

Contents of the GP-TCM RA Newsletter September 2020

• Highlights on Academic Achievements of GP-TCM RA Members

Best practice in research: Overcoming common challenges in phytopharmacological research.

• Selected Information on COVID-19

- Ethnopharmacological responses to the coronavirus disease 2019 (COVID-19) pandemic.
- Structural and functional analysis of the D614G SARS-CoV-2 spike protein variant.
- China's sci-tech week showcases innovations in COVID-19 fight.

Recommended Reading

- Effect of acupuncture in patients with irritable bowel syndrome: A randomized controlled trial.
- Depolymerization of holocellulose from Chinese herb residues by the mixture of lignin-derived deep eutectic solvent with water.

• Special Features

- Securing a strong outcome for research in the EU-UK future relationship: Reaching an agreement on UK participation in Horizon Europe.
- China releases crucial scientific problems of 2020
- Message to Editors of GP-TCM RA Newsletter: Pharmacovigilance

• Invitations from WJTCM, the Official Journal of GP-TCM RA

- Pharmacology and Toxicology of Herbal Medicine
- Systems Biology and Metabolomics of Traditional Chinese Medicine
- Processing of Chinese Medicinal Materials (Zhongyao Paozhi)
- Biosynthesis-Driven Quality Design of Materia Medica
- Qi Deficiency and Blood Stasis

• Monthly Chinese Materia Medica Highlights: Prickly waterlily and Cherokee rose

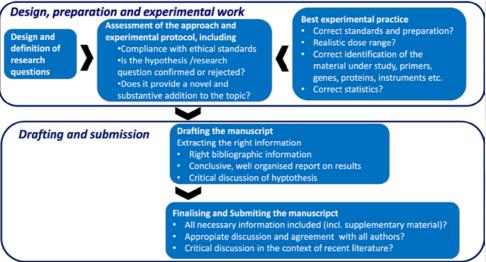
Acknowledgements: The editors would like to thank Dr Chi Zhang (Beijing), Prof Clara Lau (Hong Kong), Prof Hubiao Chen (Hong Kong), Prof Jiqing Liu (Shenzhen), Prof Michael Heinrich (London), Prof Pierre Duez (Mons), Prof Rudolf Bauer (Graz), Dr Taiping Fan (Cambridge), Prof Vivian Wong (Hong Kong), Prof Zhongzhen Zhao (Hong Kong), and the WJTCM Editorial Office (Beijing) for their great contributions.



Highlights on Academic Achievements of GP-TCM RA Members

Best practice in research – Overcoming common challenges in phytopharmacological research. *Journal of Ethnopharmacology*. 2020.





The pharmacology, toxicology and pharmacokinetics of bioactive preparations derived from natural sources has become a flourishing field of research. However, researching complex extracts and natural products faces numerous challenges. More broadly in recent years the critique of pharmacological research, and specifically its design, the methods used and reporting has intensified. This consensus document provides a perspective on what constitutes best practice in pharmacological research on bioactive preparations derived from natural sources, providing a perspective of what the leading specialist journals in the field consider as the core characteristics of good research. The editors-inchief of seven journals developed this best practice statement in an iterative process. A first draft of the guidelines (prepared by MH) was then discussed and amended by the other editors. We call for an approach which incorporates a careful design, meticulous execution and a detailed reporting of studies focusing on the pharmacology/bioactivity of bioactive preparations. Clearly testable research questions must be developed and investigated experimentally. As the founder of pharmacology Claude Bernard put it already in 1865: '.... either the experimenter's hypothesis will be disproved or it will be proved by experiment. When experiment disproves its preconceived ideas, the experimenter must discard or modify it'. Details: https://doi.org/10.1016/j.jep.2019.112230

(Corresponding author Michael Heinrich is the Head and Professor at the Centre for Pharmacognosy and Phytotherapy, UCL School of Pharmacy, London)



Selected Information on COVID-19

- 1. Ethnopharmacological responses to the coronavirus disease 2019 (COVID-19) pandemic. Coronavirus disease 2019 (COVID-19) as a pandemic has highlighted some unforeseen and tremendous challenges for our lives and individuals' survival on a global scale. It may have been foreseen from an epidemiological perspective as a risk, but the enormous medical, societal, scientific, and technical challenges have so far been beyond our imagination. Ethnopharmacology is uniquely placed to contribute to the longer-term solutions to this pandemic and help in managing the immediate effects. The medical challenges are both linked to the immediate treatment and prevention of COVID-19, but also to managing symptoms and discomforts of those affected with COVID-19. With vaccination not yet a reality, there are tasks in terms of novel antiviral treatment strategies. The numerous symptoms affecting importantly the respiratory, immune, and other systems can be treated using adjuvant therapies, and these are often based on traditional and local medical practices for similar diseases. There can be no 'traditional' medical treatment of this disease, but ethnopharmacology can contribute to novel ways to treat and support patients affected by COVID-19. Clinical research on COVID-19 is at its infancy. The pandemic has ruptured value chains, not only for industrial goods, both also for local and traditional medicines, as well as for those which have become global commodities. At the same time, the outbreak has been linked to local practices and we will need a one-health agenda to understand the causes and to contribute to the prevention of further pandemics. Ethnopharmacology is a bridge between social and the biomedical research. We need to understand what the 'general public' and professionals are currently doing to treat the disease and what consequences this has. Is there a more evidence-based use of any adjuvant therapy? How will such a therapy contribute to the management of secondary symptoms? With Frontiers' vision to continuously empower the academic community with innovative solutions, which will contribute to better lives globally, we have a particular responsibility to support evidence-based scientific approaches in all fields of research, to provide inter- and transdisciplinary solutions and to enable scientific solutions the translation of findings into for all. Details: https://www.frontiersin.org/research-topics/14125/ethnopharmacological-responsesto-the-coronavirus-disease-2019-covid-19-pandemic
- 2. Structural and functional analysis of the D614G SARS-CoV-2 spike protein variant. *Cell.* 2020. The SARS-CoV-2 spike (S) protein variant D614G supplanted the ancestral virus worldwide, reaching near fixation in a matter of months. Here we show that D614G was more infectious than the ancestral form on human lung cells,



colon cells, and on cells rendered permissive by ectopic expression of human ACE2 or of ACE2 orthologs from various mammals, including Chinese rufous horseshoe bat and Malayan pangolin. D614G did not alter S protein synthesis, processing, or incorporation into SARS-CoV-2 particles, but D614G affinity for ACE2 was reduced due to a faster dissociation rate. Assessment of the S protein trimer by cryoelectron microscopy showed that D614G disrupts an interprotomer contact, and that the conformation is shifted towards an ACE2 binding-competent state, which is modeled to be on pathway for virion membrane fusion with target cells. Consistent with this more open conformation, neutralization potency of antibodies targeting the receptor-binding domain Details: S protein was not attenuated. https://doi.org/10.1016/j.cell.2020.09.032

3. China's sci-tech week showcases innovations in COVID-19 fight. Exhibitions of the 20th National Science and Technology Week are offering the public a glance at China's innovations in the fight against COVID-19. Products, including an advanced wearable thermometer and rapid test kits for COVID-19, are being showcased at the main venue in Beijing. Visitors to the "cloud exhibition hall," launched for the first time, can see mobile makeshift hospitals, unmanned vehiclebased infrared thermal monitoring, reusable masks, and equipment for anti-virus drug research. The annual National Science and Technology Week is China's most influential science popularization event. Models of China's lunar rover Yutu, underwater glider Haiyi, and the satellite Hard X-ray Modulation Telescope are also This last until 29. on display. vear's event will Aua. Details: http://www.xinhuanet.com/english/2020-08/26/c_139319988.htm

Recommended Reading

1. Effect of acupuncture in patients with irritable bowel syndrome: A randomized controlled trial. Mayo Clinic Proceedings. 2020. Objective: To evaluate the effect and safety of acupuncture for the treatment of irritable bowel syndrome (IBS) through comparisons with those of polyethylene glycol (PEG) 4000 and pinaverium bromide. Patients and Methods: This multicenter randomized controlled trial was conducted at 7 hospitals in China and enrolled participants who met the Rome III diagnostic criteria for IBS between May 3, 2015, and June 29, 2018. Participants were first stratified into constipationpredominant or diarrhea-predominant IBS group. Participants in each group were randomly assigned in a 2:1 ratio to receive acupuncture (18 sessions) or PEG 4000 (20 g/d, for IBS-C)/pinaverium bromide (150 mg/d, for IBS-D) over a 6-week period, followed by a 12-week follow-up. The primary outcome was change in total IBS-Symptom Severity Score from baseline to week 6. Results: Of 531 patients with IBS who were randomized, 519 (344 in the acupuncture group and 175 in the PEG 4000/ pinaverium bromide group) were included in



the full analysis set. From baseline to 6 weeks, the total IBS-Symptom Severity Score decreased by 123.51 (95% CI, 116.61 to 130.42) in the acupuncture group and 94.73 (95% CI, 85.03 to 104.43) in the PEG 4000/pinaverium bromide group. The between-group difference was 28.78 (95% CI, 16.84 to 40.72; P<.001). No participant experienced severe adverse effects. Conclusion: Acupuncture may be more effective than PEG 4000 or pinaverium bromide for the treatment of IBS, with effects lasting up to 12 weeks. Details: https://doi.org/10.1016/j.mayocp.2020.01.042

2. Depolymerization of holocellulose from Chinese herb residues by the mixture of lignin-derived deep eutectic solvent with water. Carbohydrate Polymers. 2020. The depolymerization of biomass carbohydrate polymers usually happened in homogeneous medium, just a few in heterogeneous solution. Herein, holocellulose from two Chinese herb residues Cortex albiziae (HRCA) and Heteropogon contortus (HRHC) was prepared and characterized. Deep eutectic solvent (DES) of choline chloride/p-coumaric acid collaborating with water was employed for the dissociation of those two holocelluloses and selectively dissolved hemicellulose into xylose with maximal yields of 81.50 % and 72.47 %, respectively. Most cellulose remained as the polymer state with a maximum solubility of 9.38 %. The synergistic action of DES and water was investigated to unveil the depolymerization mechanism and the roles of each component in depolymerizing procedure. It was water that released hemicellulose polymers and dissolved polymers to soluble short oligosaccharides, and DES rapidly cleaved the latter to xylose. Contrarily, DES broke cellulose to only soluble cello-oligosaccharides, but water exhibited the ability to hydrolyze cellulose to glucose. Details: https://doi.org/10.1016/j.carbpol.2020.116793

Special Features

1. Securing a strong outcome for research in the EU-UK future relationship: Reaching an agreement on UK participation in Horizon Europe. The EU and UK have been discussing UK participation in Union Programmes, including Horizon Europe, as part of the negotiations on a future EU-UK relationship. It is encouraging that both sides have committed to the principle of UK participation in their mandates, recognising that collaboration between the UK and the EU in the framework programmes strengthens our ability to tackle shared challenges, such as cancer and climate change. It is vital that this commitment now translates quickly into an agreement on the terms of participation. Horizon Europe association should be a core part of the future relationship between the EU and the UK for



research, underpinning valuable scientific partnerships that have been built up over many years. We have all reaped the health benefits of these collaborations. Clinical trials, particularly on diseases with limited patient populations, are reliant on EU-UK collaboration, while close research partnerships continue to accelerate life-changing medical research. Our ability to respond to the threat of climate change and outbreaks of new diseases like Covid-19 has also been greatly improved by close scientific and clinical partnerships across Europe. Knowledge and discovery do not stop at borders, and the shared global challenges we face require joint solutions. Collaboration through the research framework programmes is a springboard to productive partnerships across the world. We owe it to future generations in the UK, the EU and beyond to ensure that the new EU-UK relationship best serves them through research. For more information, please visit wellcome.ac.uk/sites/default/files/reaching-agreement-uk-participationhorizon-europe.pdf.

- 2. China releases crucial scientific problems of 2020 China Association for Science and Technology (CAST) released 20 crucial scientific and engineering problems that are key to technological and industrial innovation. The problems were released during the association's annual meeting that concluded in Qingdao, east China's Shandong Province, on Saturday. Covering 12 scientific fields such as life science, mathematics, medical health, ecology and information technology, the problems include "ecological cross-species transmission," "how will mechanism of coronavirus gravitational waves reveal the secrets of the universe," and "new approaches and techniques of novel immune cells in tumor therapy," among others. Raising crucial scientific problems is of great strategic significance in building a country of technological power, said Du Xiangwan, an academician of the Chinese Academy of Engineering. Since 2018, the CAST has solicited and published 100 major scientific and engineering problems. For more http://www.xinhuanet.com/english/2020information, please visit 08/16/c 139293432.htm
- 3. Message to Editors of GP-TCM RA Newsletter: Pharmacovigilance (From: Dr Graeme Ladds, B.Sc (Hons), PhD, MTOPRA, DIA, RQA, IOD. Direct phone line: +44 (0) 1483 212155; Reception: +44 (0)1483 212150; Email: graemeladds@pharsafer.com) I would like to put forward myself and my education and career in Pharmacovigilance which is one of those areas within Pharma that can be overlooked until it becomes an issue. Now it has become one of those areas Companies cannot ignore. For more regulatory and PharSafer news, please visit www.pharsafer.com.



Invitation from the Official Journal of GP-TCM RA

1. WJTCM Call for papers: Pharmacology and Toxicology of Herbal Medicine.

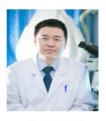


Special Issue on Pharmacology and Toxicology of Herbal Medicine





Guest Editor Prof. Hongxi Xu



Guest Editor Prof. Xuanbin Wang



Guest Editor Prof. Pulok Kumar Mukhrjee

The special issue on *Pharmacology and Toxicology of Herbal Medicine* focuses on the biological effects and mechanisms of herbal medicine. It has a broad scope, covering basic research to clinical studies regarding pharmacology and toxicology.

We cordially invite researchers and experts to contribute original research articles as well as reviews on pharmacology and toxicology of herbal medicine.

Potential topics include but are not limited to:

- a. Bioactive principles from herbal medicine,
- b. Biological, pharmacological activities and mechanisms of herbal medicine,
- c. Genomics, proteomics, metabolomics, pharmacoinformatics studies on herbal medicine,
- d. Toxicology of herbal medicine.

Authors can follow the author instructions and submit their manuscripts via the Manuscript System at: https://mc03.manuscriptcentral.com/wjtcm

Guest Editors

Hongxi Xu Ph.D, Professor Dean, School of Pharmacy Shanghai University of Traditional Chinese Medicine, China E-mail: xuhongxi88@gmail.com

Xuanbin Wang

Ph.D, Professor Renmin Hospital Hubei University of Medicine, China E-mail: wangxb@hbmu.edu.cn

Pulok Kumar Mukhrjee Ph.D, Professor School of Natural Product Studies Jadavpur University, Kolkata, India E-mail: pulokm@gmail.com

Deadline for submission January 30, 2021

Intended publication date April 30, 2021



2. WJTCM Call for papers: Systems Biology and Metabolomics of Traditional Chinese Medicine



Special Issue on

Systems Biology and Metabolomics of Traditional Chinese Medicine





Guest Editor Prof. Xi-jun Wang



Guest Editor Prof. Hai-tao Lu



Guest Editor Prof. Toshiaki Makino

Traditional Chinese Medicines (TCMs) are evidenced to confer therapeutic actions by largely interacting with dysregulated multi-layers molecules that underlie diseases, which can be defined as the holistic characteristics of TCMs to treat different diseases.

The fact is that systems biology, and metabolomics have the robust-capacity to better understand the holistic characteristics by globally deciphering the complex interactions between TCMs and diseases associated with dysregulated molecules. Currently, they are widely used to address many key questions in TCMs involving chemical characterization, therapeutic efficacy, toxicology and metabolic features, etc.

We invite the scholars in the niches to contribute research articles, reviews, and perspectives to this special issue.

Potential topics include but are not limited to: a. metabolomics of TCMs b. multiple omics of TCMs c. network pharmacology of TCMs d. systems biology of TCMs

Authors can submit their manuscripts via the Manuscript System at <u>https://mc03.manuscriptcentral.com/wjtem</u>

Guest Editors

Xi-jun Wang Ph.D., Professor Heilongjiang University of Chinese Medicine, China E-mail: <u>xijunw@sina.com</u>

Hai-tao Lu Ph.D., Professor Shanghai Jiao Tong University, China E-mail: <u>haitao.lu@sjtu.edu.cn</u>

Toshiaki Makino Ph.D., Professor Nagoya City University, Japan E-mail: <u>makino@phar.nagoya-cu.ac.jp</u>

Deadline for submission May. 30, 2021

Intended publication date October 30, 2021



3. WJTCM Call for papers: Processing of Chinese Medicinal Materials (Zhongyao Paozhi)



Special Issue on Processing of Chinese Medicinal Materials (Zhongyao Paozhi)





Guest Editor Prof. Tu-lin Lu



Guest Editor Prof. Zhi-ling Yu



Guest Editor Prof. Yuan-shiun Chang

Guest Editors

Tu-lin Lu Ph.D, Professor Departmnet:Nanjng University of Chinese Medicine e-mail:lutuling2005@126.com

Zhi-ling Yu Ph.D, Professor School of Chinese Medicine, Hong Kong **Baptist University** zlyu@hkbu.edu.hk

Yuan-Shiun Chang Ph.D., Professor College of Chinese Medicine, China Medical University yschang@mail.cmu.edu.tw

Deadline for submission October 30, 2020

Intended publication date December 25, 2020

In traditional Chinese medicine (TCM) practice, one of the distinctive features is the use of processed Chinese medicinal materials (Yinpian). It is Zhongyao Paozhi, a unique pharmaceutical technique, that transforms raw Chinese medical materials into Yinpian. Zhongyao Paozhi plays a pivotal role in guaranteeing the clinical efficacy and safety of TCM therapies.

We invite researchers home and abroad to contribute original research articles as well as reviews on the topic of Zhongyao Paozhi.

Potential topics include but are not limited to:

- a. Scientific basis of Zhongyao Paozhi.
- b. Intelligentization of Zhongyao Paozhi.
- c. Techniques of Zhongyao Paozhi.
- d. Quality standards of adjuvant materials for Zhongyao Paozhi.
- e. Quality markers of Yinpian.
- f. Quality standards of Yinpian.

Authors can follow the author instructions and submit their the manuscripts via Manuscript System at: https://mc03.manuscriptcentral.com/wjtcm.



4. WJTCM Call for papers: Biosynthesis-Driven Quality Design of Materia Medica

World Journal of Traditional Chinese Medicine (WJTCM)

The official journal of WFCMS and GP-TCM

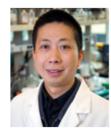


Special Issue on

Biosynthesis-Driven Quality Design of Materia Medica



Guest Editor Prof. Wan-Sheng Chen



Guest Editor Prof. Ji-Xun Zhan

Biosynthesis and metabolic engineering together with molecular breeding provides an attractive approach to enhance the yield of effective components in medicinal plants and thus to improve or design the quality of Chinese Materia Medica, which is a great motivation for the sustainable development of the entire supply chain of traditional Chinese medicines.

We invite researchers home and abroad to contribute original research articles as well as reviews on the topic of biosynthesis-driven quality design of Chinese Materia Medica and other herbs.

Potential topics include but not limited to:

a. Elucidation and mapping of biosynthetic pathways of the effective components.

b. Metabolic engineering or regulation for the improvement of herbal quality.

c. Progress in understanding the biosynthesis of effective components.

d. Application of molecular breeding technology to medicinal plants.

Authors can submit their manuscripts via the Manuscript System at https://mc03.manuscriptcentral.com/wjtcm.



Guest Editor Prof. Shu-Juan Zhao

Guest Editors

Wan-Sheng Chen Ph.D, Professor chenwansheng@smmu.edu.cn Changzheng hospital, Second Military Medical University

Ji-Xun Zhan Ph.D, Professor jixun.zhan@usu.edu Department of Biological Engineering, College of Engineering, Utah State University

Shu-Juan Zhao Ph.D, Professor zhaoshujuan@shutcm.edu.cn Institute of Chinese Materia Medica, Shanghai University of Traditional Chinese Medicine

Manuscript Due Date March 30, 2021

Intended Publication Date June 25, 2021

.....



5. WJTCM Call for papers: Qi Deficiency and Blood Stasis

World Journal of Traditional Chinese Medicine (WJTCM)

The official journal of WFCMS and GP-TCM



Special Issue on Qi Deficiency and Blood Stasis





Guest Editor Prof. Jing-Yan Han



Prof. Jian-Xun Liu



Guest Editor Prof. Jing-Yuan Mao



Guest Editor Prof. Ming-Jun Zhu

Guest Editors

Qi deficiency and blood stasis is a common feature in coronary heart disease, cardiac hypertrophy, myocardial ischemia-reperfusion injury and heart failure, for which there is a lack of effective prevention and treatment methods in modern medicine. Some traditional Chinese medicine (TCM) has shown beneficial effect on heart diseases in clinic, and increasing clinical and basic studies have been carried out devoting to the mechanism behand these medicines, particularly focusing on their potential of tonifying Qi and promoting blood circulation, as well as the scientific essence of the Qi deficiency and Blood Stasis. In order to exchange the latest research results in this field, we have organized special issues of Qi deficiency and blood stasis, tonifying Qi and promoting blood circulation. Experts from this field are welcome to contribute original research articles or reviews.

Potential topics include but not limit to:

a. Reviews on Qi deficiency and blood stasis, tonifying Qi and promoting blood circulation

b. Clinical studies regarding Qi deficiency and blood stasis and tonifying Qi and promoting blood circulation

c. Basic studies regarding Qi deficiency and Blood Stasis and tonifying Qi and promoting blood circulation

d. Pharmacological mechanisms of tonifying Qi and promoting blood circulation

Authors can submit their manuscripts via the Manuscript System at https://mc03.manuscriptcentral.com/wjtcm.

Jing-Yan Han

Ph.D, Professor Department of integrative Chinese and western medicine, Peking University E-mail: <u>hanjingyan@bjmu.edu.cn</u>

Jian-Xun Liu Ph.D, Professor

Xiyuan hospital, China academy of Chinese medical sciences E-mail: <u>liujx0324@sina.com</u>

Jing-Yuan Mao Ph.D, Professor First teaching hospital of Tianjin university of TCM E-mail: jymao@126.com

Ming-Jun Zhu Ph.D, Professor The first affiliated hospital of Henan university of TCM E-mail: <u>zhumingjun317@163.com</u>

Accept submission date: July. 30, 2020-July, 25, 2021



Monthly Chinese Materia Medica Highlights

Prickly waterlily (*Euryale ferox,* Nymphaeaceae, 芡实, left) and Cherokee rose (*Rosa laevigata,* Rosaceae, 金樱子, right)



In Chinese *materia medica*, the dried mature seed of *Euryale ferox* (euryales semen, *qianshi*) and the dried mature fruit of *Rosa laevigata* (rosae laevigatae fructus, *jinyingzi*) are common Chinese medicinals that stabilize and bind. Euryales semen tonifies the kidney, secures essence, strengthens the spleen, stops diarrhea, dispels dampness, and relieves vaginal discharge. Rosae laevigatae fructus secures essence, reduces urination, astringes intestines, and stops diarrhea. The combination of euryales semen and rosae laevigatae fructus is well known in Chinese herbal medicine as Water and Earth Immortals Special Pills (水陆二仙丹), and is indicated for patients with spermatorrhea or leukorrhea due to kidney deficiency. The name of this formula is based on the fact that prickly waterlily grows in ponds and lakes while Cherokee rose grows on land.

In addition, prickly waterlily seeds and Cherokee rosehips are useful materials in wine and food industries.

> **芡实** 一方绿叶水间生 南北东西未止行 男女常邀家作客 细微之处见真情

金樱子 蔓藤花白话金樱 果实红黄倒卵生 入药何需分男女 同为阻液外循行

The above colour photographs, English texts and Chinese poems are contributed by Prof **Hubiao Chen** (Hong Kong), Dr **Ping Guo** (Hong Kong) and Prof **Jiqing Liu** (Shenzhen), respectively. This column is advised by Prof **Zhongzhen Zhao** (Hong Kong). This is the 12th issue of Monthly Chinese Materia Medica Highlights that prickly waterlily and Cherokee rose are serving as the 1 year anniversary Chinese medicinal plants of this column.

Open-access archives since 2008: www.gp-tcm.org/news-list