of Presumptive Adducts of Aristolochic Acid IVa and 2'-Deoxynucleoside



- Detection of Aristolochic Acid I in Longdan Xiegan Pills by Liquid Chromatography-Mass Spectrometry
- Identifying the Constituents in Aristolochia Contorta Water Decoction by HPLC-Q-TOF/MS

http://159.226.34.103/zyyxdh/article/issue/2019 21 07

### **Omics in Progress**

1. Tan L. Three-dimensional genome structure of a single cell. Science 2019;366:964-5. Since the 1880s, scientists such as Carl Rabl have been looking at cell nuclei under a microscope and speculating about their three-dimensional (3D) structure. We now know that each nucleus in our body carries 6 billion base pairs (bp) of DNA, which would be 2 m long if fully stretched. The linear sequence



of this DNA was determined by the Human Genome Project in 2003; however, its 3D structure remains elusive... <a href="https://science.sciencemag.org/content/366/6468/964?utm">https://science.sciencemag.org/content/366/6468/964?utm</a>

2. Rinschen MM. et al. **Metabolic rewiring of the hypertensive kidney.** *Science Signaling* 2019;12:eaax9760. Multilayered omics provides an overview of hypertensive kidney damage and suggests that metabolic or dietary interventions could prevent and treat glomerular disease and hypertension-induced nephropathy. <a href="https://stke.sciencemag.org/content/12/611/eaax9760/tab-pdf">https://stke.sciencemag.org/content/12/611/eaax9760/tab-pdf</a>

3. Uhlen M et al. A genome-wide transcriptomic analysis of protein-coding genes in human blood cells. Science 2019;366: eaax9198. Uhlen et al. performed a global expression analysis of human blood cell types and integrated this data with data across all major human tissues and organs in the human protein atlas. This comprehensive compendium allows for classification of all human protein-coding genes with regard to their tissue- and cell-type distribution. https://science.sciencemag.org/content/366/6472/eaax9198?utm

### **Other Recommended Readings**

1. Lloyd-Sherlock P et al. **WHO's proposal for a decade of healthy ageing.** Lancet 2019;394:2152-3. WHO's draft proposal for a decade of healthy ageing signals an overdue scaling-up of global responses to population ageing. The proposal, however, does not go far enough to promote the integration between health services and long-term care, and could even deepen the existing division...

https://www.thelancet.com/journals/lancet/article/PIIS0140-6736(19)32522-X/fulltext?https://www.who.int/ageing/decade-of-healthy-ageing

2. Wagstaff, A et al. A comprehensive assessment of universal health coverage in 111 countries: a retrospective observational study. *The Lancet Global Health* 2019;8:e39-e49. https://www.thelancet.com/journals/langlo/article/PIIS2214-109X(19)30463-2/fulltext?

3. Adam T et al. World RePORT: a database for mapping biomedical research funding. The Lancet Global Health, 2019;8:e27-e29. In 2012, an informal group known as the Heads of International Research Organizations recognised the need for a landscape analysis tool that might help optimise and synergise their investments. The result was World RePORT (Research Portfolio Online Reporting Tools) — a searchable, open-access database of funding information, developed and managed by the US National Institutes of Health (NIH). World RePORT displays funding records, mapped to the institutions performing the research, and can display collaborations between multiple research institutions working on a single project. Where available, individual records in World RePORT contain abstract information and a link to the detailed record provided by the research funder. A keyword filter can be used to display the distribution of grants by topic... https://worldreport.nih.gov/app/#!/

4. Fairchild A et al. **Evidence, alarm, and the debate over e-cigarettes.** *Science* 2019;366: 1318-20. This is a moment for legitimate alarm at the intersection of two distressing but distinct





epidemiological patterns involving e-cigarettes ("vaping"): an increase in vaping among youth and a sudden outbreak of acute lung injuries and deaths in the United States, associated most strongly with vaping tetrahydrocannabinol (THC), the main psychoactive compound in cannabis. Discussions of vaping, however, often neglect distinctions between nicotine and THC; between adults and youth; and between products obtained through the retail and black markets. As we move to confront these challenges, we face the danger that justifiable alarm will turn alarmist, short-circuiting careful

analysis of the full range of evidence and focusing attention on the most frightening, thus enhancing the prospect of adopting counterproductive policy. We suggest that the evidence warns against prohibitionist measures. Restricting access and appeal among less harmful vaping products out of an abundance of caution while leaving deadly combustible products on the market does not protect public health. It threatens to derail a trend that could hasten the demise of cigarettes, poised to take a billion lives this century. <a href="https://science.sciencemag.org/content/366/6471/1318?utm">https://science.sciencemag.org/content/366/6471/1318?utm</a>

5. An historic account of Chinese noodle.

https://mp.weixin.qq.com/s/9AX7NZ6n-Be1vAjXwE3UoQ (中文)

6. Where are the world's best English-speakers? The Economist Dec 4th 2019.

https://www.economist.com/graphic-detail/2019/12/04/where-are-the-worlds-best-english-speakers

7. Vo AH et al. An Overview of Machine Learning and Big Data for Drug Toxicity Evaluation. Chem. Res. Toxicol. 18 Oct. 2019. Drug toxicity evaluation is an essential process of drug development as it is reportedly responsible for the attrition of approximately 30% of drug candidates. The rapid increase in the number and types of large toxicology data sets together with the advances in computational methods may be used to improve many steps in drug safety evaluation. The development of in silico models to screen and understand mechanisms of drug toxicity may be particularly beneficial in the early stages of drug development where early toxicity assessment can most reduce expenses and labor time. To facilitate this, machine learning methods have been employed to evaluate drug toxicity but are often limited by small and less diverse data sets. Recent advances in machine learning methods together with the rapid increase in big toxicity data such as molecular descriptors, toxicogenomics, and high-throughput bioactivity data may help alleviate some of the current challenges. In this article, the most common machine learning methods used in toxicity assessment are reviewed together with examples of toxicity studies that have used machine learning methodology. Furthermore, a comprehensive overview of the different types of toxicity tools and data sets available to build in silico toxicity prediction models has been provided to give an overview of the current big toxicity data landscape and highlight opportunities and challenges related to them. https://doi.org/10.1021/acs.chemrestox.9b00227

8. **2019 Top 10 Innovations**. *The Scientist* 1 Dec. 2019. From a mass photometer to improved breath biopsy probes, these new products are poised for scientific success... https://www.the-scientist.com/features/2019-top-10-innovations-66738?utm

9. Horton R. Offline: **It's time to prepare your anti-CV.** Lancet 2019;394:1976. Editors are merchants of failure. We trade in rejection. But no scientist cites rejected papers on their resumé. Perhaps they should. The anti-CV reveals opportunities won and lost, choices seized and refused. "Truth emerges more readily from error than from confusion." That was Francis Bacon (1561–1626). Or try William Whewell (1794–1866): "Every failure is a step to success." Don't be fooled by these



efforts to turn failure into triumphant success. Failure is painful. It hurts. It marginalises and excludes. It's dark. And it can feel shameful. At last week's courageous Festival of Failure, led by Colby Benari, Felipe Fouto, and the Academic Careers Office of University College London, failure was warmly embraced. https://www.thelancet.com/journals/lancet/article/PIIS0140-6736(19)32943-5/fulltext

10. **Nature's 10: Ten people who mattered in science in 2019.** Nature's 10 is the journal's annual list of ten people who mattered in science this year. They might have achieved amazing discoveries, brought attention to crucial issues, or even gained notoriety for controversial actions. Although not an award or a ranking, Nature's 10 highlights individuals who had a role in some of the year's most significant moments in science.

https://www.nature.com/immersive/d41586-019-03749-0/index.html

11. Science's 2019 Science Breakthroughs (and Breakdowns) of the Year <a href="https://vis.sciencemag.org/breakthrough2019/">https://vis.sciencemag.org/breakthrough2019/</a>
https://mp.weixin.gg.com/s/Dd2Yk5x4zTfB8IWrJsxoYQ (中文)

12. **Health and medicine in 2019: what have we learned?** *Lancet* 2019;394:2201. https://www.thelancet.com/journals/lancet/article/PIIS0140-6736(19)33138-1/fulltext

13. Palmer J. Highlights 2019: fresh focus on health. *Lancet* 2019;394:2219-36. https://www.thelancet.com/journals/lancet/article/PIIS0140-6736(19)33060-0/fulltext

14. Yaqub F. **2019:** a year in review. *Lancet* 2019;394:2215-16. https://www.thelancet.com/journals/lancet/article/PIIS0140-6736(19)33141-1/fulltext

**Invitation from Future Meetings** 

1. The 8<sup>th</sup> GP-TCM RA Annual Meeting will be held in Vytautas Magnus University, Kaunas, Lithuania, on 8<sup>th</sup>-9<sup>th</sup> July 2020.

http://www.gp-tcm.org/event/the-8th-annual-meeting-of-the-good-practice-in-traditional-chinese-medicine-research-association-gp-tcm-ra/

https://www.vdu.lt/en/vmu-will-host-the-annual-meeting-of-traditional-chinese-medicine/

2. The 20<sup>th</sup> International Congress of the International Society for Ethnopharmacology will be held in Capsis Hotel, Thessaloniki, Greece, 27-29 April 2020.

www.ethnopharmacology2020.org

3. The 6<sup>th</sup> World TCM Summer Summit will be hosted by Hong Kong Registered Chinese Medicine Practitioners Association (HKRCMP). For an introduction of HKRCMP and TCM in Hong Kong, please watch the film below.

https://drive.google.com/file/d/1KbPcYUMwS88YepXulryvfD RPmPkyx7i/view

4. 13<sup>th</sup> European Congress of Integrative Medicine announces 2020 will be held in London, UK, 11-13 September 2020. The congress will be held at the prestigious Queen Elizabeth II Centre in London, the largest dedicated conference, events and exhibition space in central London. Located less than five minutes' walk from the Houses of Parliament, the venue is perfectly positioned to house delegates from across Europe and the rest of the world. The following video gives you a good taste of the prime location <a href="https://www.ecimcongress.com/video">www.ecimcongress.com/video</a>

Organised on behalf of The European Society for Integrative Medicine and in association with the National Centre for Integrative Medicine (NCIM), The College of Medicine, the University of Southampton and the Academy of Integrative Health & Medicine (AIHM). Featuring world-class experts presenting the latest research and success stories in clinical care, alongside poster sessions and an international exhibition, the congress aims to bring together medical practitioners, healthcare professionals, scientists, researchers, therapists and healthcare politicians from across the globe. All interested parties are invited to register their interest via the website www.ecimcongress.com or by emailing the organisers at info@ecimcongress.com. For more information, please visit: www.ecimcongress.com



#### **Invitation from Journals**

1. World Journal of Traditional Chinese Medicine: Sincere invitation for submissions. World Journal of Traditional Chinese Medicine (ISSN 2311-8571, CN10-1395/R) is sponsored by WFCMS, and is the official journal of GP-TCM RA. WJTCM dedicates to report the research progress in clinical efficacy and action mechanism of TCM, Chinese materia medica, acupuncture and moxibustion to doctors and biomedical researchers around the world, so as to provide new thoughts and methods for solving complex diseases and knotty diseases. To submit your manuscripts, or to read articles in the past issues, please visit: <a href="http://www.wjtcm.net">http://www.wjtcm.net</a>

The 3rd issue 2019 of WJTCM has now been published. All WJTCM articles are published online in WJTCM website: http://www.wjtcm.net/currentissue.asp?sabs=n

2. Wang HH, Horton R. Lancet call for papers: Evaluating the progress of health research in China. Lancet 2019; 394:2135. The editors wrote: "In 2020, The Lancet will dedicate a weekly issue to document and evaluate the progress of health research in China. While we welcome submissions from China throughout the year and across all Lancetjournals, we specifically invite submissions of high-quality research from China—or from research teams working on health in China—for this issue. Submissions are invited from all aspects of health science including, but not limited to, clinical medicine, public health, global health, and health policy." https://www.thelancet.com/journals/lancet/article/PIIS0140-6736(19)32957-5/fulltext?

#### **Sounding Board:**

1. This column is reserved for comments, personal views, proposals for collaborations or any other features from our readers across the world. We look forward to hearing from you! Please get in touch with your editors: Dr Qihe Xu (qihe.xu@kcl.ac.uk), Prof Pierre Duez (pierre.duez@umons.ac.be), Prof Yuan Shiun Chang (yschang0404@gmail.com) and Prof Xuanbin Wang (459560483@gg.com).

2. Advised by Prof Zhongzhen Zhao, an Editorial Board member of our Newsletter, we have decided to highlight a couple of medicinal plants used in TCM in a new column, starting from October 2019. It will feature beautiful photos of the plants by Prof Hubiao Chen, an English introduction to the plants and its medicinal use in TCM by Prof Ping Guo, as well as Chinese poems on the plants by Prof Jiqing Liu. Please read on. The last page will be the best yet to come...





### **Monthly Chinese Materia Medica Highlights**

Cornus (*Cornus officinalis*, Cornaceae, 山茱萸, left) and evodia (*Euodia rutaecarpa*, Rutaceae, 吴茱萸, right)





The dried flesh of the ripe (red) cornus fruit and the dried nearly mature (indehiscent) evodia fruit are classic Chinese medicinals. Stabilizing and binding, cornus augments the liver and kidney. Warming the interior, evodia disperses cold, stops vomiting, alleviates pain, assists *yang*, and relieves diarrhea. In traditional Chinese medicine (TCM) practice, cornus and evodia are common ingredients of series of TCM formulations and proprietary products. Standard plantation sites have been established in order to ensure their sustainable utilization.

Attention should be paid that *Euodia rutaecarpa* (also in the variant spelling form of *Evodia rutaecarpa*) is now treated as a synonym of *Tetradium ruticarpum*. Both botanically and medicinally minded professionals need to address cases of nomenclature confusion of medicinal plants.

### 山茱萸

山深乔灌树临风 核果浆状色为红 散落人间不辞苦 一路汗水伴君行

### 吴茱萸

小乔灌木嫩枝红 蒴果略为状五棱 漫步林间鸣翠鸟 寒时未语暖香浓

The above photographs, texts and poems are contributed by Prof **Hubiao Chen** (Hong Kong), Dr **Ping Guo** (Hong Kong) and Prof **Jiqing Liu** (Shenzhen), respectively. We thank Prof. **Zhongzhen Zhao** (Hong Kong) for advising this column and thank Dr **Qihe Xu** (London) for help with editing.