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PHYLOGENETIC EXPLORATION OF TRADITIONAL CHINESE MEDICINAL PLANTS: A CASE STUDY ON LAMIACEAE

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Abstract

Lamiaceae (Labiatae) are one of the most important medicinal plant families having a wide variety of plants with traditional medicinal uses. The medicinal species of Lamiaceae are mainly used for musculoskeletal, skin, circulatory and digestive disorders in traditional Chinese medicines (TCMs). The purpose of this study was to provide a phylogenetic exploration of traditionally used medicinal taxa of Lamiaceae as a roadmap to predict potential medicinal plants from this family for future bioprospecting. We collected data of Lamiaceae TCM plants from local pharmacopeias with traditional medicinal uses and phytochemical information. The data were examined through phylogenetic approaches i.e. nearest taxon index (NTI) and net related index (NRI) to find clustering and overdispersion of TCM plants of Lamiaceae. In addition, we used hot node analysis to identify overrepresentation among lineages against different disorders that possess high priority for further phytochemical and pharmacological investigation. The phylogenetic patterns were examined for the traditional uses of 345 species belonging to 77 Lamiaceae genera in nine medicinal categories. Overall, most of the medicinal uses showed clustered structure on the phylogeny of TCM plants of Lamiaceae (NRI and NTI > 1). Of all the nine medicinal usage categories, the NRI matrix identified only two significant clusterings with $p<0.05$ for urinary and reproductive disorders. In total of 488 hot nodes that are significantly overabundant in species are used to treat different disorders. The highest number of hot nodes recovered was 191 for reproductive disorder, of these 138 species were reported to be potential novel species. The majority of new potential species were reported from *Ajuga*, *Elsholtzia* and *Salvia.* These results strongly indicate the independent discovery of plant usages in the light of phylogenetic exploration. We concluded that phylogenetic approaches could focus on screening efforts of taxonomic groups containing traditionally used species with abundant therapeutic compounds for the discovery of alternative/complementary medicines. The phylogeny-based study, after further refinement, will expand the horizon of medicinal plant exploration of plant-based bioactive compounds.

Key words: Bioprospecting, Hot nodes, Lamiaceae, Phylogeny, TCM plants.

Introduction

China is considerably rich in plant diversity. Flora of China harbors more than 30,000 species of vascular plants representing about one-tenth of the total world floral diversity (Wu *et al.,* 1994-2013). Among 34 global biodiversity hotspots recognized by Conservation International, four either intersect with or are located in China (Huang *et al.,* 2011). About 15,000 species are estimated to be endemic to China and around 11,000 medicinal plants are used for various ailments and disorders in TCM (Hamilton, 2004). TCM, as a complete therapeutic system, originated in ancient China over 2,000 years ago (Singh *et al.,* 2020). It is one of the enriched traditional systems, which includes 187,518 home-manufactured drugs, 8,492 imported drugs and 1,489 patent-protected products of traditional herbal medicines available in the pharmaceutical market. In addition, its 8,409 drug candidates are now undergoing clinical trials in China (Pan *et al.,* 2013). The applications of TCM had been well documented in classical books "Inner Canon of the Yellow Emperor" (Huang Di Nei Jing, 26 BCE) and "Compendium of Materia Medica" (Ben Cao Gang Mu, compiled by Li Shizhen in AD 1590) that described more than 1,000 plant species. TCMs are getting progressively well known in the modern world. Various modern drugs are derived from TCM plants such as artemisinin from *Artemisia annua* L. as a potential antimalarial drug (Tu, 2011), whose founder was awarded Nobel Prize (2015) in the field of medicine (Normile, 2015). Additionally, Huperzine A used against Alzheimer's disease, Ephedrine for cold and Camptothecin against cancer are derived from *Huperzia serrata* (Thunb. ex Murray) Trev., *Ephedra sinica* Stapf and *Camptotheca acuminata* Decne., respectively (Yang *et al.,* 2016). During the latest pandemic of COVID-19, 125 Chinese herbal medicines have been screened and found for direct protein interaction with COVID-19 patients (Zhang *et al.,* 2020). Given the great potential of TCM in health care, the demand for TCM plants is increasing day by day. A serious threat to TCM plants is the loss of traditional knowledge and slow discovery of TCM plants. There is a dire need for the exploration of new potential TCM plants through cost-effective tools such as phylogenetic analysis.

In phylogenetic studies, the evolutionary history and relationships among closely or distantly related species can be elucidated. Phylogenetic approaches based on molecular data also proved to be beneficial for biogeographical (Donoghue, 2008), ecological (Strauss *et al.,* 2006), developmental (Arthur, 2002), chemical (Wink, 2003), and epidemiological (Rambaut *et al.,* 2001) studies. Phylogenetic reconstruction of medicinal plants revealed that some plant genera are more randomly used for medicinal purposes, and

there is a degree of consistency in those genera between different usages (Molander *et al.,* 2012; Saslis-Lagoudakis *et al.,* 2011). By combining phytochemicals and plant uses with wide distribution, one can examine diverse phylogenetic patterns in ethnobotany to predict hot nodes of medicinal plants, such as clustering of closely related lineages (Saslis-Lagoudakis *et al.,* 2011). Previous studies screened entire national or regional floras to predict medicinal plants and their ethnobotanical uses (Saslis-Lagoudakis *et al.,* 2012; Saslis-Lagoudakis *et al.,* 2011). However, more selective approaches lead to selective discoveries such as analysis of TCM plant at intra-familial level for a specific region with their considerable knowledge of usage for medicinal purposes and phytochemicals (Halse-Gramkow *et al.,* 2016). As a result, the closely related species of TCM plants should be shortlisted for further chemical and pharmacological investigations (Saslis-Lagoudakis *et al.,* 2012). The advantage of the phylogenetic approach is to facilitate bioprospecting in order to discover more medicinal compounds with minimum expenses and time. In addition, phylogenetic patterns can enrich our understanding of traditional uses of specific plant families within specific regions. For this purpose, we selected well-known medicinal plant family, Lamiaceae to examine the TCM plants' utility against nine disorders.

Lamiaceae are a well-known medicinal plant family with a wide variety of taxa having traditional medicinal uses (Shinwari *et al.,* 2013; Mamadalieva *et al.,* 2017; Uritu *et al.,* 2018). It is one of the largest angiosperm families with approximately 240 genera and ~7,000 species around the world (Napoli *et al.,* 2020). Species of Lamiaceae are distributed from lower to higher altitudes in a diverse range of habitats from Hawaii to North-Eastern Asia, Himalayas to North pole, Australia, Africa and America (Erdem *et al.,* 2017). In China, species of Lamiaceae have been reported to be used as TCM plants against different disorders such as cardiovascular, hepatic, and digestive disorders (China National Traditional Chinese Medicine Corporation, 1994). Several species of this family are officially included in the Chinese Pharmacopeia such as *Salvia miltiorrhiza* Bunge (Red Sage, known as Danshen in Chinese) famous for dispelling stasis and relieving pain, activating blood and freeing channels, clearing away heart-fire and eliminating vexation (Li *et al.,* 2013). Leaves of *Salvia officinalis* L. are traditionally used to treat tonsillitis and hypertension through Chinese brewed tea (Sim *et al.,* 2019). *Scutellaria baicalensis* Georgi, commonly called Huangqin, is a medicinal plant frequently used in TCM formulas (Zhao *et al.,* 2019). Rich chemical compositions such as terpenoids, flavonoids, polypropanoids, and iridoids play crucial roles in treating various disorders (Lichman *et al.,* 2020). Therefore, this family is a potential candidate to investigate the medicinal values (such as uses and phytochemicals) in plants which may help to narrow down our search for more TCM plants. The phylogenetic exploration of the family Lamiaceae and their traditional uses can lead to the discovery of new potential TCM plants (Zahra, 2016). Our objectives for this study are: (1) to make a comprehensive database of TCM plant species of Lamiaceae, and selection of TCM plants against specific disorder, (2) to examine the phylogenetic pattern of TCM plants in Lamiaceae and generate predictions of specific lineages useful against specific disorder, and (3) to reveal baseline data on the utility of phylogeny-based research and TCM plants of Lamiaceae.

Materials and Methods

Collection of TCM plants: We compiled a list of TCM plants along with traditional uses and phytochemical data of the family Lamiaceae. TCMs are a large group of plants used in different medicinal practices originated in ancient China. In this study, we define the TCM plant as a species recorded in literature with written traditional practices in China. We performed a literature survey and examined local pharmacopeias to document TCM plants of Lamiaceae with traditional uses (China National Traditional Chinese Medicine Corporation, 1994; Duke, 2000). The plant names were standardized according to *Flora of China* (Wu *et al.,* 1994-2013) and synonyms were replaced with accepted formal names. Thereafter, we classified all traditional uses into nine categories based on their therapeutic uses against disorders of different organ systems (see Table S1 at the end). Subsequently, we conducted an extensive literature survey to search phytochemicals from research articles, online databases and books at the genus level (see Table S2 at the end). These phytochemicals were categorized into six structural classes based on their representative groups like flavonoids, steroids, alkaloids, terpenes, etc. following Huang *et al.,* (2016) and Liu (2013) with some modifications. Finally, datasets with accepted names, traditional uses and phytochemical records were composed for further analysis following Halse-Gramkow *et al.* (2016), Saslis-Lagoudakis *et al.* (2012), Yessoufou *et al.* (2015) with slight modifications.

Phylogenetic tree of Lamiaceae: Phylogenetic tree of Lamiaceae was retrieved from the tree of life of China that consists of 14,878 species from 2,953 genera representing 273 families based on a dataset of 5 genes (*rbcL*, *matK*, *matR*, *ndhF*, *atpB*), which covered more than 95% of vascular plant genera indigenous to China (Hu *et al.,* 2020). We used 'V.Phylomaker' package (Jin & Qian, 2019) in R to generate a species-level phylogenetic tree of Lamiaceae, which also includes the species not sampled in the tree of life of China. Eventually, our study encompassed a total of 1,001 species belonging to 103 genera of the family Lamiaceae indigenous to China.

Phylogenetic analysis: To examine the phylogenetic signal, we used two metrics i.e. NRI and NTI (Webb *et al.,* 2002) adjusted in the R package 'picante' (Kembel *et al.,* 2010). NRI expresses the distribution of traits (traditional uses in this study) against the root of the phylogeny, whereas NTI characterizes patterns against the tips. In the present study, positive values of both metrics reveal that closely related species share similar uses i.e. phylogenetic clustering, while negative values demonstrate an equal scattering along the phylogeny. The significance of NRI and NTI was evaluated by measuring the recognized pattern against the assumed following 1,000 iterations (Yessoufou *et al.,* 2015). NRI can be determined by executing the following formula:

$$NRI=[-1(MPD_{obs}-MPD_{null})/sdMPD_{null}]$$

Where mean phylogenetic distance (MPD) indicates mean pairwise phylogenetic distance between all species, and MPD_{obs} reveals observed MPD, while MPD_{null} shows expected MPD of randomized communities, and $sdMPD_{null}$ reflects standard deviation of the MPD for the randomized groups. NTI can be calculated by using the formula:

$$NTI=[-1(MNTD_{obs}-MNTD_{null})/sdMNTD_{null}]$$

Where mean nearest taxon index (MNTD) shows mean pairwise phylogenetic distance between all species, and $MNTD_{obs}$ stands for the observed MNTD, while $MNTD_{null}$ reveals expected MNTD of randomized communities, and $sdMNTD_{null}$ reflects standard deviation of the MNTD for the randomized groups (Qian & Sandel, 2017).

Predicting hot node species: The hot node analysis was performed to identify the position of phylogenetic clustering of different traditional uses. The nodes that are overrepresented with traditional use were compared to other lineages. We identified the hot nodes by executing the "nodesig" command in Phylocom v4.2 (Webb *et al.,* 2008). In order to confirm that 'hot nodes' limit our search for other potential novel TCM plants with medicinal properties in Lamiaceae, we only considered nodes that included up to 100 species. The purpose was to highlight lineages of hot nodes that can be more specific and informative for bioprospecting because large clades with too many taxa would make the search laborious and costly (Halse-Gramkow *et al.,* 2016). For example, if a lineage is overrepresented by traditional uses (e.g. circulatory disorder) it would be certain that other lineages will share this property with closely related species (Halse-Gramkow *et al.,* 2016).

Results

Traditional uses of Lamiaceae: We collected traditional uses of 345 species belonging to 77 genera of Lamiaceae in nine medicinal usage categories (see Table S1 at the end). Consistent with the usual cognition, the genus *Salvia* L. with 115 traditional medicinal uses was among the most widely used genus in the family, followed by *Isodon* (Schrad. ex Benth.) Spach with 108 uses. Categories included musculoskeletal disorders with the highest number of species (17.27%), followed by skin disorders (14.42%), circulatory and digestive disorders (12.26% each), and hepatic disorders (11.95%). The lowest number of TCM plants was reported for urinary disorders (4.93%). Among all species, *Clerodendrum cyrtophyllum* Turcz. and *Salvia plebeia* R. Br. were used for all nine categories. Our findings revealed that *Perilla frutescens* (L.) Britt. and *Pogostemon cablin* (Blanco) Benth., were rich in all common types of phytochemicals such as including alkaloids, flavonoids and terpenes. Besides these, the phytochemical data showed that the species of Lamiaceae were rich in terpenes that are used for the cure of various disorders with special emphasis on musculoskeletal disorders (see Table S2 at the end).

Phylogenetic structure: The assessment of phylogenetic structure recovered with MNTD and MPD tool is shown in Table 1. Overall, the majority of traditional medicinal uses showed a clustered structure for the phylogeny of Lamiaceae TCM plants (NRI and NTI > 1). Of all the nine medicinal usage categories, the NRI matrix identified only two significant clusterings with $p<0.05$ for urinary (NRI = 2.31) and reproductive disorders (NRI=1.8). Using the NTI matrix, we found significant clustering ($p<0.05$) for four disorders (musculoskeletal, hepatic, otorhinolaryngology, and urinary disorders) with NTI values 2.99, 2.39, 2.12, 1.80, respectively.

Roadmap for the bioprospecting of medicinal uses: The result of nodesig analysis for predicting future potential bioprospecting species was showed in Fig. 1. For all plant uses in general, the hot nodes identified 488 species out of 1,001 species belonging to 103 genera of Lamiaceae indigenous to China. The majority of hot nodes with few exceptions were located in the clade of genera *Ajuga* L., *Amethystea* L., *Caryopteris* Bunge, *Clerodendrum* L., *Elsholtzia* Willd., *Gmelina* L., *Kinostemon* Kudo, *Mosla* Buch.-Ham. ex Benth., *Rubiteucris* Kudo, *Schnabelia* Hand.-Mazz. and *Teucrium* L.

Table 1. Phylogenetic clustering of TCM plants used for nine disorders in the family Lamiaceae. The NRI and NTI were obtained by multiplying "ses.mpd" and "ses.mntd" values by -1 using the function of the 'picante' package in R.

Category	NRI*	*P* values	NTI**	*P* values
Circulatory disorder	0.87606	0.181	0.26	0.403
Digestive disorder	-2.34249	0.994	1.14	0.131
Hepatic disorder	1.334754	0.096	**2.39**	**0.009**
Musculoskeletal disorder	0.303849	0.369	**2.99**	**0.003**
Otorhinolaryngology disorder	1.434478	0.088	**2.12**	**0.015**
Reproductive disorder	**1.791434**	**0.045**	1.69	0.052
Respiratory disorder	1.450947	0.082	0.96	0.167
Skin disorder	-1.31084	0.912	1.52	0.061
Urinary disorder	**2.312879**	**0.023**	**1.8**	**0.043**

NRI*, net relatedness index; NTI**, nearest taxon index. Number in red colours indicates traditional uses where significant phylogenetic signal was recorded

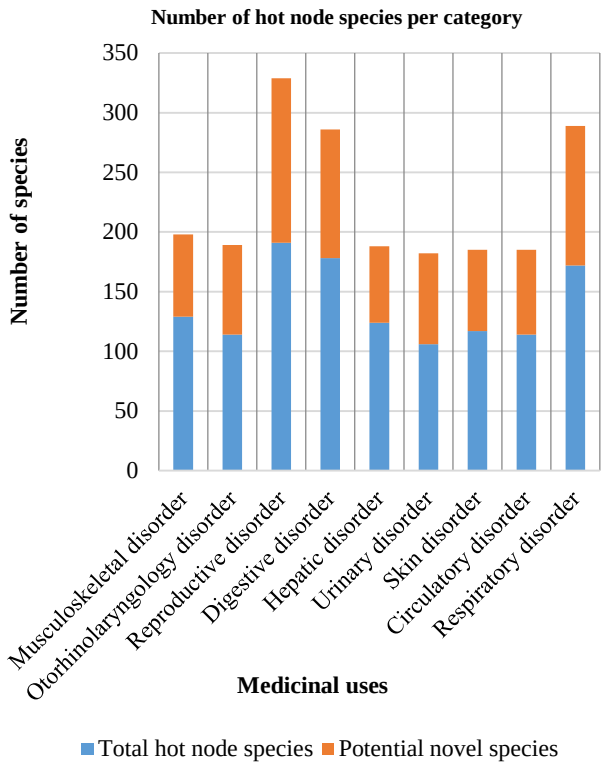

Fig. 1. Number of species in hot node clades of Lamiaceae for nine disorders. Blue bar shows number of total medicinal species and orange bar shows number of potential medicinal species.

For specific disorders, we found many species that were not listed in our database of Lamiaceae medicinal species, but have potential uses. For example, the highest number of hot nodes identified in our study for reproductive disorders was 191, of which 138 species were reported as potential novel species. Most of the new potential species were reported from *Salvia* and *Ajuga* (60 and 14, respectively). Similarly, for respiratory, digestive, urinary disorders, we found 117, 108 and 76 potential novel species, respectively. We observed 24 and 21 species from *Elsholtzia* for respiratory and urinary disorders, respectively, while 14 new potential species from *Ajuga* indicated the second highest medicinal use for respiratory disorders. Our hot node analysis showed that the species from *Mosla* and *Scutellaria* L. might be the best candidates for future bioprospecting against urinary disorders. The lowest number of potential novel species was reported for hepatic disorders (64), with maximum species from *Isodon*. For skin disorders, the number of species was 68, of which most plant members belong to *Elsholtzia* and *Ajuga*. Phylogenetically, the pattern of our hot node analysis indicated that the basalmost lineage in Lamiaceae from China has maximum usages against various disorders. The lineages including *Ajuga*, *Elsholtzia*, *Mosla*, *Salvia* and *Scutellaria* were found to have traditional uses against digestive, respiratory, hepatic and urinary disorders. Nevertheless, some clades were used for a number of disorders and randomly distributed in the phylogeny (Fig. 2). Details of all hot node taxa are given in Table S3.

Discussion

The phylogenetic approaches are progressively practiced to examine traditional medicinal plants and ethnobotanical records (Forest *et al.*, 2007; Halse-Gramkow *et al.*, 2016; Saslis-Lagoudakis *et al.*, 2012; Saslis-Lagoudakis *et al.*, 2011). The main objective of these studies is to determine the hidden phylogenetic basis of traditional medicinal plant information. Our investigation provides new insight into this field by exploring the phylogenetic signal in TCM plants and varieties of uses in Lamiaceae against specific disorders and will help to search for new potential taxa more precisely with relatively higher accuracy for future bioprospecting.

Database of traditional uses: The compiled database revealed that traditionally used medicinal species of Lamiaceae in China have been utilized for at least one or more disorders. We considered the presence or absence of traditional uses, as well as phytochemicals for further analyses. The relationship between TCM plants and their uses that we examined here is helpful for the data-driven selection of how conventional uses can guide for future bioprospecting. The present study provides novel insights into this question and revealed the high medicinal values of some important genera in Lamiaceae such as *Clerodendrum* and *Salvia* that should be further screened for phytomedicines against skin, circulatory, digestive, and hepatic disorders. Overall, we collected 345 (34 % of Lamiaceae in China) TCM plant species of Lamiaceae from *Flora of China* against nine common disorders (see Table S1 at the end). Our results showed *Clerodendrum cyrtophyllum* and *Salvia plebeia* have been used for all nine categories which may be due to anti-oxidative and anti-inflammatory properties induced by their phytochemicals (Hang *et al.*, 2020; Li *et al.*, 2020; Nugroho *et al.*, 2012; Shrivastava & Patel, 2007; Xiong *et al.*, 2019; Xu *et al.*, 2018). Previous studies examined complete national floras or different regional floras against specific disorders (Halse-Gramkow *et al.*, 2016; Saslis-Lagoudakis *et al.*, 2012; Saslis-Lagoudakis *et al.*, 2011; Yessoufou *et al.*, 2015). Our approach is hoped to provide more specific phylogenetic patterns against the considered disorders. Additionally, our database presents information on the phytochemicals of Lamiaceae species against selected disorders, which can possibly guide future bioprospecting studies for novel drug discoveries of species in Lamiaceae.

Phylogenetic framework: We applied a phylogenetic framework to explore evolutionary lineages of TCM plants of Lamiaceae that are specifically effective in ethnomedicines and observe whether species in those genera are more frequently used than other plants of the family in China. In our study, both NRI and NTI indicate the importance of TCM plants from Lamiaceae where a lineage of many species used for the same disorders or single species used for different disorders. Phylogenetic characterization of Lamiaceae showed unique patterns

with potential implications for bioprospecting. Earlier phylogenetic studies determined species clustering (Saslis-Lagoudakis *et al.,* 2012), and investigated complete floras as well as genus level phylogenies that are applied to examine patterns of medicinal plant uses in genera (Ernst *et al.,* 2016; Saslis-Lagoudakis *et al.,* 2011). Our study is the first report at species level within a family in the exploration of TCM plants to examine clustering for different categories such as urinary (NRI = 2.31) and reproductive (NRI=1.8) disorders. Whereas musculoskeletal, hepatic, otorhinolaryngology and urinary disorders, showed NTI values as 2.99, 2.39, 2.12, 1.80, respectively (Table 1). In the case of some traditional categories, we found overdispersion, indicating that medicinal uses are randomly distributed across the phylogeny, which is in accordance to Souza et al. (2018), but in their study, only the family Leguminosae was considered for phytochemical screening or biological activities. The cluster differences in the number of traditional medicinal plant use categories in various studies are not surprising as different statistical approaches reveal different phylogenetic patterns (Saslis-Lagoudakis *et al.,* 2012; Saslis-Lagoudakis *et al.,* 2011; Souza *et al.,* 2018; Yessoufou *et al.,* 2015). In addition, it also depends on database size and data records (Yessoufou *et al.,* 2015). The clustering and overdispersion of the traditional uses correspond with the evolutionary history of the species (Halse-Gramkow *et al.,* 2016). The phylogenetically related species are more likely to evolve similar biosynthetic pathways of specialized metabolites, and the similar chemical profiles could explain the comparable therapeutic spectrum (Hao and Xiao, 2020). Thus, the phylogenetic clustering or overdispersion observed in this study might depend on whether distinct lineages share similar bioactive compounds and traditional medicinal uses. This can serve as a start-point from which phylogenetic enlightened analysis of medicinal plants of a specific family could be developed for bioprospecting.

Hot nodes for future bioprospecting: Hot nodes determined 488 species out of 1,001 taxa belonging to 103 Lamiaceae genera indigenous to China for various categories. These include some well-known medicinal genera such as *Ajuga, Amethystea, Caryopteris, Clerodendrum, Elsholtzia, Gmelina, Kinostemon, Mosla, Rubiteucris, Schnabelia* and *Teucrium,* which are very effective against specific disorders as indicated in Fig. 2. Our results are in accordance with the study of Saslis-Lagoudakis *et al.,* (2012), which revealed a significant linkage of traditional uses and hot node clades. Application of such analysis by focusing on some families with potential medicinal uses can limit the search for bioprospecting within specific lineages. For example, clades that possess maximum species have more probability of having potential medicinal species than species-poor clades (Yessoufou *et al.,* 2015). Moreover, our analysis also revealed that early-diverged lineages of Lamiaceae such as *Isodon, Salvia* and *Scutellaria* are used for maximum categories confirmed in our study. It suggests that older lineages are more appropriate options for bioprospecting. The value of hot node analysis will help to understand the use of alternative plant species for medicinal purposes. Therefore, the absence of traditional use for a plant does not mean that the plant lacks active ingredients. So, hot node signals can be used to predict future potential medicinal plants (Halse-Gramkow *et al.,* 2016; Saslis-Lagoudakis *et al.,* 2012; Yessoufou *et al.,* 2015). Emphasis on targeted lineages would facilitate bioprospecting, if species-level phylogenetic studies within a family are conducted against selected disorders. Another advantage of our hot node analysis is that in contrast with ethno-direct bioprospecting, it can find potential medicinal lineages that are not included in our database of Lamiaceae TCM plants. For example, 138 species were the highest number of hot nodes found for reproductive disorders as potential novel species. Likewise, for respiratory and digestive disorders, we found 117 and 108 potential novel species, respectively. According to our hot node analysis, some species of the genera *Callicarpa* L., *Elsholtzia* and *Lophanthus* Adans. are more useful against digestive, circulatory and urinary disorders, as other species of these genera have some information of traditional uses in our database. To validate our approach, we investigated the phytochemistry of those species and found that other species that are not included in the database, produce different types of phytochemicals (alkaloids, flavonoids, terpenes) which are helpful in the treatment of digestive, respiratory and reproductive disorders (Alamgeer *et al.,* 2018; Beazley & Nurminskaya, 2016; Cox-Georgian *et al.,* 2019). However, it is understood that various medicinal effects are concentrated in different genera due to the shared history of traditional uses (Alrashedy & Molina, 2016).

Conclusion

China harbors diverse floral diversity along with its old history of using TCM plants. The purpose of our research was to explore the generality of phylogenetic trends in TCM plants by investigating the evolutionary connections of commonly used medicinal plants of Lamiaceae. Phylogenetic approaches can facilitate researchers to identify natural products in cost-effective ways. We examined that how knowledge of traditional uses and phylogenetics can be combined to identify taxa having significant medicinal potential.

To facilitate bioprospecting, we categorized traditional uses of 345 species belonging to 77 Lamiaceae genera into nine medicinal categories, then investigated how many species were used for each disorder. Finally, the phylogenetic tree and hot node analysis predicted new potential medicinal plants. Our results well illustrate the power of phylogenetic methods for bioprospecting, especially in the selection of a novel lineage for screening against specific disorders such as cardiovascular, hepatic, and urinary disorders. In the future, predictive tools of phylogenetics can also be applied to other disciplines, such as phylogenetic correlations between reported categories from medicinal use and plant biochemistry, which can facilitate identifying the chemical compound associated with a particular effect.

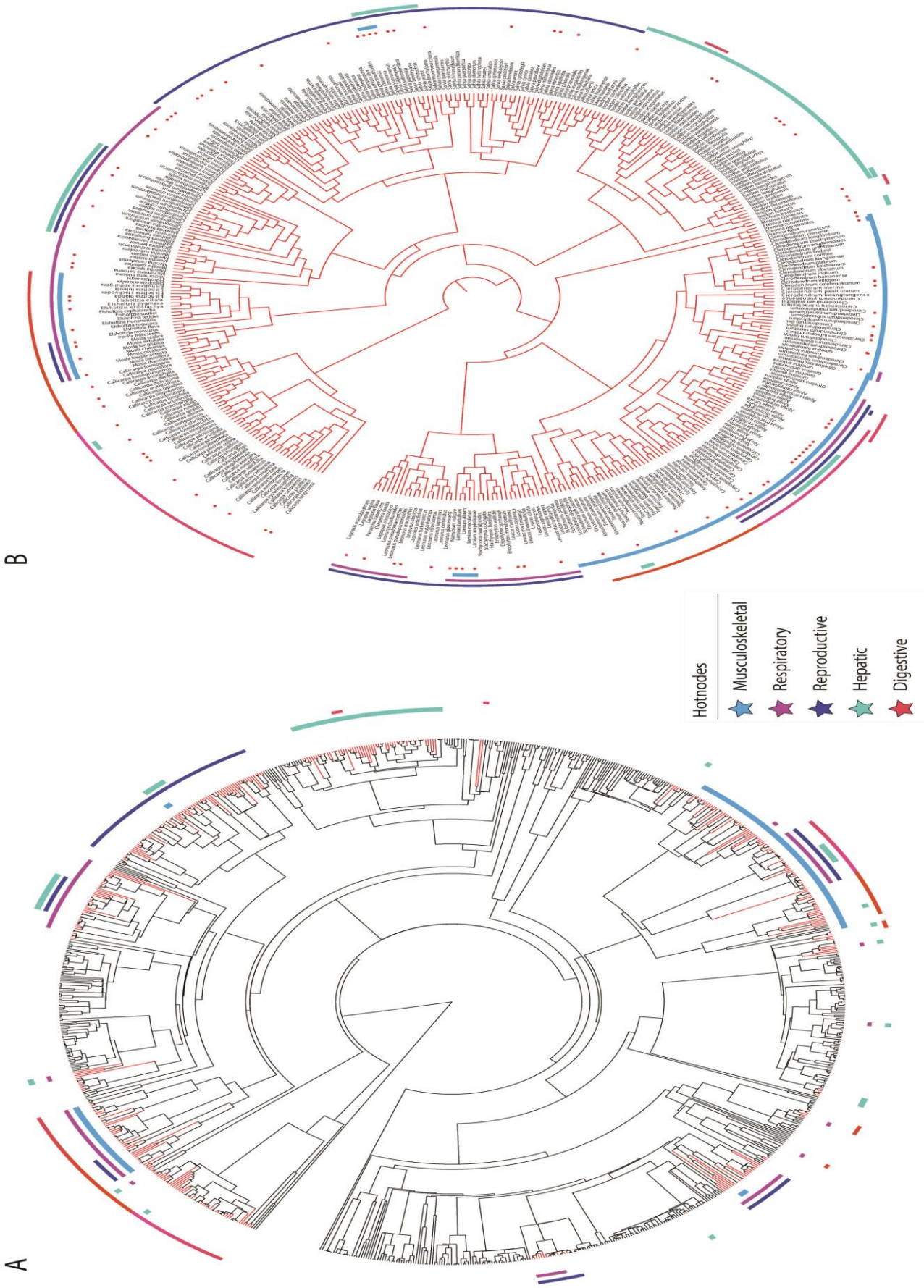

Fig. 2. Phylogenetic clustering of TCM plants in Lamiaceae. A: Distribution of medicinal uses (five different colour strips) and hot node clades (red colour branches) in Lamiaceae phylogeny. **B**: Distribution of phytochemical records (with dots on tips branches) in Lamiaceae phylogeny including only the hot node clades.

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References

Alamgeer, Y., W.H. Asif, A. Sharif, H. Riaz, I.A. Bukhari and A.M. Assiri. 2018. Traditional medicinal plants used for respiratory disorders in Pakistan: a review of the ethno-medicinal and pharmacological evidence. *Chin. Med.*, 13: 48-48.

Alrashedy, N.A. and J. Molina. 2016. The ethnobotany of psychoactive plant use: a phylogenetic perspective. *Peer J.*, 4: e2546.

Arthur, W. 2002. The emerging conceptual framework of evolutionary developmental biology. *Nature*, 415: 757-764.

Beazley, K.E. and M. Nurminskaya. 2016. Effects of dietary quercetin on female fertility in mice: implication of transglutaminase 2. *Reprod. Fertil. Dev*., 28: 974-981.

Corporation, C.N.C.M.M. 1994. *China National Corporation of Traditional and Herbal Medicine*. Science Press, Beijing.

Cox-Georgian, D., N. Ramadoss, C. Dona and C. Basu. 2019. Therapeutic and medicinal uses of terpenes. *In: Medicinal Plants*. Springer, Switzerland, pp. 333-359.

Donoghue, M.J. 2008. A phylogenetic perspective on the distribution of plant diversity. *Proc. Natl. Acad. Sci. U.S.A.*, 105: 11549-11555.

Duke, J.A. 2000. *Phytochemical and Ethnobotanical Database. Phytochemical Database*. USDA-ARS-NGRL, Beltsville Agricultural Research Center, Beltsville, Meryland, USA.

Erdem, F., G. Doğan, Y. Kıran and H. Evren. 2017. Morphological, anatomical, palynological and karyological characters of endemic *Sideritis vulcanica* Hub.-Mor.(Lamiaceae) from Turkey. *Int. J. Nat. Life. Sci.*, 1: 1-11.

Ernst, M., C.H. Saslis-Lagoudakis, O.M. Grace, N. Nilsson, H.T. Simonsen, J.W. Horn and N. Rønsted. 2016. Evolutionary prediction of medicinal properties in the genus *Euphorbia* L. *Sci. Rep.*, 6: 1-10.

Forest, F., R. Grenyer, M. Rouget, T.J. Davies, R.M. Cowling, D.P. Faith, A. Balmford, J.C. Manning, Ş. Procheş and M.V.D. Bank. 2007. Preserving the evolutionary potential of floras in biodiversity hotspots. *Nature*, 445: 757-760.

Halse-Gramkow, M., M. Ernst, N. Rønsted, R.R. Dunn and C.H. Saslis-Lagoudakis. 2016. Using evolutionary tools to search for novel psychoactive plants. *Plant Genet. Resour.*, 14: 246-255.

Hamilton, A.C. 2004. Medicinal plants, conservation and livelihoods. *Biodivers. Conserv.*, 13: 1477-1517.

Hang, N.T., A. Nachtergael, N.T. Mai, V. Cornet, P. Duez, M. Muller, D.T.L. Huong and P. Kestemont. 2020. Anti-inflammatory properties of the ethanol extract from *Clerodendrum cyrtophyllum* Turcz. based on *In vitro* and *In vivo* studies. *J. Ethnopharmacol.*, 254: 112739.

Hao, D.C. and P.G. Xiao. 2020. Pharmaceutical resource discovery from traditional medicinal plants: Pharmacophylogeny and pharmacophylogenomics. *Chin. Herb. Med.*, 12: 104-117.

Hu, H.H., B. Liu, Y.S. Liang, J.F. Ye, S. Saqib, Z. Meng, L.M. Lu and Z.D. Chen. 2020. An updated Chinese vascular plant tree of life: Phylogenetic diversity hotspots revisited. *J. Syst. Evol.*, 58: 663-672.

Huang, J.H., J.H. Chen, J.S. Ying and K.P. Ma. 2011. Features and distribution patterns of Chinese endemic seed plant species. *J. Syst. Evol.*, 49: 81-94.

Huang, Y., D. Xiao, B.M. Burton-Freeman and I. Edirisinghe. 2016. Chemical changes of bioactive phytochemicals during thermal processing. In*: Reference Module in Food Science*. Elsevier, Chicago, pp. 1-9.

Jin, Y. and H. Qian. 2019. V. PhyloMaker: an R package that can generate very large phylogenies for vascular plants. *Ecography*, 42: 1353-1359.

Kembel, S.W., P.D. Cowan, M.R. Helmus, W.K. Cornwell, H. Morlon, D.D. Ackerly, S.P. Blomberg and C.O. Webb. 2010. Picante: R tools for integrating phylogenies and ecology. *Bioinformatics*, 26: 1463-1464.

Li, G., J. Zhou, M. Sun, J. Cen and J. Xu. 2020. Role of luteolin extracted from *Clerodendrum cyrtophyllum* Turcz. leaves in protecting HepG2 cells from TBHP-induced oxidative stress and its cytotoxicity, genotoxicity. *J. Funct. Foods.*, 74: 104196.

Li, M., Q. Li, C. Zhang, N. Zhang, Z. Cui, L. Huang and P.G. Xiao. 2013. An ethnopharmacological investigation of medicinal *Salvia* plants (Lamiaceae) in China. *Acta Pharm. Sin. B.*, 3: 273-280.

Lichman, B.R., G.T. Godden and C.R. Buell. 2020. Gene and genome duplications in the evolution of chemodiversity: perspectives from studies of Lamiaceae. *Curr. Opin. Plant. Biol.*, 55: 74-83.

Liu, R.H. 2013. Health-promoting components of fruits and vegetables in the diet. *Adv. Nut.*, 4(3): 384S-392S.

Mamadalieva, N.Z., D.K. Akramov, E. Ovidi, A. Tiezzi, L. Nahar, S.S. Azimova and S.D. Sarker. 2017. Aromatic medicinal plants of the Lamiaceae family from Uzbekistan: Ethnopharmacology, essential oils composition, and biological activities. *Medicine*, 4(1): 1-12.

Molander, M., C.H. Saslis-Lagoudakis, A.K. Jäger and N. Rønsted. 2012. Cross-cultural comparison of medicinal floras used against snakebites. *J. Ethnopharmacol.*, 139: 863-872.

Napoli, E., L. Siracusa and G. Ruberto. 2020. New tricks for old guys: recent developments in the chemistry, biochemistry, applications and exploitation of selected species from the Lamiaceae family. *Chem. Biodivers.*, 17: e1900677.

Normile, D. 2015. Nobel for antimalarial drug highlights East-West divide. *Science*, 350: 265.

Pan, S.Y., S.F. Zhou, S.H. Gao, Z.L. Yu, S.F. Zhang, M.K. Tang, J.N. Sun, D.L. Ma, Y.F. Han and W.F. Fong. 2013. New perspectives on how to discover drugs from herbal medicines: CAM's outstanding contribution to modern therapeutics. *Evid.-Based Complementary Altern. Med.*, 2013.

Qian, H. and B. Sandel. 2017. Phylogenetic relatedness of native and exotic plants along climate gradients in California, USA. *Divers. Distrib.*, 23: 1323-1333.

Rambaut, A., D.L. Robertson, O.G. Pybus, M. Peeters and E.C. Holmes, 2001. Phylogeny and the origin of HIV-1. *Nature*, 410: 1047-1048.

Saslis-Lagoudakis, C.H., E.M. Williamson,V. Savolainen and J.A. Hawkins. 2011. Cross-cultural comparison of three medicinal floras and implications for bioprospecting strategies. *J. Ethnopharmacol.*, 135: 476-487.

Saslis-Lagoudakis, C.H., V. Savolainen, E.M. Williamson, F. Forest, S.J. Wagstaff, S.R. Baral, M.F. Watson, C.A. Pendry and J.A. Hawkins. 2012. Phylogenies reveal predictive power of traditional medicine in bioprospecting. *Proc. Natl. Acad. Sci. U.S.A.*, 109: 15835-15840.

Shinwari, Z.K., N. Ahmed, J. Hussain and N.U. Rehman. 2013. Antimicrobial evaluation and proximate profile of *Nepeta leavigata*, *Nepeta kurramensis* and *Rhynchosia reniformis*. *Pak. J. Bot*., 45(1): 253-259.

Shrivastava, N. and T. Patel. 2007. *Clerodendrum* and healthcare: an overview. *Med. Aromat. Plant Sci. Biotechnol.*, 1: 142-150.

Sim, L.Y., N.Z. Abd Rani and K. Husain. 2019. Lamiaceae: an insight on their anti-allergic potential and its mechanism of actions. *Front. Pharmacol.*, 10: 677.

Singh, Y.D., M.K. Panda and K.B. Satapathy. 2020. Ethnomedicine for drug discovery. In*: Advances in Pharmaceutical Biotechnology*. Springer, Singapore, pp. 15-28.

Souza, E.N., E.M. Williamson and J.A. Hawkins. 2018. Which plants used in ethnomedicine are characterized? Phylogenetic patterns in traditional use related to research effort. *Front. Plant Sci.*, 9: 834.

Strauss, S.Y., C.O. Webb and N. Salamin. 2006. Exotic taxa less related to native species are more invasive. *Proc. Natl. Acad. Sci. U.S.A.*, 103: 5841-5845.

Tu, Y. 2011. The discovery of artemisinin (qinghaosu) and gifts from Chinese medicine. *Nat. Med.*, 17: 1217-1220.

Uritu, C.M., C.T. Mihai, G.D. Stanciu, G. Dodi, T. Alexa-Stratulat, A. Luca, M.M. Leon-Constantin, R. Stefanescu, V. Bild, S. Melnic and B.I. Tamba. 2018. Medicinal plants of the family Lamiaceae in pain therapy: A review. *Pain Res. Manag.*, 2018: 7801543.

Webb, C.O., D.D. Ackerly and S.W. Kembel. 2008. Phylocom: software for the analysis of phylogenetic community structure and trait evolution. *Bioinformatics*, 24.

Webb, C.O., D.D. Ackerly, M.A. McPeek and M.J. Donoghue. 2002. Phylogenies and community ecology. *Ann. Rev. Ecol. Evol. Syst.*, 33: 475-505.

Wink, M. 2003. Evolution of secondary metabolites from an ecological and molecular phylogenetic perspective. *Phytochem.*, 64: 3-19.

Wu, Z., P. Raven and D. Hong. 1994-2013. *Flora of China*. Science Press & Missouri Botanical Garden Press, Beijing & St. Louis.

Xiong, G., Y. Deng, Z. Cao, X. Liao and H. Lu. 2019. The hepatoprotective effects of *Salvia plebeia* R. Br. extract in zebrafish (*Danio rerio*). *Fish. Shellfish. Immunol.*, 95: 399-410.

Xu, J., K. Wei, G. Zhang, L. Lei, D. Yang, W. Wang, Q. Han, Y. Xia, Y. Bi and M. Yang. 2018. Ethnopharmacology, phytochemistry, and pharmacology of Chinese *Salvia* species: A review. *J. Ethnopharmacol.*, 225: 18-30.

Yang, L., C. Yang, C. Li, Q. Zhao, L. Liu, X. Fang and X.Y. Chen. 2016. Recent advances in biosynthesis of bioactive compounds in traditional Chinese medicinal plants. *Sci. Bull.*, 61: 3-17.

Yessoufou, K., B.H. Daru and A.M. Muasya. 2015. Phylogenetic exploration of commonly used medicinal plants in S outh A frica. *Mol. Ecol. Resour.*, 15: 405-413.

Zahra, N.B., Z.K. Shinwari and M. Qaiser. 2016. DNA Barcoding: A tool for standardization of herbal medicinal products (Hmps) Of Lamiaceae from Pakistan. *Pak. J. Bot*., 48(5): 2167-2174

Zhang, D.H., K. Wu, X. Zhang, S.Q. Deng and B. Peng. 2020. In silico screening of Chinese herbal medicines with the potential to directly inhibit 2019 novel coronavirus. *J. Integr. Med.*, 18: 152-158.

Zhao, T., H. Tang, L. Xie, Y. Zheng, Z. Ma, Q. Sun and X. Li. 2019. *Scutellaria baicalensis* Georgi. (Lamiaceae): a review of its traditional uses, botany, phytochemistry, pharmacology and toxicology. *J. Pharm. Pharmacol.*, 71: 1353-1369.

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Table S1. Traditional Chinese medicinal plants of Lamiaceae for treatment of various disorders.

Plant name	Medicinal uses
Agastache rugosa	Musculoskeletal disorders
Agastache rugosa	Otorhinolaryngology disorders
Agastache rugosa	Respiratory disorders
Agastache rugosa	Digestive disorders
Agastache rugosa	Skin disorders
Agastache rugosa	Circulatory disorders
Agastache rugosa	Reproductive disorders
Ajuga bracteosa	Skin disorders
Ajuga campylantha	Digestive disorders
Ajuga campylanthoides	Respiratory disorders
Ajuga campylanthoides	Digestive disorders
Ajuga campylanthoides	Hepatic disorders
Ajuga ciliata	Musculoskeletal disorders
Ajuga ciliata	Otorhinolaryngology disorders
Ajuga ciliata	Respiratory disorders
Ajuga ciliata	Hepatic disorders
Ajuga ciliata	Skin disorders
Ajuga ciliata	Circulatory disorders
Ajuga ciliata	Reproductive disorders
Ajuga decumbens	Musculoskeletal disorders
Ajuga decumbens	Otorhinolaryngology disorders
Ajuga decumbens	Respiratory disorders
Ajuga decumbens	Digestive disorders
Ajuga decumbens	Hepatic disorders
Ajuga decumbens	Skin disorders
Ajuga decumbens	Circulatory disorders
Ajuga decumbens	Reproductive disorders
Ajuga forrestii	Musculoskeletal disorders
Ajuga forrestii	Respiratory disorders
Ajuga forrestii	Digestive disorders
Ajuga forrestii	Hepatic disorders
Ajuga forrestii	Urinary disorders
Ajuga forrestii	Skin disorders
Ajuga forrestii	Circulatory disorders
Ajuga forrestii	Reproductive disorders
Ajuga linearifolia	Musculoskeletal disorders
Ajuga linearifolia	Otorhinolaryngology disorders
Ajuga lobata	Musculoskeletal disorders
Ajuga lobata	Urinary disorders
Ajuga lobata	Circulatory disorders
Ajuga lobata	Reproductive disorders
Ajuga lupulina	Musculoskeletal disorders
Ajuga lupulina	Otorhinolaryngology disorders
Ajuga lupulina	Respiratory disorders
Ajuga lupulina	Hepatic disorders
Ajuga lupulina	Skin disorders
Ajuga lupulina	Circulatory disorders
Ajuga lupulina	Reproductive disorders
Ajuga macrosperma	Circulatory disorders
Ajuga nipponensis	Musculoskeletal disorders
Ajuga nipponensis	Otorhinolaryngology disorders
Ajuga nipponensis	Respiratory disorders
Ajuga nipponensis	Digestive disorders
Ajuga nipponensis	Hepatic disorders
Ajuga nipponensis	Skin disorders
Ajuga nipponensis	Circulatory disorders
Ajuga nipponensis	Reproductive disorders
Ajuga pantantha	Musculoskeletal disorders
Ajuga pantantha	Hepatic disorders
Ajuga pantantha	Otorhinolaryngology disorders
Ajuga pantantha	Urinary disorders
Ajuga pantantha	Skin disorders
Amethystea caerulea	Digestive disorders
Anisochilus carnosus	Musculoskeletal disorders
Anisochilus carnosus	Hepatic disorders
Anisochilus carnosus	Urinary disorders
Anisomeles indica	Musculoskeletal disorders
Anisomeles indica	Digestive disorders
Anisomeles indica	Skin disorders
Anisomeles indica	Circulatory disorders
Bostrychanthera deflexa	Musculoskeletal disorders
Bostrychanthera deflexa	Digestive disorders
Bostrychanthera deflexa	Hepatic disorders
Bostrychanthera deflexa	Circulatory disorders
Calamintha debilis	Hepatic disorders
Calamintha debilis	Circulatory disorders
Callicarpa arborea	Musculoskeletal disorders
Callicarpa arborea	Digestive disorders
Callicarpa arborea	Skin disorders
Callicarpa arborea	Reproductive disorders
Callicarpa bodinieri	Musculoskeletal disorders
Callicarpa bodinieri	Digestive disorders
Callicarpa bodinieri	Otorhinolaryngology disorders
Callicarpa bodinieri	Skin disorders
Callicarpa bodinieri	Circulatory disorders
Callicarpa bodinieri	Reproductive disorders
Callicarpa brevipes	Musculoskeletal disorders
Callicarpa brevipes	Otorhinolaryngology disorders
Callicarpa brevipes	Respiratory disorders
Callicarpa candicans	Skin disorders
Callicarpa candicans	Circulatory disorders
Callicarpa cathayana	Digestive disorders
Callicarpa cathayana	Skin disorders
Callicarpa cathayana	Circulatory disorders
Callicarpa dichotoma	Musculoskeletal disorders
Callicarpa dichotoma	Digestive disorders
Callicarpa dichotoma	Reproductive disorders
Callicarpa giraldii	Musculoskeletal disorders
Callicarpa giraldii	Digestive disorders
Callicarpa giraldii	Hepatic disorders
Callicarpa giraldii	Urinary disorders
Callicarpa giraldii	Circulatory disorders
Callicarpa integerrima	Musculoskeletal disorders
Callicarpa integerrima	Digestive disorders
Callicarpa integerrima	Hepatic disorders
Callicarpa integerrima	Circulatory disorders
Callicarpa japonica	Digestive disorders
Callicarpa japonica	Hepatic disorders
Callicarpa japonica	Skin disorders
Callicarpa japonica	Circulatory disorders
Callicarpa kochiana	Musculoskeletal disorders
Callicarpa kochiana	Otorhinolaryngology disorders
Callicarpa kochiana	Respiratory disorders
Callicarpa kochiana	Digestive disorders
Callicarpa kochiana	Hepatic disorders
Callicarpa kwangtungensis	Musculoskeletal disorders
Callicarpa kwangtungensis	Otorhinolaryngology disorders
Callicarpa kwangtungensis	Respiratory disorders
Callicarpa kwangtungensis	Digestive disorders
Callicarpa kwangtungensis	Circulatory disorders
Callicarpa lingii	Hepatic disorders
Callicarpa lingii	Circulatory disorders
Callicarpa loboapiculata	Skin disorders
Callicarpa longifolia	Musculoskeletal disorders
Callicarpa longifolia	Otorhinolaryngology disorders
Callicarpa longipes	Musculoskeletal disorders
Callicarpa longissima	Musculoskeletal disorders
Callicarpa longissima	Digestive disorders

Plant name	Medicinal uses
Callicarpa longissima	Skin disorders
Callicarpa longissima	Circulatory disorders
Callicarpa longissima	Reproductive disorders
Callicarpa macrophylla	Musculoskeletal disorders
Callicarpa macrophylla	Digestive disorders
Callicarpa macrophylla	Skin disorders
Callicarpa macrophylla	Circulatory disorders
Callicarpa membranacea	Musculoskeletal disorders
Callicarpa membranacea	Otorhinolaryngology disorders
Callicarpa membranacea	Digestive disorders
Callicarpa membranacea	Skin disorders
Callicarpa membranacea	Circulatory disorders
Callicarpa nudiflora	Musculoskeletal disorders
Callicarpa nudiflora	Digestive disorders
Callicarpa nudiflora	Skin disorders
Callicarpa nudiflora	Circulatory disorders
Callicarpa peichieniana	Digestive disorders
Callicarpa pilosissima	Hepatic disorders
Callicarpa pilosissima	Skin disorders
Callicarpa pilosissima	Circulatory disorders
Callicarpa rubella	Musculoskeletal disorders
Callicarpa rubella	Respiratory disorders
Callicarpa rubella	Digestive disorders
Callicarpa rubella	Hepatic disorders
Callicarpa rubella	Skin disorders
Callicarpa rubella	Circulatory disorders
Callicarpa rubella	Reproductive disorders
Caryopteris divaricata	Musculoskeletal disorders
Caryopteris divaricata	Respiratory disorders
Caryopteris divaricata	Digestive disorders
Caryopteris divaricata	Skin disorders
Caryopteris forrestii	Respiratory disorders
Caryopteris forrestii	Circulatory disorders
Caryopteris incana	Musculoskeletal disorders
Caryopteris incana	Respiratory disorders
Caryopteris incana	Digestive disorders
Caryopteris incana	Otorhinolaryngology disorders
Caryopteris incana	Skin disorders
Caryopteris incana	Circulatory disorders
Caryopteris incana	Reproductive disorders
Caryopteris mongholica	Musculoskeletal disorders
Caryopteris mongholica	Digestive disorders
Caryopteris mongholica	Skin disorders
Caryopteris mongholica	Circulatory disorders
Caryopteris nepetifolia	Hepatic disorders
Caryopteris nepetifolia	Urinary disorders
Caryopteris nepetifolia	Reproductive disorders
Caryopteris paniculata	Digestive disorders
Caryopteris paniculata	Circulatory disorders
Caryopteris siccanea	Respiratory disorders
Caryopteris siccanea	Hepatic disorders
Caryopteris siccanea	Skin disorders
Caryopteris tangutica	Musculoskeletal disorders
Caryopteris tangutica	Digestive disorders
Caryopteris tangutica	Circulatory disorders
Caryopteris tangutica	Reproductive disorders
Caryopteris terniflora	Musculoskeletal disorders
Caryopteris terniflora	Respiratory disorders
Caryopteris terniflora	Hepatic disorders
Caryopteris terniflora	Skin disorders
Caryopteris terniflora	Reproductive disorders
Chelonopsis chekiangensis	Musculoskeletal disorders
Chelonopsis chekiangensis	Respiratory disorders
Chelonopsis chekiangensis	Digestive disorders
Chelonopsis chekiangensis	Circulatory disorders
Chelonopsis chekiangensis	Reproductive disorders
Clerodendranthus spicatus	Musculoskeletal disorders
Clerodendranthus spicatus	Hepatic disorders
Clerodendranthus spicatus	Urinary disorders
Clerodendranthus spicatus	Skin disorders
Clerodendrum bungei	Musculoskeletal disorders
Clerodendrum bungei	Otorhinolaryngology disorders
Clerodendrum bungei	Circulatory disorders
Clerodendrum canescens	Musculoskeletal disorders
Clerodendrum canescens	Respiratory disorders
Clerodendrum canescens	Digestive disorders
Clerodendrum canescens	Hepatic disorders
Clerodendrum canescens	Skin disorders
Clerodendrum canescens	Circulatory disorders
Clerodendrum canescens	Reproductive disorders
Clerodendrum chinense	Musculoskeletal disorders
Clerodendrum chinense	Otorhinolaryngology disorders
Clerodendrum chinense	Respiratory disorders
Clerodendrum chinense	Hepatic disorders
Clerodendrum chinense	Skin disorders
Clerodendrum chinense	Circulatory disorders
Clerodendrum chinense	Reproductive disorders
Clerodendrum colebrookianum	Musculoskeletal disorders
Clerodendrum colebrookianum	Respiratory disorders
Clerodendrum cyrtophyllum	Musculoskeletal disorders
Clerodendrum cyrtophyllum	Otorhinolaryngology disorders
Clerodendrum cyrtophyllum	Respiratory disorders
Clerodendrum cyrtophyllum	Digestive disorders
Clerodendrum cyrtophyllum	Hepatic disorders
Clerodendrum cyrtophyllum	Urinary disorders
Clerodendrum cyrtophyllum	Skin disorders
Clerodendrum cyrtophyllum	Circulatory disorders
Clerodendrum cyrtophyllum	Reproductive disorders
Clerodendrum fortunatum	Musculoskeletal disorders
Clerodendrum fortunatum	Otorhinolaryngology disorders
Clerodendrum fortunatum	Respiratory disorders
Clerodendrum fortunatum	Digestive disorders
Clerodendrum fortunatum	Hepatic disorders
Clerodendrum fortunatum	Skin disorders
Clerodendrum hainanense	Respiratory disorders
Clerodendrum henryi	Digestive disorders
Clerodendrum indicum	Musculoskeletal disorders
Clerodendrum indicum	Urinary disorders
Clerodendrum indicum	Skin disorders
Clerodendrum indicum	Circulatory disorders
Clerodendrum inerme	Musculoskeletal disorders
Clerodendrum inerme	Hepatic disorders
Clerodendrum inerme	Skin disorders
Clerodendrum inerme	Circulatory disorders
Clerodendrum japonicum	Musculoskeletal disorders
Clerodendrum japonicum	Hepatic disorders
Clerodendrum japonicum	Skin disorders
Clerodendrum japonicum	Circulatory disorders
Clerodendrum kwangtungense	Musculoskeletal disorders
Clerodendrum kwangtungense	Respiratory disorders
Clerodendrum kwangtungense	Hepatic disorders
Clerodendrum lindleyi	Musculoskeletal disorders
Clerodendrum lindleyi	Otorhinolaryngology disorders
Clerodendrum lindleyi	Hepatic disorders
Clerodendrum lindleyi	Skin disorders
Clerodendrum luteopunctatum	Musculoskeletal disorders
Clerodendrum mandarinorum	Musculoskeletal disorders
Clerodendrum mandarinorum	Hepatic disorders
Clerodendrum mandarinorum	Urinary disorders
Clerodendrum mandarinorum	Circulatory disorders

Plant name	Medicinal uses
Clerodendrum serratum	Musculoskeletal disorders
Clerodendrum serratum	Otorhinolaryngology disorders
Clerodendrum serratum	Digestive disorders
Clerodendrum serratum	Hepatic disorders
Clerodendrum serratum	Skin disorders
Clerodendrum serratum	Reproductive disorders
Clerodendrum thomsoniae	Otorhinolaryngology disorders
Clerodendrum trichotomum	Musculoskeletal disorders
Clerodendrum trichotomum	Respiratory disorders
Clerodendrum trichotomum	Skin disorders
Clerodendrum trichotomum	Circulatory disorders
Clerodendrum yunnanense	Musculoskeletal disorders
Clerodendrum yunnanense	Digestive disorders
Clerodendrum yunnanense	Skin disorders
Clerodendrum yunnanense	Circulatory disorders
Clinopodium chinense	Digestive disorders
Clinopodium chinense	Hepatic disorders
Clinopodium chinense	Skin disorders
Clinopodium chinense	Circulatory disorders
Clinopodium chinense	Reproductive disorders
Clinopodium confine	Hepatic disorders
Clinopodium confine	Skin disorders
Clinopodium confine	Reproductive disorders
Clinopodium gracile	Musculoskeletal disorders
Clinopodium gracile	Otorhinolaryngology disorders
Clinopodium gracile	Respiratory disorders
Clinopodium gracile	Digestive disorders
Clinopodium gracile	Hepatic disorders
Clinopodium gracile	Skin disorders
Clinopodium gracile	Reproductive disorders
Clinopodium megalanthum	Musculoskeletal disorders
Clinopodium megalanthum	Hepatic disorders
Clinopodium megalanthum	Otorhinolaryngology disorders
Clinopodium megalanthum	Skin disorders
Clinopodium megalanthum	Circulatory disorders
Clinopodium megalanthum	Reproductive disorders
Clinopodium omeiense	Hepatic disorders
Clinopodium omeiense	Circulatory disorders
Clinopodium polycephalum	Musculoskeletal disorders
Clinopodium polycephalum	Otorhinolaryngology disorders
Clinopodium polycephalum	Digestive disorders
Clinopodium polycephalum	Hepatic disorders
Clinopodium polycephalum	Skin disorders
Clinopodium polycephalum	Circulatory disorders
Clinopodium urticifolium	Otorhinolaryngology disorders
Clinopodium urticifolium	Digestive disorders
Clinopodium urticifolium	Hepatic disorders
Clinopodium urticifolium	Urinary disorders
Clinopodium urticifolium	Skin disorders
Clinopodium urticifolium	Circulatory disorders
Clinopodium urticifolium	Reproductive disorders
Colebrookea oppositifolia	Otorhinolaryngology disorders
Colebrookea oppositifolia	Digestive disorders
Colebrookea oppositifolia	Skin disorders
Coleus carnosifolius	Musculoskeletal disorders
Coleus carnosifolius	Otorhinolaryngology disorders
Coleus carnosifolius	Respiratory disorders
Coleus carnosifolius	Skin disorders
Coleus esquirolii	Musculoskeletal disorders
Coleus esquirolii	Otorhinolaryngology disorders
Coleus esquirolii	Respiratory disorders
Coleus esquirolii	Skin disorders
Colquhounia coccinea	Otorhinolaryngology disorders
Colquhounia elegans	Digestive disorders
Colquhounia elegans	Skin disorders
Colquhounia seguinii	Hepatic disorders
Colquhounia seguinii	Skin disorders
Comanthosphace ningpoensis	Musculoskeletal disorders
Comanthosphace ningpoensis	Hepatic disorders
Comanthosphace ningpoensis	Skin disorders
Comanthosphace ningpoensis	Reproductive disorders
Dracocephalum argunense	Musculoskeletal disorders
Dracocephalum argunense	Otorhinolaryngology disorders
Dracocephalum argunense	Circulatory disorders
Dracocephalum bipinnatum	Respiratory disorders
Dracocephalum bipinnatum	Hepatic disorders
Dracocephalum grandiflorum	Respiratory disorders
Dracocephalum grandiflorum	Hepatic disorders
Dracocephalum heterophyllum	Respiratory disorders
Dracocephalum heterophyllum	Digestive disorders
Dracocephalum heterophyllum	Hepatic disorders
Dracocephalum heterophyllum	Otorhinolaryngology disorders
Dracocephalum heterophyllum	Circulatory disorders
Dracocephalum integrifolium	Respiratory disorders
Dracocephalum moldavica	Musculoskeletal disorders
Dracocephalum moldavica	Otorhinolaryngology disorders
Dracocephalum moldavica	Respiratory disorders
Dracocephalum moldavica	Digestive disorders
Dracocephalum moldavica	Hepatic disorders
Dracocephalum moldavica	Circulatory disorders
Dracocephalum nutans	Respiratory disorders
Dracocephalum rupestre	Musculoskeletal disorders
Dracocephalum rupestre	Otorhinolaryngology disorders
Dracocephalum rupestre	Respiratory disorders
Dracocephalum rupestre	Digestive disorders
Dracocephalum rupestre	Hepatic disorders
Dracocephalum rupestre	Circulatory disorders
Dracocephalum ruyschiana	Musculoskeletal disorders
Dracocephalum ruyschiana	Otorhinolaryngology disorders
Dracocephalum taliense	Musculoskeletal disorders
Dracocephalum taliense	Digestive disorders
Dracocephalum taliense	Hepatic disorders
Dracocephalum tanguticum	Musculoskeletal disorders
Dracocephalum tanguticum	Otorhinolaryngology disorders
Dracocephalum tanguticum	Respiratory disorders
Dracocephalum tanguticum	Digestive disorders
Dracocephalum tanguticum	Hepatic disorders
Dracocephalum tanguticum	Urinary disorders
Dysophylla sampsonii	Musculoskeletal disorders
Dysophylla sampsonii	Skin disorders
Dysophylla sampsonii	Circulatory disorders
Dysophylla stellata	Musculoskeletal disorders
Dysophylla stellata	Hepatic disorders
Dysophylla stellata	Skin disorders
Dysophylla stellata	Circulatory disorders
Elsholtzia argyi	Musculoskeletal disorders
Elsholtzia argyi	Respiratory disorders
Elsholtzia argyi	Digestive disorders
Elsholtzia argyi	Otorhinolaryngology disorders
Elsholtzia argyi	Urinary disorders
Elsholtzia argyi	Reproductive disorders
Elsholtzia blanda	Musculoskeletal disorders
Elsholtzia blanda	Digestive disorders
Elsholtzia blanda	Hepatic disorders
Elsholtzia blanda	Otorhinolaryngology disorders
Elsholtzia blanda	Skin disorders
Elsholtzia bodinieri	Musculoskeletal disorders
Elsholtzia bodinieri	Digestive disorders
Elsholtzia bodinieri	Hepatic disorders
Elsholtzia bodinieri	Otorhinolaryngology disorders

Plant name	Medicinal uses
Elsholtzia bodinieri	Urinary disorders
Elsholtzia bodinieri	Circulatory disorders
Elsholtzia bodinieri	Reproductive disorders
Elsholtzia ciliata	Musculoskeletal disorders
Elsholtzia ciliata	Respiratory disorders
Elsholtzia ciliata	Digestive disorders
Elsholtzia ciliata	Otorhinolaryngology disorders
Elsholtzia ciliata	Urinary disorders
Elsholtzia ciliata	Skin disorders
Elsholtzia cyprianii	Otorhinolaryngology disorders
Elsholtzia cyprianii	Hepatic disorders
Elsholtzia cyprianii	Skin disorders
Elsholtzia densa	Musculoskeletal disorders
Elsholtzia densa	Urinary disorders
Elsholtzia densa	Skin disorders
Elsholtzia eriostachya	Skin disorders
Elsholtzia feddei	Musculoskeletal disorders
Elsholtzia feddei	Otorhinolaryngology disorders
Elsholtzia feddei	Digestive disorders
Elsholtzia fruticosa	Musculoskeletal disorders
Elsholtzia fruticosa	Skin disorders
Elsholtzia fruticosa	Circulatory disorders
Elsholtzia heterophylla	Musculoskeletal disorders
Elsholtzia heterophylla	Respiratory disorders
Elsholtzia heterophylla	Digestive disorders
Elsholtzia heterophylla	Urinary disorders
Elsholtzia hunanensis	Musculoskeletal disorders
Elsholtzia hunanensis	Otorhinolaryngology disorders
Elsholtzia hunanensis	Respiratory disorders
Elsholtzia hunanensis	Digestive disorders
Elsholtzia hunanensis	Circulatory disorders
Elsholtzia hunanensis	Reproductive disorders
Elsholtzia luteola	Musculoskeletal disorders
Elsholtzia luteola	Respiratory disorders
Elsholtzia luteola	Digestive disorders
Elsholtzia luteola	Otorhinolaryngology disorders
Elsholtzia luteola	Urinary disorders
Elsholtzia luteola	Circulatory disorders
Elsholtzia myosurus	Musculoskeletal disorders
Elsholtzia myosurus	Respiratory disorders
Elsholtzia myosurus	Urinary disorders
Elsholtzia penduliflora	Musculoskeletal disorders
Elsholtzia penduliflora	Otorhinolaryngology disorders
Elsholtzia penduliflora	Respiratory disorders
Elsholtzia penduliflora	Hepatic disorders
Elsholtzia penduliflora	Urinary disorders
Elsholtzia penduliflora	Skin disorders
Elsholtzia penduliflora	Reproductive disorders
Elsholtzia rugulosa	Musculoskeletal disorders
Elsholtzia rugulosa	Digestive disorders
Elsholtzia rugulosa	Hepatic disorders
Elsholtzia rugulosa	Skin disorders
Elsholtzia saxatilis	Skin disorders
Elsholtzia splendens	Musculoskeletal disorders
Elsholtzia splendens	Otorhinolaryngology disorders
Elsholtzia splendens	Digestive disorders
Elsholtzia splendens	Urinary disorders
Elsholtzia stachyodes	Hepatic disorders
Elsholtzia stachyodes	Urinary disorders
Elsholtzia stauntonii	Musculoskeletal disorders
Elsholtzia stauntonii	Otorhinolaryngology disorders
Elsholtzia stauntonii	Digestive disorders
Elsholtzia stauntonii	Skin disorders
Elsholtzia stauntonii	Circulatory disorders
Elsholtzia winitiana	Musculoskeletal disorders
Elsholtzia winitiana	Skin disorders
Eriophyton wallichii	Respiratory disorders
Eriophyton wallichii	Digestive disorders
Eriophyton wallichii	Hepatic disorders
Eriophyton wallichii	Circulatory disorders
Eriophyton wallichii	Reproductive disorders
Eurysolen gracilis	Skin disorders
Galeobdolon chinense	Digestive disorders
Galeopsis bifida	Otorhinolaryngology disorders
Galeopsis bifida	Respiratory disorders
Galeopsis bifida	Urinary disorders
Glechoma biondiana	Musculoskeletal disorders
Glechoma biondiana	Hepatic disorders
Glechoma biondiana	Urinary disorders
Glechoma biondiana	Skin disorders
Glechoma hederacea	Musculoskeletal disorders
Glechoma hederacea	Otorhinolaryngology disorders
Glechoma hederacea	Urinary disorders
Glechoma hederacea	Skin disorders
Glechoma longituba	Musculoskeletal disorders
Glechoma longituba	Otorhinolaryngology disorders
Glechoma longituba	Hepatic disorders
Glechoma longituba	Urinary disorders
Glechoma longituba	Skin disorders
Glechoma longituba	Circulatory disorders
Glechoma sinograndis	Respiratory disorders
Gmelina asiatica	Musculoskeletal disorders
Gmelina chinensis	Musculoskeletal disorders
Gmelina chinensis	Circulatory disorders
Gmelina chinensis	Reproductive disorders
Gmelina delavayana	Musculoskeletal disorders
Gmelina delavayana	Digestive disorders
Gmelina delavayana	Circulatory disorders
Gomphostemma chinense	Musculoskeletal disorders
Gomphostemma chinense	Digestive disorders
Gomphostemma chinense	Hepatic disorders
Gomphostemma chinense	Otorhinolaryngology disorders
Gomphostemma chinense	Urinary disorders
Gomphostemma chinense	Skin disorders
Gomphostemma chinense	Circulatory disorders
Gomphostemma latifolium	Digestive disorders
Gomphostemma latifolium	Skin disorders
Gomphostemma leptodon	Skin disorders
Gomphostemma microdon	Musculoskeletal disorders
Gomphostemma microdon	Otorhinolaryngology disorders
Gomphostemma microdon	Respiratory disorders
Gomphostemma microdon	Hepatic disorders
Gomphostemma microdon	Urinary disorders
Gomphostemma microdon	Skin disorders
Gomphostemma microdon	Circulatory disorders
Gomphostemma sulcatum	Digestive disorders
Hanceola sinensis	Hepatic disorders
Hanceola sinensis	Circulatory disorders
Heterolamium debile	Skin disorders
Holocheila longipedunculata	Respiratory disorders
Hyssopus officinalis	Hepatic disorders
Hyssopus officinalis	Skin disorders
Isodon adenanthus	Otorhinolaryngology disorders
Isodon adenanthus	Digestive disorders
Isodon adenanthus	Hepatic disorders
Isodon adenanthus	Skin disorders
Isodon adenanthus	Circulatory disorders
Isodon amethystoides	Musculoskeletal disorders
Isodon amethystoides	Respiratory disorders
Isodon amethystoides	Hepatic disorders

Plant name	Medicinal uses
Isodon amethystoides	Skin disorders
Isodon amethystoides	Circulatory disorders
Isodon amethystoides	Reproductive disorders
Isodon angustifolius	Digestive disorders
Isodon bulleyanus	Musculoskeletal disorders
Isodon bulleyanus	Digestive disorders
Isodon bulleyanus	Hepatic disorders
Isodon bulleyanus	Circulatory disorders
Isodon coetsa	Musculoskeletal disorders
Isodon coetsa	Otorhinolaryngology disorders
Isodon coetsa	Digestive disorders
Isodon coetsa	Skin disorders
Isodon coetsa	Circulatory disorders
Isodon enanderianus	Respiratory disorders
Isodon enanderianus	Circulatory disorders
Isodon eriocalyx	Digestive disorders
Isodon excisus	Musculoskeletal disorders
Isodon excisus	Digestive disorders
Isodon excisus	Circulatory disorders
Isodon henryi	Respiratory disorders
Isodon henryi	Digestive disorders
Isodon henryi	Hepatic disorders
Isodon henryi	Skin disorders
Isodon henryi	Circulatory disorders
Isodon inflexus	Musculoskeletal disorders
Isodon inflexus	Hepatic disorders
Isodon irroratus	Musculoskeletal disorders
Isodon irroratus	Otorhinolaryngology disorders
Isodon irroratus	Digestive disorders
Isodon irroratus	Hepatic disorders
Isodon irroratus	Skin disorders
Isodon japonicus	Musculoskeletal disorders
Isodon japonicus	Otorhinolaryngology disorders
Isodon japonicus	Respiratory disorders
Isodon japonicus	Digestive disorders
Isodon japonicus	Hepatic disorders
Isodon japonicus	Skin disorders
Isodon japonicus	Circulatory disorders
Isodon japonicus	Reproductive disorders
Isodon longitubus	Musculoskeletal disorders
Isodon longitubus	Hepatic disorders
Isodon longitubus	Urinary disorders
Isodon longitubus	Skin disorders
Isodon longitubus	Circulatory disorders
Isodon longitubus	Reproductive disorders
Isodon lophanthoides	Musculoskeletal disorders
Isodon lophanthoides	Digestive disorders
Isodon lophanthoides	Hepatic disorders
Isodon lophanthoides	Skin disorders
Isodon lophanthoides	Circulatory disorders
Isodon lophanthoides	Reproductive disorders
Isodon macrophyllus	Hepatic disorders
Isodon megathyrsus	Musculoskeletal disorders
Isodon megathyrsus	Digestive disorders
Isodon megathyrsus	Skin disorders
Isodon megathyrsus	Circulatory disorders
Isodon nervosus	Musculoskeletal disorders
Isodon nervosus	Hepatic disorders
Isodon nervosus	Skin disorders
Isodon phyllostachys	Musculoskeletal disorders
Isodon phyllostachys	Digestive disorders
Isodon phyllostachys	Hepatic disorders
Isodon racemosus	Skin disorders
Isodon rosthornii	Otorhinolaryngology disorders
Isodon rosthornii	Respiratory disorders
Isodon rosthornii	Hepatic disorders
Isodon rosthornii	Skin disorders
Isodon rubescens	Musculoskeletal disorders
Isodon rubescens	Otorhinolaryngology disorders
Isodon rubescens	Respiratory disorders
Isodon rubescens	Hepatic disorders
Isodon rubescens	Skin disorders
Isodon rubescens	Circulatory disorders
Isodon rubescens	Reproductive disorders
Isodon sculponeatus	Digestive disorders
Isodon sculponeatus	Hepatic disorders
Isodon sculponeatus	Otorhinolaryngology disorders
Isodon sculponeatus	Skin disorders
Isodon sculponeatus	Circulatory disorders
Isodon serra	Hepatic disorders
Isodon serra	Skin disorders
Isodon serra	Circulatory disorders
Isodon ternifolius	Musculoskeletal disorders
Isodon ternifolius	Respiratory disorders
Isodon ternifolius	Digestive disorders
Isodon ternifolius	Hepatic disorders
Isodon ternifolius	Otorhinolaryngology disorders
Isodon ternifolius	Urinary disorders
Isodon ternifolius	Skin disorders
Isodon ternifolius	Reproductive disorders
Isodon walkeri	Musculoskeletal disorders
Isodon walkeri	Respiratory disorders
Isodon walkeri	Hepatic disorders
Isodon walkeri	Skin disorders
Isodon walkeri	Circulatory disorders
Isodon walkeri	Reproductive disorders
Isodon yuennanensis	Musculoskeletal disorders
Isodon yuennanensis	Digestive disorders
Isodon yuennanensis	Circulatory disorders
Isodon yuennanensis	Reproductive disorders
Kinostemon alborubrum	Musculoskeletal disorders
Kinostemon alborubrum	Reproductive disorders
Kinostemon ornatum	Musculoskeletal disorders
Kinostemon ornatum	Otorhinolaryngology disorders
Kinostemon ornatum	Respiratory disorders
Kinostemon ornatum	Digestive disorders
Kinostemon ornatum	Hepatic disorders
Kinostemon ornatum	Skin disorders
Lagochilus grandiflorus	Skin disorders
Lagopsis supina	Circulatory disorders
Lagopsis supina	Reproductive disorders
Lamiophlomis rotata	Musculoskeletal disorders
Lamiophlomis rotata	Skin disorders
Lamiophlomis rotata	Circulatory disorders
Lamium album	Musculoskeletal disorders
Lamium album	Urinary disorders
Lamium album	Skin disorders
Lamium album	Circulatory disorders
Lamium album	Reproductive disorders
Lamium amplexicaule	Musculoskeletal disorders
Lamium amplexicaule	Hepatic disorders
Lamium amplexicaule	Skin disorders
Lamium amplexicaule	Circulatory disorders
Lamium barbatum	Musculoskeletal disorders
Lamium barbatum	Respiratory disorders
Lamium barbatum	Digestive disorders
Lamium barbatum	Hepatic disorders
Lamium barbatum	Urinary disorders
Lamium barbatum	Skin disorders
Lamium barbatum	Circulatory disorders

Plant name	Medicinal uses
Lamium barbatum	Reproductive disorders
Lavandula angustifolia	Musculoskeletal disorders
Lavandula angustifolia	Otorhinolaryngology disorders
Lavandula angustifolia	Skin disorders
Leonurus japonicus	Musculoskeletal disorders
Leonurus japonicus	Otorhinolaryngology disorders
Leonurus japonicus	Hepatic disorders
Leonurus japonicus	Urinary disorders
Leonurus japonicus	Skin disorders
Leonurus japonicus	Circulatory disorders
Leonurus japonicus	Reproductive disorders
Leonurus macranthus	Musculoskeletal disorders
Leonurus macranthus	Reproductive disorders
Leonurus pseudomacranthus	Musculoskeletal disorders
Leonurus pseudomacranthus	Urinary disorders
Leonurus pseudomacranthus	Circulatory disorders
Leonurus pseudomacranthus	Reproductive disorders
Leonurus sibiricus	Urinary disorders
Leonurus sibiricus	Skin disorders
Leonurus sibiricus	Reproductive disorders
Leucas aspera	Musculoskeletal disorders
Leucas aspera	Otorhinolaryngology disorders
Leucas aspera	Respiratory disorders
Leucas aspera	Skin disorders
Leucas ciliata	Musculoskeletal disorders
Leucas ciliata	Otorhinolaryngology disorders
Leucas ciliata	Respiratory disorders
Leucas ciliata	Digestive disorders
Leucas ciliata	Hepatic disorders
Leucas ciliata	Skin disorders
Leucas ciliata	Circulatory disorders
Leucas ciliata	Reproductive disorders
Leucas mollissima	Musculoskeletal disorders
Leucas mollissima	Respiratory disorders
Leucas mollissima	Hepatic disorders
Leucas mollissima	Urinary disorders
Leucas mollissima	Skin disorders
Leucas mollissima	Reproductive disorders
Leucas zeylanica	Musculoskeletal disorders
Leucas zeylanica	Otorhinolaryngology disorders
Leucas zeylanica	Respiratory disorders
Leucas zeylanica	Digestive disorders
Leucas zeylanica	Skin disorders
Leucas zeylanica	Reproductive disorders
Leucosceptrum canum	Musculoskeletal disorders
Leucosceptrum canum	Digestive disorders
Leucosceptrum canum	Hepatic disorders
Leucosceptrum canum	Skin disorders
Leucosceptrum canum	Circulatory disorders
Lophanthus krylovii	Digestive disorders
Lophanthus krylovii	Circulatory disorders
Loxocalyx urticifolius	Musculoskeletal disorders
Loxocalyx urticifolius	Digestive disorders
Lycopus lucidus	Musculoskeletal disorders
Lycopus lucidus	Respiratory disorders
Lycopus lucidus	Hepatic disorders
Lycopus lucidus	Skin disorders
Lycopus lucidus	Circulatory disorders
Lycopus lucidus	Reproductive disorders
Marmoritis complanatum	Digestive disorders
Marmoritis rotundifolia	Respiratory disorders
Marmoritis rotundifolia	Digestive disorders
Marmoritis rotundifolia	Hepatic disorders
Marmoritis rotundifolia	Skin disorders
Marmoritis rotundifolia	Circulatory disorders
Marmoritis rotundifolia	Reproductive disorders
Marrubium vulgare	Respiratory disorders
Marrubium vulgare	Digestive disorders
Meehania fargesii	Musculoskeletal disorders
Meehania fargesii	Digestive disorders
Meehania fargesii	Otorhinolaryngology disorders
Meehania fargesii	Skin disorders
Meehania henryi	Circulatory disorders
Meehania urticifolia	Circulatory disorders
Melissa axillaris	Musculoskeletal disorders
Melissa axillaris	Digestive disorders
Melissa axillaris	Hepatic disorders
Melissa axillaris	Skin disorders
Melissa axillaris	Reproductive disorders
Melissa officinalis	Musculoskeletal disorders
Melissa officinalis	Otorhinolaryngology disorders
Melissa officinalis	Digestive disorders
Mentha canadensis	Musculoskeletal disorders
Mentha canadensis	Otorhinolaryngology disorders
Mentha canadensis	Respiratory disorders
Mentha canadensis	Skin disorders
Mentha sachalinensis	Musculoskeletal disorders
Mentha sachalinensis	Otorhinolaryngology disorders
Mentha sachalinensis	Respiratory disorders
Mentha spicata	Musculoskeletal disorders
Mentha spicata	Otorhinolaryngology disorders
Mentha spicata	Respiratory disorders
Mentha spicata	Digestive disorders
Mentha spicata	Hepatic disorders
Mentha spicata	Skin disorders
Mesona chinensis	Musculoskeletal disorders
Mesona chinensis	Hepatic disorders
Mesona chinensis	Circulatory disorders
Micromeria barosma	Musculoskeletal disorders
Micromeria barosma	Respiratory disorders
Micromeria barosma	Digestive disorders
Micromeria barosma	Circulatory disorders
Micromeria biflora	Musculoskeletal disorders
Micromeria biflora	Respiratory disorders
Micromeria biflora	Digestive disorders
Micromeria biflora	Circulatory disorders
Microtoena delavayi	Musculoskeletal disorders
Microtoena insuavis	Musculoskeletal disorders
Microtoena insuavis	Respiratory disorders
Microtoena insuavis	Digestive disorders
Microtoena insuavis	Circulatory disorders
Microtoena omeiensis	Circulatory disorders
Microtoena patchoulii	Musculoskeletal disorders
Microtoena patchoulii	Otorhinolaryngology disorders
Microtoena patchoulii	Respiratory disorders
Microtoena patchoulii	Digestive disorders
Microtoena patchoulii	Skin disorders
Microtoena patchoulii	Circulatory disorders
Microtoena pauciflora	Musculoskeletal disorders
Microtoena pauciflora	Otorhinolaryngology disorders
Microtoena prainiana	Otorhinolaryngology disorders
Microtoena prainiana	Respiratory disorders
Microtoena prainiana	Digestive disorders
Microtoena urticifolia	Musculoskeletal disorders
Mosla cavaleriei	Musculoskeletal disorders
Mosla cavaleriei	Digestive disorders
Mosla cavaleriei	Skin disorders
Mosla chinensis	Musculoskeletal disorders
Mosla chinensis	Otorhinolaryngology disorders
Mosla chinensis	Digestive disorders

Plant name	Medicinal uses
Mosla chinensis	Urinary disorders
Mosla chinensis	Reproductive disorders
Mosla dianthera	Musculoskeletal disorders
Mosla dianthera	Otorhinolaryngology disorders
Mosla dianthera	Digestive disorders
Mosla dianthera	Skin disorders
Mosla dianthera	Reproductive disorders
Mosla grosseserrata	Respiratory disorders
Mosla grosseserrata	Digestive disorders
Mosla grosseserrata	Circulatory disorders
Mosla hangchowensis	Hepatic disorders
Mosla pauciflora	Musculoskeletal disorders
Mosla pauciflora	Otorhinolaryngology disorders
Mosla pauciflora	Respiratory disorders
Mosla pauciflora	Digestive disorders
Mosla scabra	Musculoskeletal disorders
Mosla scabra	Otorhinolaryngology disorders
Mosla scabra	Respiratory disorders
Mosla scabra	Digestive disorders
Mosla scabra	Urinary disorders
Mosla scabra	Skin disorders
Mosla scabra	Circulatory disorders
Mosla scabra	Reproductive disorders
Nepeta cataria	Musculoskeletal disorders
Nepeta cataria	Otorhinolaryngology disorders
Nepeta cataria	Respiratory disorders
Nepeta cataria	Digestive disorders
Nepeta cataria	Skin disorders
Nepeta cataria	Circulatory disorders
Nepeta coerulescens	Musculoskeletal disorders
Nepeta coerulescens	Skin disorders
Nepeta coerulescens	Circulatory disorders
Nepeta densiflora	Musculoskeletal disorders
Nepeta densiflora	Hepatic disorders
Nepeta densiflora	Skin disorders
Nepeta fordii	Musculoskeletal disorders
Nepeta fordii	Hepatic disorders
Nepeta prattii	Musculoskeletal disorders
Nepeta sibirica	Musculoskeletal disorders
Nepeta sibirica	Skin disorders
Nepeta sibirica	Circulatory disorders
Nepeta souliei	Hepatic disorders
Nepeta souliei	Otorhinolaryngology disorders
Notochaete hamosa	Musculoskeletal disorders
Ocimum americanum	Skin disorders
Ocimum basilicum	Musculoskeletal disorders
Ocimum basilicum	Otorhinolaryngology disorders
Ocimum basilicum	Digestive disorders
Ocimum basilicum	Urinary disorders
Ocimum basilicum	Skin disorders
Ocimum basilicum	Circulatory disorders
Ocimum basilicum	Reproductive disorders
Ocimum sanctum	Musculoskeletal disorders
Ocimum sanctum	Otorhinolaryngology disorders
Ocimum sanctum	Respiratory disorders
Origanum vulgare	Musculoskeletal disorders
Origanum vulgare	Otorhinolaryngology disorders
Origanum vulgare	Digestive disorders
Origanum vulgare	Urinary disorders
Origanum vulgare	Skin disorders
Orthosiphon marmoritis	Digestive disorders
Orthosiphon marmoritis	Otorhinolaryngology disorders
Orthosiphon rubicundus	Respiratory disorders
Orthosiphon rubicundus	Circulatory disorders
Orthosiphon wulfenioides	Musculoskeletal disorders
Orthosiphon wulfenioides	Respiratory disorders
Orthosiphon wulfenioides	Digestive disorders
Orthosiphon wulfenioides	Circulatory disorders
Panzerina lanata	Musculoskeletal disorders
Panzerina lanata	Hepatic disorders
Panzerina lanata	Urinary disorders
Panzerina lanata	Skin disorders
Panzerina lanata	Circulatory disorders
Panzerina lanata	Reproductive disorders
Paraphlomis albiflora	Musculoskeletal disorders
Paraphlomis albiflora	Otorhinolaryngology disorders
Paraphlomis albiflora	Respiratory disorders
Paraphlomis javanica	Otorhinolaryngology disorders
Paraphlomis javanica	Respiratory disorders
Paraphlomis javanica	Hepatic disorders
Paraphlomis javanica	Circulatory disorders
Paraphlomis javanica	Reproductive disorders
Perilla frutescens	Musculoskeletal disorders
Perilla frutescens	Otorhinolaryngology disorders
Perilla frutescens	Respiratory disorders
Perilla frutescens	Digestive disorders
Perilla frutescens	Skin disorders
Perilla frutescens	Circulatory disorders
Perilla frutescens	Reproductive disorders
Phlomis atropurpurea	Hepatic disorders
Phlomis atropurpurea	Urinary disorders
Phlomis atropurpurea	Skin disorders
Phlomis betonicoides	Musculoskeletal disorders
Phlomis betonicoides	Otorhinolaryngology disorders
Phlomis betonicoides	Digestive disorders
Phlomis betonicoides	Hepatic disorders
Phlomis betonicoides	Circulatory disorders
Phlomis likiangensis	Musculoskeletal disorders
Phlomis likiangensis	Otorhinolaryngology disorders
Phlomis likiangensis	Respiratory disorders
Phlomis likiangensis	Reproductive disorders
Phlomis longicalyx	Hepatic disorders
Phlomis longicalyx	Urinary disorders
Phlomis longicalyx	Skin disorders
Phlomis maximowiczii	Hepatic disorders
Phlomis maximowiczii	Skin disorders
Phlomis megalantha	Musculoskeletal disorders
Phlomis megalantha	Hepatic disorders
Phlomis megalantha	Skin disorders
Phlomis mongolica	Musculoskeletal disorders
Phlomis mongolica	Otorhinolaryngology disorders
Phlomis mongolica	Respiratory disorders
Phlomis mongolica	Hepatic disorders
Phlomis mongolica	Skin disorders
Phlomis pratensis	Digestive disorders
Phlomis tuberosa	Hepatic disorders
Phlomis tuberosa	Reproductive disorders
Phlomis umbrosa	Musculoskeletal disorders
Phlomis umbrosa	Respiratory disorders
Phlomis umbrosa	Digestive disorders
Phlomis umbrosa	Urinary disorders
Phlomis umbrosa	Skin disorders
Phlomis umbrosa	Circulatory disorders
Phlomis younghusbandii	Musculoskeletal disorders
Phlomis younghusbandii	Otorhinolaryngology disorders
Phlomis younghusbandii	Respiratory disorders
Phlomis younghusbandii	Hepatic disorders
Phlomis younghusbandii	Skin disorders
Plants	**Medicinal uses**
Pogostemon auricularius	Musculoskeletal disorders

Plant name	Medicinal uses
Pogostemon auricularius	Digestive disorders
Pogostemon auricularius	Hepatic disorders
Pogostemon auricularius	Otorhinolaryngology disorders
Pogostemon auricularius	Skin disorders
Pogostemon brevicorollus	Skin disorders
Pogostemon cablin	Musculoskeletal disorders
Pogostemon cablin	Otorhinolaryngology disorders
Pogostemon cablin	Respiratory disorders
Pogostemon cablin	Digestive disorders
Pogostemon cablin	Skin disorders
Pogostemon esquirolii	Reproductive disorders
Pogostemon glaber	Respiratory disorders
Pogostemon glaber	Digestive disorders
Pogostemon glaber	Hepatic disorders
Pogostemon glaber	Circulatory disorders
Pogostemon nigrescens	Musculoskeletal disorders
Premna acutata	Otorhinolaryngology disorders
Premna acutata	Hepatic disorders
Premna confinis	Musculoskeletal disorders
Premna crassa	Musculoskeletal disorders
Premna fulva	Musculoskeletal disorders
Premna fulva	Hepatic disorders
Premna fulva	Skin disorders
Premna fulva	Reproductive disorders
Premna herbacea	Musculoskeletal disorders
Premna herbacea	Digestive disorders
Premna herbacea	Skin disorders
Premna herbacea	Circulatory disorders
Premna ligustroides	Musculoskeletal disorders
Premna ligustroides	Otorhinolaryngology disorders
Premna ligustroides	Digestive disorders
Premna ligustroides	Hepatic disorders
Premna ligustroides	Urinary disorders
Premna ligustroides	Skin disorders
Premna microphylla	Musculoskeletal disorders
Premna microphylla	Digestive disorders
Premna microphylla	Hepatic disorders
Premna microphylla	Skin disorders
Premna puberula	Musculoskeletal disorders
Premna puberula	Respiratory disorders
Premna puberula	Hepatic disorders
Premna puberula	Otorhinolaryngology disorders
Premna puberula	Skin disorders
Premna puberula	Reproductive disorders
Premna sunyiensis	Skin disorders
Premna sunyiensis	Circulatory disorders
Premna szemaoensis	Musculoskeletal disorders
Premna szemaoensis	Digestive disorders
Premna szemaoensis	Skin disorders
Premna urticifolia	Musculoskeletal disorders
Premna urticifolia	Digestive disorders
Prunella asiatica	Musculoskeletal disorders
Prunella asiatica	Otorhinolaryngology disorders
Prunella asiatica	Respiratory disorders
Prunella asiatica	Hepatic disorders
Prunella asiatica	Urinary disorders
Prunella asiatica	Skin disorders
Prunella asiatica	Circulatory disorders
Prunella asiatica	Reproductive disorders
Prunella vulgaris	Musculoskeletal disorders
Prunella vulgaris	Otorhinolaryngology disorders
Prunella vulgaris	Hepatic disorders
Prunella vulgaris	Urinary disorders
Prunella vulgaris	Skin disorders
Prunella vulgaris	Circulatory disorders
Prunella vulgaris	Reproductive disorders
Rosmarinus officinalis	Otorhinolaryngology disorders
Rosmarinus officinalis	Digestive disorders
Salvia aerea	Musculoskeletal disorders
Salvia aerea	Digestive disorders
Salvia aerea	Hepatic disorders
Salvia aerea	Urinary disorders
Salvia aerea	Circulatory disorders
Salvia aerea	Reproductive disorders
Salvia campanulata	Reproductive disorders
Salvia cavaleriei	Musculoskeletal disorders
Salvia cavaleriei	Respiratory disorders
Salvia cavaleriei	Digestive disorders
Salvia cavaleriei	Urinary disorders
Salvia cavaleriei	Skin disorders
Salvia cavaleriei	Circulatory disorders
Salvia cavaleriei	Reproductive disorders
Salvia chinensis	Musculoskeletal disorders
Salvia chinensis	Respiratory disorders
Salvia chinensis	Digestive disorders
Salvia chinensis	Hepatic disorders
Salvia chinensis	Skin disorders
Salvia chinensis	Circulatory disorders
Salvia chinensis	Reproductive disorders
Salvia coccinea	Musculoskeletal disorders
Salvia coccinea	Hepatic disorders
Salvia coccinea	Circulatory disorders
Salvia coccinea	Reproductive disorders
Salvia deserta	Otorhinolaryngology disorders
Salvia deserta	Respiratory disorders
Salvia deserta	Hepatic disorders
Salvia deserta	Urinary disorders
Salvia deserta	Skin disorders
Salvia digitaloides	Musculoskeletal disorders
Salvia digitaloides	Skin disorders
Salvia digitaloides	Circulatory disorders
Salvia digitaloides	Reproductive disorders
Salvia himmelbaurii	Musculoskeletal disorders
Salvia himmelbaurii	Hepatic disorders
Salvia honania	Musculoskeletal disorders
Salvia honania	Circulatory disorders
Salvia honania	Reproductive disorders
Salvia hupehensis	Musculoskeletal disorders
Salvia hupehensis	Otorhinolaryngology disorders
Salvia hupehensis	Respiratory disorders
Salvia japonica	Musculoskeletal disorders
Salvia japonica	Otorhinolaryngology disorders
Salvia japonica	Hepatic disorders
Salvia japonica	Skin disorders
Salvia japonica	Circulatory disorders
Salvia japonica	Reproductive disorders
Salvia kiangsiensis	Musculoskeletal disorders
Salvia kiangsiensis	Digestive disorders
Salvia kiangsiensis	Skin disorders
Salvia kiangsiensis	Circulatory disorders
Salvia kiangsiensis	Reproductive disorders
Salvia liguliloba	Musculoskeletal disorders
Salvia liguliloba	Circulatory disorders
Salvia liguliloba	Reproductive disorders
Salvia maximowicziana	Hepatic disorders
Salvia maximowicziana	Skin disorders
Salvia maximowicziana	Circulatory disorders
Salvia mekongensis	Skin disorders
Salvia miltiorrhiza	Musculoskeletal disorders
Salvia miltiorrhiza	Respiratory disorders

Plant name	Medicinal uses
Salvia miltiorrhiza	Hepatic disorders
Salvia miltiorrhiza	Skin disorders
Salvia miltiorrhiza	Circulatory disorders
Salvia miltiorrhiza	Reproductive disorders
Salvia nanchuanensis	Reproductive disorders
Salvia omeiana	Musculoskeletal disorders
Salvia omeiana	Hepatic disorders
Salvia plebeia	Musculoskeletal disorders
Salvia plebeia	Otorhinolaryngology disorders
Salvia plebeia	Respiratory disorders
Salvia plebeia	Digestive disorders
Salvia plebeia	Hepatic disorders
Salvia plebeia	Urinary disorders
Salvia plebeia	Skin disorders
Salvia plebeia	Circulatory disorders
Salvia plebeia	Reproductive disorders
Salvia plectranthoides	Musculoskeletal disorders
Salvia plectranthoides	Respiratory disorders
Salvia plectranthoides	Circulatory disorders
Salvia plectranthoides	Reproductive disorders
Salvia prionitis	Musculoskeletal disorders
Salvia prionitis	Otorhinolaryngology disorders
Salvia prionitis	Respiratory disorders
Salvia prionitis	Digestive disorders
Salvia prionitis	Hepatic disorders
Salvia prionitis	Skin disorders
Salvia prionitis	Reproductive disorders
Salvia roborowskii	Musculoskeletal disorders
Salvia roborowskii	Otorhinolaryngology disorders
Salvia roborowskii	Hepatic disorders
Salvia roborowskii	Circulatory disorders
Salvia roborowskii	Reproductive disorders
Salvia scapiformis	Musculoskeletal disorders
Salvia scapiformis	Respiratory disorders
Salvia scapiformis	Circulatory disorders
Salvia scapiformis	Reproductive disorders
Salvia substolonifera	Musculoskeletal disorders
Salvia substolonifera	Respiratory disorders
Salvia substolonifera	Hepatic disorders
Salvia substolonifera	Urinary disorders
Salvia substolonifera	Skin disorders
Salvia substolonifera	Reproductive disorders
Salvia trijuga	Musculoskeletal disorders
Salvia trijuga	Urinary disorders
Salvia trijuga	Circulatory disorders
Salvia trijuga	Reproductive disorders
Salvia umbratica	Circulatory disorders
Salvia umbratica	Reproductive disorders
Salvia yunnanensis	Musculoskeletal disorders
Salvia yunnanensis	Hepatic disorders
Salvia yunnanensis	Skin disorders
Salvia yunnanensis	Circulatory disorders
Salvia yunnanensis	Reproductive disorders
Schnabelia oligophylla	Musculoskeletal disorders
Schnabelia oligophylla	Skin disorders
Schnabelia oligophylla	Circulatory disorders
Schnabelia oligophylla	Reproductive disorders
Scutellaria amoena	Musculoskeletal disorders
Scutellaria amoena	Digestive disorders
Scutellaria baicalensis	Musculoskeletal disorders
Scutellaria baicalensis	Respiratory disorders
Scutellaria baicalensis	Digestive disorders
Scutellaria baicalensis	Hepatic disorders
Scutellaria baicalensis	Urinary disorders
Scutellaria baicalensis	Skin disorders
Scutellaria baicalensis	Circulatory disorders
Scutellaria baicalensis	Reproductive disorders
Scutellaria barbata	Musculoskeletal disorders
Scutellaria barbata	Otorhinolaryngology disorders
Scutellaria barbata	Respiratory disorders
Scutellaria barbata	Hepatic disorders
Scutellaria barbata	Urinary disorders
Scutellaria barbata	Skin disorders
Scutellaria barbata	Circulatory disorders
Scutellaria caryopteroides	Musculoskeletal disorders
Scutellaria caryopteroides	Hepatic disorders
Scutellaria caryopteroides	Urinary disorders
Scutellaria caudifolia	Reproductive disorders
Scutellaria chungtienensis	Digestive disorders
Scutellaria discolor	Musculoskeletal disorders
Scutellaria discolor	Otorhinolaryngology disorders
Scutellaria discolor	Respiratory disorders
Scutellaria discolor	Hepatic disorders
Scutellaria discolor	Skin disorders
Scutellaria franchetiana	Respiratory disorders
Scutellaria franchetiana	Hepatic disorders
Scutellaria franchetiana	Skin disorders
Scutellaria franchetiana	Circulatory disorders
Scutellaria galericulata	Musculoskeletal disorders
Scutellaria galericulata	Hepatic disorders
Scutellaria galericulata	Urinary disorders
Scutellaria galericulata	Skin disorders
Scutellaria galericulata	Circulatory disorders
Scutellaria hypericifolia	Musculoskeletal disorders
Scutellaria hypericifolia	Otorhinolaryngology disorders
Scutellaria hypericifolia	Respiratory disorders
Scutellaria hypericifolia	Digestive disorders
Scutellaria hypericifolia	Hepatic disorders
Scutellaria hypericifolia	Urinary disorders
Scutellaria hypericifolia	Skin disorders
Scutellaria hypericifolia	Reproductive disorders
Scutellaria indica	Musculoskeletal disorders
Scutellaria indica	Respiratory disorders
Scutellaria indica	Digestive disorders
Scutellaria indica	Hepatic disorders
Scutellaria indica	Otorhinolaryngology disorders
Scutellaria indica	Skin disorders
Scutellaria indica	Circulatory disorders
Scutellaria indica	Reproductive disorders
Scutellaria likiangensis	Respiratory disorders
Scutellaria likiangensis	Digestive disorders
Scutellaria likiangensis	Hepatic disorders
Scutellaria likiangensis	Skin disorders
Scutellaria likiangensis	Circulatory disorders
Scutellaria likiangensis	Reproductive disorders
Scutellaria obtusifolia	Digestive disorders
Scutellaria obtusifolia	Skin disorders
Scutellaria obtusifolia	Circulatory disorders
Scutellaria omeiensis	Musculoskeletal disorders
Scutellaria omeiensis	Digestive disorders
Scutellaria omeiensis	Hepatic disorders
Scutellaria orthocalyx	Musculoskeletal disorders
Scutellaria orthocalyx	Otorhinolaryngology disorders
Scutellaria orthocalyx	Digestive disorders
Scutellaria orthocalyx	Hepatic disorders
Scutellaria orthocalyx	Skin disorders
Scutellaria pekinensis	Hepatic disorders
Scutellaria quadrilobulata	Hepatic disorders
Scutellaria scordifolia	Digestive disorders
Scutellaria scordifolia	Hepatic disorders

Plant name	Medicinal uses
Scutellaria scordifolia	Urinary disorders
Scutellaria scordifolia	Skin disorders
Scutellaria sessilifolia	Otorhinolaryngology disorders
Scutellaria strigillosa	Hepatic disorders
Scutellaria strigillosa	Urinary disorders
Scutellaria strigillosa	Skin disorders
Scutellaria tayloriana	Respiratory disorders
Scutellaria tayloriana	Digestive disorders
Scutellaria tayloriana	Hepatic disorders
Scutellaria tuberifera	Reproductive disorders
Scutellaria yunnanensis	Otorhinolaryngology disorders
Scutellaria yunnanensis	Skin disorders
Siphocranion macranthum	Skin disorders
Skapanthus oreophilus	Reproductive disorders
Stachys adulterina	Digestive disorders
Stachys baicalensis	Musculoskeletal disorders
Stachys baicalensis	Respiratory disorders
Stachys baicalensis	Digestive disorders
Stachys baicalensis	Hepatic disorders
Stachys baicalensis	Otorhinolaryngology disorders
Stachys baicalensis	Skin disorders
Stachys baicalensis	Circulatory disorders
Stachys baicalensis	Reproductive disorders
Stachys geobombycis	Musculoskeletal disorders
Stachys geobombycis	Respiratory disorders
Stachys geobombycis	Hepatic disorders
Stachys geobombycis	Urinary disorders
Stachys geobombycis	Skin disorders
Stachys geobombycis	Circulatory disorders
Stachys geobombycis	Reproductive disorders
Stachys japonica	Digestive disorders
Stachys japonica	Skin disorders
Stachys kouyangensis	Musculoskeletal disorders
Stachys kouyangensis	Respiratory disorders
Stachys kouyangensis	Digestive disorders
Stachys kouyangensis	Hepatic disorders
Stachys kouyangensis	Skin disorders
Stachys oblongifolia	Musculoskeletal disorders
Stachys oblongifolia	Respiratory disorders
Stachys oblongifolia	Digestive disorders
Stachys oblongifolia	Circulatory disorders
Stachys palustris	Musculoskeletal disorders
Stachys palustris	Otorhinolaryngology disorders
Stachys palustris	Respiratory disorders
Stachys palustris	Digestive disorders
Stachys palustris	Hepatic disorders
Stachys palustris	Skin disorders
Stachys pseudophlomis	Musculoskeletal disorders
Stachys pseudophlomis	Digestive disorders
Stachys sieboldii	Musculoskeletal disorders
Stachys sieboldii	Respiratory disorders
Stachys sieboldii	Urinary disorders
Stachys sieboldii	Skin disorders
Stachys sieboldii	Circulatory disorders
Tectona grandis	Digestive disorders
Tectona grandis	Urinary disorders
Tectona grandis	Skin disorders
Teucrium anlungense	Musculoskeletal disorders
Teucrium anlungense	Digestive disorders
Teucrium bidentatum	Digestive disorders
Teucrium bidentatum	Hepatic disorders
Teucrium bidentatum	Skin disorders
Teucrium bidentatum	Circulatory disorders
Teucrium omeiense	Musculoskeletal disorders
Teucrium omeiense	Digestive disorders
Teucrium omeiense	Skin disorders
Teucrium pernyi	Digestive disorders
Teucrium pernyi	Hepatic disorders
Teucrium pernyi	Skin disorders
Teucrium pernyi	Circulatory disorders
Teucrium pilosum	Skin disorders
Teucrium quadrifarium	Musculoskeletal disorders
Teucrium quadrifarium	Otorhinolaryngology disorders
Teucrium quadrifarium	Respiratory disorders
Teucrium quadrifarium	Digestive disorders
Teucrium quadrifarium	Hepatic disorders
Teucrium quadrifarium	Skin disorders
Teucrium simplex	Hepatic disorders
Teucrium ussuriense	Digestive disorders
Teucrium viscidum	Musculoskeletal disorders
Teucrium viscidum	Otorhinolaryngology disorders
Teucrium viscidum	Respiratory disorders
Teucrium viscidum	Digestive disorders
Teucrium viscidum	Hepatic disorders
Teucrium viscidum	Skin disorders
Teucrium viscidum	Circulatory disorders
Teucrium viscidum	Reproductive disorders
Thymus altaicus	Otorhinolaryngology disorders
Thymus altaicus	Respiratory disorders
Thymus altaicus	Urinary disorders
Thymus altaicus	Skin disorders
Thymus altaicus	Circulatory disorders
Thymus disjunctus	Musculoskeletal disorders
Thymus disjunctus	Respiratory disorders
Thymus marschallianus	Musculoskeletal disorders
Thymus marschallianus	Digestive disorders
Thymus marschallianus	Circulatory disorders
Thymus mongolicus	Musculoskeletal disorders
Thymus mongolicus	Respiratory disorders
Thymus mongolicus	Digestive disorders
Thymus mongolicus	Otorhinolaryngology disorders
Thymus mongolicus	Circulatory disorders
Thymus proximus	Musculoskeletal disorders
Thymus proximus	Respiratory disorders
Thymus proximus	Digestive disorders
Thymus proximus	Circulatory disorders
Vitex canescens	Musculoskeletal disorders
Vitex canescens	Digestive disorders
Vitex negundo	Musculoskeletal disorders
Vitex negundo	Otorhinolaryngology disorders
Vitex negundo	Respiratory disorders
Vitex negundo	Digestive disorders
Vitex negundo	Hepatic disorders
Vitex negundo	Skin disorders
Vitex negundo	Circulatory disorders
Vitex negundo	Reproductive disorders
Vitex peduncularis	Otorhinolaryngology disorders
Vitex quinata	Respiratory disorders
Vitex quinata	Hepatic disorders
Vitex quinata	Skin disorders
Vitex quinata	Circulatory disorders
Vitex trifolia	Musculoskeletal disorders
Vitex trifolia	Otorhinolaryngology disorders
Vitex trifolia	Respiratory disorders
Vitex trifolia	Skin disorders
Vitex trifolia	Circulatory disorders
Vitex trifolia	Reproductive disorders
Ziziphora bungeana	Respiratory disorders
Ziziphora bungeana	Circulatory disorders
Ziziphora bungeana	Reproductive disorders

Table S2. Phytochemical records of TCM plants of Lamiaceae.

Plant species	References	Alkaloid	Flavonoid	Glycoside	Phenol	Steroid	Terpene
Agastache rugosa	(Zielińska & Matkowski, 2014)	0	1	0	1	0	1
Ajuga bracteosa	(Israili & Lyoussi, 2009)	0	1	0	0	1	1
Ajuga ciliata	(Zhang *et al.,* 2017)	0	0	0	0	1	0
Ajuga decumbens	(Zhang *et al.,* 2017)	0	1	1	0	1	1
Ajuga forrestii	(Zhang *et al.,* 2017)	0	1	0	0	0	1
Ajuga lupulina	(Chen *et al.,* 1996)	0	0	0	0	0	1
Ajuga macrosperma	(Shen *et al.,* 1993)	0	0	0	0	0	1
Ajuga nipponensis	(Shimomura *et al.,* 1989)	0	0	0	0	0	1
Ajuga pantantha	(Shen *et al.,* 1993)	0	0	0	0	0	1
Amethystea caerulea	(Mumtaz *et al.,* 2017)	0	0	0	1	0	1
Anisochilus carnosus	(Duke, 2016)	0	1	0	0	0	0
Anisomeles indica	(Zhang *et al.,* 2017)	0	0	0	0	0	1
Callicarpa arborea	(Zhang *et al.,* 2017); (Duke, 2016)	0	1	0	0	1	1
Callicarpa bodinieri	(Mumtaz *et al.,* 2017)	0	0	0	0	1	1
Callicarpa brevipes	(Wang *et al.,* 2012)	0	0	1	0	0	0
Callicarpa candicans	(Zhang *et al.,* 2017)	1	0	0	0	0	0
Callicarpa cathayana	(Zhou *et al.,* 2005)	0	1	0	0	0	0
Callicarpa dichotoma	(Koo *et al.,* 2005)	0	0	1	0	0	0
Callicarpa integerrima	(Mumtaz *et al.,* 2017)	0	0	0	0	0	1
Callicarpa japonica	(Cantrell *et al.,* 2005)	0	0	0	0	0	1
Callicarpa kochiana	(Lin *et al.,* 2012)	0	0	0	0	0	1
Callicarpa kwangtungensis	(Zhou *et al.,* 2015)	0	0	0	0	0	1
Callicarpa longissima	(Liu *et al.,* 2012)	0	0	0	0	0	1
Callicarpa nudiflora	(Mei *et al.,* 2010)	0	1	0	0	0	1
Callicarpa pilosissima	(Chen *et al.,* 2009)	0	0	0	0	0	1
Caryopteris divaricata	(Hosozawa *et al.,* 1974)	0	0	0	0	0	1
Caryopteris incana	(Chu *et al.,* 2011)	1	1	1	1	0	1
Caryopteris mongholica	(Zhang & Cheng, 2001)	0	0	0	0	1	0
Clerodendranthus spicatus	(Zhang *et al.,* 2017)	1	1	0	0	0	0
Clerodendrum bungei	(Liu *et al.,* 2009)	0	0	0	1	0	0
Clerodendrum canescens	(Xu *et al.,* 2016)	0	0	0	0	0	1
Clerodendrum colebrookianum	(Nath & Bordoloi, 1991)	0	0	0	0	0	1
Clerodendrum cyrtophyllum	(Liu *et al.,* 2011)	0	0	0	1	0	0
Clerodendrum indicum	(Tian & Sun, 1999)	0	0	1	0	0	0
Clerodendrum inerme	(Zhang *et al.,* 2017); (Duke, 2016)	0	0	1	0	0	1
Clerodendrum mandarinorum	(Fan *et al.,* 1999)	0	0	0	0	0	1
Clerodendrum serratum	(Fan *et al.,* 2008)	0	1	0	0	1	0
Clerodendrum thomsoniae	(Zhang *et al.,* 2017)	0	0	1	0	0	1
Clinopodium chinense	(Zhang *et al.,* 2017)	1	1	0	0	0	0
Clinopodium confine	(Dai *et al.,* 1984)	0	1	0	1	0	0
Clinopodium polycephalum	(Dai *et al.,* 1984)	0	1	0	1	0	0
Clinopodium urticifolium	(Hu *et al.,* 2012)	0	0	0	1	0	0
Colebrookea oppositifolia	(Shirsat *et al.,* 2014)	1	1	0	1	1	0
Coleus carnosifolius	(Mu *et al.,* 1996)	0	0	0	0	1	0
Coleus esquirolii	(Mu *et al.,* 1996)	0	0	0	0	0	1
Colquhounia coccinea	(Li *et al.,* 2013)	0	0	0	0	0	1
Colquhounia seguinii	(Li *et al.,* 2014)	0	0	0	0	0	1
Dracocephalum argunense	(Kakasy, 2006)	0	0	0	1	0	0
Dracocephalum moldavica	(Mumtaz *et al.,* 2017)	0	1	1	0	0	1
Dracocephalum rupestre	(Zhang *et al.,* 2017)	0	1	0	0	0	0
Elsholtzia blanda	(Duke, 2016)	0	1	0	0	0	0
Elsholtzia bodinieri	(Guo *et al.,* 2012)	0	1	0	0	0	0
Elsholtzia ciliata	(Zhang *et al.,* 2017); (Duke, 2016)	1	1	0	0	0	1
Elsholtzia densa	(Guo *et al.,* 2012)	0	1	0	0	0	0
Elsholtzia eriostachya	(Guo *et al.,* 2012)	0	1	0	0	0	0
Elsholtzia rugulosa	(Guo *et al.,* 2012)	0	1	0	0	0	0

Table S2. (Cont'd.).

Plant species	References	Alkaloid	Flavonoid	Glycoside	Phenol	Steroid	Terpene
Elsholtzia splendens	(Zhang *et al.,* 2017)	1	0	0	1	0	1
Elsholtzia stauntonii	(Guo *et al.,* 2012)	0	1	0	0	0	0
Eriophyton wallichii	(Mumtaz *et al.,* 2017)	0	0	0	0	1	1
Galeobdolon chinense	(Hiramatsu & Yoshikawa, 2005)	0	0	0	1	0	0
Galeopsis bifida	(Chirikova *et al*.,)	0	0	0	1	0	0
Glechoma hederacea	(Duke, 2016)	0	1	0	0	0	0
Glechoma longituba	(Zhang *et al.,* 2017)	0	0	0	0	0	1
Gomphostemma leptodon	(Bongcheewin *et al.,* 2014)	0	1	0	1	0	0
Gomphostemma microdon	(Zhang *et al.,* 2009)	0	0	0	0	0	1
Hyssopus officinalis	(Mitić & Đorđević, 2000)	0	1	0	0	0	0
Isodon adenanthus	(Park, 2011)	0	0	0	0	0	1
Isodon amethystoides	(Zhang *et al.,* 2012)	0	1	0	1	0	0
Isodon enanderianus	(Zhang *et al.,* 2017)	0	0	0	0	0	1
Isodon excisus	(Hong *et al.,* 2011)	0	0	0	0	0	1
Isodon japonicus	(Bai *et al.,* 2005)	0	0	0	0	0	1
Isodon megathyrsus	(Zhang *et al.,* 2017)	0	0	0	0	0	1
Isodon nervosus	(Li *et al.,* 2008)	0	0	0	0	0	1
Isodon phyllostachys	(Zhang *et al.,* 2017)	0	0	0	0	0	1
Isodon serra	(Liu *et al.,* 2010)	0	1	0	1	0	1
Isodon ternifolius	(Zhang *et al.,* 2017)	0	0	0	0	0	1
Lagopsis supina	(Zhang *et al.,* 2015)	0	0	0	0	0	1
Lamiophlomis rotata	(Zhang *et al.,* 2017); (Kim *et al.,* 2015)	1	1	1	0	0	1
Lamium album	(Alipieva *et al.,* 2003)	0	0	0	0	0	1
Lamium amplexicaule	(Zhang *et al.,* 2017)	0	0	1	0	0	1
Lamium barbatum	(Zhang *et al.,* 2017)	1	0	1	1	0	1
Lavandula angustifolia	(Shafaghat *et al.,* 2012)	0	1	0	0	0	0
Leonurus japonicus	(Duke, 2016)	1	1	0	1	0	1
Leonurus macranthus	(Zhao *et al.,* 2019)	0	0	0	0	0	1
Leonurus sibiricus	(Zhang *et al.,* 2017); (Dai *et al.,* 2016)	1	1	0	0	0	1
Leucas aspera	(Rahman & Islam, 2013)	1	1	0	0	1	1
Leucas zeylanica	(Babu *et al.,* 2016)	0	1	0	0	1	0
Loxocalyx urticifolius	(He *et al.,* 2012)	0	0	0	0	0	1
Lycopus lucidus	(Zhang *et al.,* 2017); (Kim *et al.,* 2015)	1	1	1	1	0	1
Marrubium vulgare	(Zhang *et al.,* 2017); (Duke, 2016)	0	0	1	1	0	1
Meehania fargesii	(Murata *et al.,* 2010)	1	1	0	0	0	0
Melissa axillaris	(Žunić, 2017)	0	1	0	0	0	0
Melissa officinalis	(Zhang *et al.,* 2017); (Duke, 2016)	1	1	0	0	0	1
Mentha canadensis	(Dai *et al.,* 2016)	1	0	0	1	0	1
Mentha spicata	(Zhang *et al.,* 2017); (Duke, 2016)	0	0	0	0	0	1
Micromeria barosma	(Zhang *et al.,* 2012)	0	1	0	0	0	0
Micromeria biflora	(Mallavarapu *et al.,* 1997)	0	0	0	0	0	1
Microtoena insuavis	(Li *et al.,* 2006)	0	0	0	0	0	1
Microtoena prainiana	(Zhang *et al.,* 2017)	1	1	1	0	0	0
Mosla chinensis	(Zhang *et al.,* 2017); (Kim *et al.,* 2015)	0	1	0	1	0	1
Mosla dianthera	(Zhang *et al.,* 2017)	0	0	0	0	0	1
Mosla grosseserrata	(Zhang *et al.,* 2017)	0	0	0	0	0	1
Mosla scabra	(Zhang *et al.,* 2017)	0	0	0	0	0	1
Nepeta cataria	(Zhang *et al.,* 2017); (Duke, 2016)	0	0	0	1	0	1
Notochaete hamosa	(Çalış *et al.,* 2004)	0	0	0	0	0	1
Ocimum americanum	(Sarma & Babu, 2011)	0	1	0	0	1	0
Ocimum basilicum	(Zhang *et al.,* 2017); (Duke, 2016)	1	1	0	1	0	1
Ocimum sanctum	(Joshi *et al.,* 2011)	1	1	0	0	1	1
Origanum vulgare	(Zhang *et al.,* 2017); (Duke, 2016)	0	1	0	1	1	1
Orthosiphon wulfenioides	(Zhang *et al.,* 2017)	0	0	0	1	0	0
Panzerina lanata	(Wang *et al.,* 2015)	0	1	0	0	0	0

Table S2. (Cont'd.).

Plant species	References	Alkaloid	Flavonoid	Glycoside	Phenol	Steroid	Terpene
Perilla frutescens	(Zhang *et al.,* 2017); (Kim *et al.,* 2015)	1	1	1	1	1	1
Phlomis likiangensis	(Li *et al.,* 2017)	0	0	0	0	0	1
Phlomis megalantha	(Sobeh *et al.,* 2016)	0	0	0	0	0	1
Phlomis mongolica	(Zhang *et al.,* 2017)	1	0	0	0	0	0
Phlomis tuberosa	(Zhang *et al.,* 2017)	1	0	0	0	0	0
Phlomis umbrosa	(Zhang *et al.,* 2017); (Kim *et al.,* 2015)	0	1	0	0	0	1
Phlomis younghusbandii	(Mumtaz *et al.,* 2017)	1	0	0	0	1	0
Pogostemon auricularius	(Nguyen *et al.,* 2018)	0	0	0	0	0	1
Pogostemon cablin	(Zhang *et al.,* 2017); (Kim *et al.,* 2015)	1	1	1	1	1	1
Premna crassa	(Dianita & Jantan, 2017)	0	0	0	0	1	1
Premna fulva	(Dianita & Jantan, 2017)	1	0	0	0	1	1
Premna herbacea	(Dianita & Jantan, 2017)	0	0	0	0	0	1
Premna microphylla	(Zhang *et al.,* 2017)	1	1	0	0	0	0
Premna szemaoensis	(Dianita & Jantan, 2017)	0	1	0	0	0	0
Prunella vulgaris	(Zhang *et al.,* 2017); (Kim *et al.,* 2015)	1	1	0	0	1	1
Rosmarinus officinalis	(Zhang *et al.,* 2017); (Duke, 2016)	1	1	1	1	0	1
Salvia cavaleriei	(Xu *et al.,* 2018)	0	0	0	1	0	1
Salvia chinensis	(Xu *et al.,* 2018)	0	0	0	1	0	0
Salvia deserta	(Xu *et al.,* 2018)	0	0	0	1	0	1
Salvia digitaloides	(Zhang *et al.,* 2017)	0	0	0	1	0	1
Salvia japonica	(Xu *et al.,* 2018)	0	0	0	0	0	1
Salvia kiangsiensis	(Xu *et al.,* 2018)	0	0	0	0	0	1
Scutellaria hypericifolia	(Zhang *et al.,* 2017); (Dai *et al.,* 2016)	0	1	1	0	1	0
Scutellaria indica	(Zhang *et al.,* 2017)	0	1	0	0	0	0
Scutellaria likiangensis	(Zhang *et al.,* 2017)	0	1	1	0	1	0
Scutellaria scordifolia	(Zhang *et al.,* 2017)	0	1	0	0	0	0
Scutellaria strigillosa	(Dai *et al.,* 2016)	0	0	0	0	0	1
Skapanthus oreophilus	(Lin *et al.,* 1991)	0	0	0	0	0	1
Stachys japonica	(Nugroho *et al.,* 2018)	0	1	0	0	0	0
Stachys sieboldii	(Duke, 2016)	0	0	0	1	0	0
Tectona grandis	(Zhang *et al.,* 2017); (Duke, 2016)	0	0	0	1	0	0
Teucrium bidentatum	(Zhang *et al.,* 2017)	0	0	0	0	0	1
Teucrium quadrifarium	(Zhang *et al.,* 2017)	1	0	0	0	0	1
Teucrium viscidum	(Hao *et al*., 2013)	0	0	0	0	0	1
Thymus mongolicus	(Duke, 2016)	1	1	0	1	0	1
Vitex negundo	(Zhang *et al.,* 2017); (Kim *et al.,* 2015)	0	1	1	0	0	1
Vitex trifolia	(Zhang *et al.,* 2017); (Dai *et al.,* 2016)	1	1	0	1	1	1
Salvia liguliloba	(Xu *et al.,* 2018)	0	0	0	0	0	1
Salvia maximowicziana	(Xu *et al.,* 2018)	0	0	0	0	0	1
Salvia miltiorrhiza	(Zhang *et al.,* 2017); (Kim *et al.,* 2015)	1	1	0	1	1	1
Salvia omeiana	(Xu *et al.,* 2018)	0	0	0	1	0	0
Salvia plebeia	(Zhang *et al.,* 2017)	0	1	1	0	0	0
Salvia plectranthoides	(Xu *et al.,* 2018)	0	0	0	1	0	1
Salvia prionitis	(Zhang *et al.,* 2017)	0	0	0	1	0	1
Salvia roborowskii	(Xu *et al.,* 2018)	0	0	0	1	0	1
Salvia scapiformis	(Lai *et al.,* 2013)	0	0	0	1	0	0
Salvia substolonifera	(Fang *et al.,* 2015)	0	0	0	0	0	1
Salvia trijuga	(Zhang *et al.,* 2017)	0	0	0	1	0	1
Salvia yunnanensis	(Zhang *et al.,* 2017)	0	0	0	1	0	1
Schnabelia oligophylla	(Xiao *et al.,* 2017)	0	0	0	0	0	1
Scutellaria amoena	(Zhang *et al.,* 2017)	0	1	1	0	1	0
Scutellaria baicalensis	(Zhang *et al.,* 2017); (Kim *et al.,* 2015)	1	1	1	1	1	0
Scutellaria barbata	(Zhang *et al.,* 2017); (Kim *et al.,* 2015)	0	1	1	1	0	0
Scutellaria discolor	(Zhang *et al.,* 2017); (Duke, 2016)	0	1	0	0	0	0
Scutellaria galericulata	(Zhang *et al.,* 2017); (Duke, 2016)	0	1	0	0	0	1

1= Present, 0= Absent

Table S3. Species recovered as hot nodes in different medicinal uses in the family Lamiaceae phylogeny, as assessed with the "nodesig" option in Phylocom v4.2.

Plant species	Musculoskeletal disorder	Otorhinolaryngology disorder	Reproductive disorder	Digestive disorder	Hepatic disorder	Urinary disorder	Skin disorder	Circulatory disorder	Respiratory disorder
Achyrospermum cryptanthum	0	0	0	0	0	0	0	0	0
Achyrospermum densiflorum	0	0	0	0	0	0	0	0	0
Achyrospermum schimperi	0	0	0	0	0	0	0	0	0
Achyrospermum wallichianum	0	0	0	0	0	0	0	0	0
Agastache rugosa	0	0	0	0	0	1	0	0	0
Ajuga bracteosa	1	1	1	1	0	0	1	1	1
Ajuga campylantha	1	1	1	1	0	0	1	1	1
Ajuga campylanthoides	1	1	1	1	0	0	1	1	1
Ajuga ciliata	1	1	1	1	1	0	1	1	1
Ajuga decumbens	1	1	1	1	1	0	1	1	1
Ajuga dictyocarpa	1	1	1	1	0	1	1	1	1
Ajuga forrestii	1	1	1	1	1	1	1	1	1
Ajuga linearifolia	1	1	1	1	0	1	1	1	1
Ajuga lobata	1	1	1	1	0	1	1	1	1
Ajuga lupulina	1	1	1	1	1	1	1	1	1
Ajuga macrosperma	1	1	1	1	0	1	1	1	1
Ajuga multiflora	1	1	1	1	1	1	1	1	1
Ajuga nipponensis	1	1	1	1	0	1	1	1	1
Ajuga nubigena	1	1	1	1	0	1	1	1	1
Ajuga orientalis	1	1	1	1	1	0	1	1	1
Ajuga ovalifolia	1	1	1	1	0	0	1	1	1
Ajuga pantantha	1	1	1	1	1	1	1	1	1
Ajuga pygmaea	1	1	1	1	0	0	1	1	1
Ajuga reptans	1	1	1	1	0	0	1	1	1
Ajuga sciaphila	1	1	1	1	0	0	1	1	1
Alajja anomala	0	0	0	0	0	0	0	0	0
Amethystea caerulea	1	0	1	1	0	0	1	1	1
Anisochilus carnosus	0	0	0	0	0	0	0	0	0
Anisochilus pallidus	0	0	0	0	0	0	0	0	0
Anisomeles indica	0	0	0	0	0	0	0	0	0
Anisomeles malabarica	0	0	0	0	0	0	0	0	0
Basilicum polystachyon	0	0	0	0	0	0	0	0	0
Betonica officinalis	0	0	0	0	0	0	0	0	0
Bostrychanthera deflexa	0	0	0	0	0	0	0	0	0
Bostrychanthera yaoshanensis	0	0	0	0	0	0	0	0	0
Calamintha debilis	0	1	1	0	1	0	1	1	1
Calamintha glandiflora	0	1	1	0	1	0	0	0	1
Callicarpa acuminate	0	0	0	1	0	0	0	1	0
Callicarpa acutifolia	0	0	0	1	0	0	0	1	0
Callicarpa anisophylla	0	0	0	1	0	0	0	1	0
Callicarpa arborea	0	0	0	1	0	0	0	1	0
Callicarpa bodinieri	0	0	0	1	0	0	0	1	0
Callicarpa brevipes	0	0	0	1	0	0	0	1	0
Callicarpa candicans	0	0	0	1	0	0	0	1	0
Callicarpa cathayana	0	0	0	1	0	0	0	1	0

Table S3. (Cont'd.).

Plant species	Musculoskeletal disorder	Otorhinolaryngology disorder	Reproductive disorder	Digestive disorder	Hepatic disorder	Urinary disorder	Skin disorder	Circulatory disorder	Respiratory disorder
Callicarpa collina	0	0	0	1	0	0	0	1	0
Callicarpa dentosa	0	0	0	1	0	0	0	1	0
Callicarpa dichotoma	0	0	0	1	0	0	0	1	0
Callicarpa erythrosticta	0	0	0	1	0	0	0	1	0
Callicarpa formosana	0	0	0	1	0	0	0	1	0
Callicarpa giraldii	0	0	0	1	1	0	0	1	0
Callicarpa gracilipes	0	0	0	1	0	0	0	1	0
Callicarpa hungtaii	0	0	0	1	0	0	0	1	0
Callicarpa hypoleucophylla	0	0	0	1	0	0	0	1	0
Callicarpa integerrima	0	0	0	1	0	0	0	1	0
Callicarpa japonica	0	0	0	1	0	0	0	1	0
Callicarpa kochiana	0	0	0	1	0	0	0	1	0
Callicarpa kotoensis	0	0	0	1	0	0	0	1	0
Callicarpa kwangtungensis	0	0	0	1	0	0	0	1	0
Callicarpa lingii	0	0	0	1	0	0	0	1	0
Callicarpa loboapiculata	0	0	0	1	0	0	0	1	0
Callicarpa longibracteata	0	0	0	1	0	0	0	1	0
Callicarpa longifolia	0	0	0	1	0	0	0	1	0
Callicarpa longipes	0	0	0	1	0	0	0	1	0
Callicarpa longissima	0	0	0	1	0	0	0	1	0
Callicarpa luteopunctata	0	0	0	1	0	0	0	1	0
Callicarpa macrophylla	0	0	0	1	0	0	0	1	0
Callicarpa membranacea	0	0	0	1	0	0	0	1	0
Callicarpa minutiflora	0	0	0	1	0	0	0	1	0
Callicarpa mollis	0	0	0	1	0	0	0	1	0
Callicarpa nudiflora	0	0	0	1	0	0	0	1	0
Callicarpa oligantha	0	0	0	1	0	0	0	1	0
Callicarpa pauciflora	0	0	0	1	0	0	0	1	0
Callicarpa peichieniana	0	0	0	1	0	0	0	1	0
Callicarpa pilosissima	0	0	0	1	0	0	0	1	0
Callicarpa pingshanensis	0	0	0	1	0	0	0	1	0
Callicarpa poilanei	0	0	0	1	0	0	0	1	0
Callicarpa prolifera	0	0	0	1	0	0	0	1	0
Callicarpa pseudorubella	0	0	0	1	0	0	0	1	0
Callicarpa randaiensis	0	0	0	1	0	0	0	1	0
Callicarpa remotiserrulata	0	0	0	1	0	0	0	1	0
Callicarpa rubella	0	0	0	1	1	0	0	1	0
Callicarpa salicifolia	0	0	0	1	0	0	0	1	0
Callicarpa siongsaiensis	0	0	0	1	0	0	0	1	0
Callicarpa tingwuensis	0	0	0	1	0	0	0	1	0
Callicarpa yunnanensis	0	0	0	1	0	0	0	1	0
Caryopteris aureoglandulosa	1	0	1	1	0	0	1	1	1
Caryopteris bicolor	1	0	1	1	0	0	1	1	1
Caryopteris divaricata	1	0	1	1	0	0	1	1	1
Caryopteris forrestii	1	0	1	1	0	0	1	1	1

Table S3. (Cont'd.).

Plant species	Musculoskeletal disorder	Otorhinolaryngology disorder	Reproductive disorder	Digestive disorder	Hepatic disorder	Urinary disorder	Skin disorder	Circulatory disorder	Respiratory disorder
Caryopteris glutinosa	1	0	1	1	1	0	1	1	1
Caryopteris incana	1	0	1	1	0	0	1	1	1
Caryopteris mongholica	1	0	1	1	0	0	1	1	1
Caryopteris nepetifolia	1	0	1	1	1	0	1	1	1
Caryopteris paniculata	1	0	1	1	0	0	1	1	1
Caryopteris siccanea	1	0	1	1	1	0	1	1	1
Caryopteris tangutica	1	0	1	1	0	0	1	1	1
Caryopteris terniflora	1	0	1	1	1	0	1	1	1
Caryopteris trichosphaera	1	0	1	1	0	0	1	1	1
Ceratanthus calcaratus	0	0	0	0	1	0	0	0	0
Chaiturus marrubiastrum	0	0	0	0	0	0	0	0	0
Chamaesphacos ilicifolius	0	0	0	0	0	0	0	0	0
Chelonopsis abbreviata	0	0	0	0	0	0	0	0	0
Chelonopsis albiflora	0	0	0	0	0	0	0	0	0
Chelonopsis bracteata	0	0	0	0	0	0	0	0	0
Chelonopsis chekiangensis	0	0	0	0	0	0	0	0	0
Chelonopsis forrestii	0	0	0	0	0	0	0	0	0
Chelonopsis giraldii	0	0	0	0	0	0	0	0	0
Chelonopsis lichiangensis	0	0	0	0	0	0	0	0	0
Chelonopsis longipes	0	0	0	0	0	0	0	0	0
Chelonopsis mollissima	0	0	0	0	0	0	0	0	0
Chelonopsis moschata	0	0	0	0	0	0	0	0	0
Chelonopsis odontochila	0	0	0	0	0	0	0	0	0
Chelonopsis praecox	0	0	0	0	0	0	0	0	0
Chelonopsis pseudobracteata	0	0	0	0	0	0	0	0	0
Chelonopsis rosea	0	0	0	0	0	0	0	0	0
Chelonopsis siccanea	0	0	0	0	0	0	0	0	0
Chelonopsis souliei	0	0	0	0	0	0	0	0	0
Clerodendranthus spicatus	0	0	0	0	0	0	0	0	0
Clerodendrum brachystemon	1	0	0	0	0	0	0	0	0
Clerodendrum bracteatum	1	0	0	0	0	0	0	0	0
Clerodendrum bungei	1	0	0	0	0	0	0	0	0
Clerodendrum canescens	1	0	0	0	0	0	0	0	0
Clerodendrum chinense	1	0	0	0	0	0	0	0	0
Clerodendrum colebrookianum	1	0	0	0	0	0	0	0	0
Clerodendrum confine	1	0	0	0	0	0	0	0	0
Clerodendrum cyrtophyllum	1	0	0	0	0	0	0	0	0
Clerodendrum ervatamioides	1	0	0	0	0	0	0	0	0
Clerodendrum fortunatum	1	0	0	0	0	0	0	0	1
Clerodendrum garrettianum	1	0	0	0	0	0	0	0	0
Clerodendrum glabrum	1	0	0	0	0	0	0	0	0
Clerodendrum griffithianum	1	0	0	0	0	0	0	0	0
Clerodendrum hainanense	1	0	0	0	0	0	0	0	0
Clerodendrum henryi	1	0	0	0	0	0	0	0	0
Clerodendrum indicum	1	0	0	0	0	0	0	0	0

Table S3. (Cont'd.).

Plant species	Musculoskeletal disorder	Otorhinolaryngology disorder	Reproductive disorder	Digestive disorder	Hepatic disorder	Urinary disorder	Skin disorder	Circulatory disorder	Respiratory disorder
Clerodendrum inerme	1	0	0	0	0	0	0	0	0
Clerodendrum japonicum	1	0	0	0	0	0	0	0	0
Clerodendrum kaichianum	1	0	0	0	0	0	0	0	0
Clerodendrum kiangsiense	1	0	0	0	0	0	0	0	0
Clerodendrum kwangtungense	1	0	0	0	0	0	0	0	0
Clerodendrum lindleyi	1	0	0	0	0	0	0	0	0
Clerodendrum longilimbum	1	0	0	0	0	0	0	0	0
Clerodendrum luteopunctatum	1	0	0	0	0	0	0	0	0
Clerodendrum mandarinorum	1	0	0	0	0	0	0	0	0
Clerodendrum paniculatum	1	0	0	0	0	0	0	0	0
Clerodendrum peii	1	0	0	0	0	0	0	0	0
Clerodendrum serratum	1	0	0	0	0	0	0	0	0
Clerodendrum subscaposum	1	0	0	0	0	0	0	0	0
Clerodendrum thomsoniae	1	0	0	0	0	0	0	0	0
Clerodendrum tibetanum	1	0	0	0	0	0	0	0	0
Clerodendrum trichotomum	1	0	0	0	0	0	0	0	1
Clerodendrum villosum	1	0	0	0	0	0	0	0	0
Clerodendrum wallichii	1	0	0	0	0	0	0	0	0
Clerodendrum yunnanense	1	0	0	0	0	0	0	0	0
Clinopodium chinense	0	1	1	0	1	0	1	1	1
Clinopodium confine	0	1	1	0	1	0	1	1	1
Clinopodium discolor	0	1	1	0	1	0	1	1	1
Clinopodium gracile	0	1	1	0	1	0	1	1	1
Clinopodium laxiflorum	0	1	1	0	1	0	1	1	1
Clinopodium longipes	0	1	1	0	1	0	1	1	1
Clinopodium megalanthum	0	1	1	0	1	0	1	1	1
Clinopodium omeiense	0	1	1	0	1	0	1	1	1
Clinopodium polycephalum	0	1	1	0	1	0	1	1	1
Clinopodium repens	0	1	1	0	1	0	1	1	1
Clinopodium urticifolium	0	1	1	0	1	0	1	1	1
Colebrookea oppositifolia	0	0	0	0	0	0	0	0	0
Coleus bracteatus	0	0	0	0	0	0	0	0	0
Coleus carnosifolius	0	0	0	0	0	0	0	0	0
Coleus esquirolii	0	0	0	0	0	0	0	0	0
Coleus forskohlii	0	0	0	0	0	0	0	0	0
Coleus luteus	0	0	0	0	0	0	0	0	0
Coleus xanthanthus	0	0	0	0	0	0	0	0	0
Colquhounia coccinea	0	0	0	0	0	0	0	0	0
Colquhounia compta	0	0	0	0	0	0	0	0	0
Colquhounia elegans	0	0	0	0	0	0	0	0	0
Colquhounia seguinii	0	0	0	0	0	0	0	0	0
Colquhounia vestita	0	0	0	0	0	0	0	0	0
Comanthosphace japonica	0	0	0	0	0	0	0	0	0
Comanthosphace nanchuanensis	0	0	0	0	0	0	0	0	0
Comanthosphace ningpoensis	0	0	0	0	0	0	0	0	0

Table S3. (Cont'd.).

Plant species	Musculoskeletal disorder	Otorhinolaryngology disorder	Reproductive disorder	Digestive disorder	Hepatic disorder	Urinary disorder	Skin disorder	Circulatory disorder	Respiratory disorder
Comanthosphace stellipila	0	0	0	0	0	0	0	0	0
Congea chinensis	0	0	0	0	0	0	0	0	0
Congea tomentosa	0	0	0	0	0	0	0	0	0
Craniotome furcata	0	0	0	0	0	0	0	0	0
Cymaria acuminata	0	0	0	0	0	0	0	0	0
Cymaria dichotoma	0	0	0	0	0	0	0	0	0
Dracocephalum argunense	0	0	0	0	0	0	0	0	0
Dracocephalum bipinnatum	0	0	0	0	0	0	0	0	0
Dracocephalum breviflorum	0	0	0	0	0	0	0	0	0
Dracocephalum bullatum	0	0	0	0	0	0	0	0	0
Dracocephalum calophyllum	0	0	0	0	0	0	0	0	0
Dracocephalum forrestii	0	0	0	0	0	0	0	0	0
Dracocephalum fruticulosum	0	0	0	0	0	0	0	0	0
Dracocephalum grandiflorum	0	0	0	0	1	0	0	0	1
Dracocephalum heterophyllum	0	0	0	0	0	0	0	0	0
Dracocephalum hoboksarensis	0	0	0	0	0	0	0	0	0
Dracocephalum hookeri	0	0	0	0	0	0	0	0	0
Dracocephalum imberbe	0	0	0	0	0	0	0	0	0
Dracocephalum imbricatum	0	0	0	0	0	0	0	0	0
Dracocephalum integrifolium	0	0	0	0	0	0	0	0	0
Dracocephalum isabellae	0	0	0	0	0	0	0	0	0
Dracocephalum microflorum	0	0	0	0	0	0	0	0	0
Dracocephalum moldavica	0	0	0	0	1	0	0	0	1
Dracocephalum nodulosum	0	0	0	0	0	0	0	0	0
Dracocephalum nutans	0	0	0	0	0	0	0	0	0
Dracocephalum origanoides	0	0	0	0	0	0	0	0	0
Dracocephalum palmatoides	0	0	0	0	0	0	0	0	0
Dracocephalum paulsenii	0	0	0	0	0	0	0	0	0
Dracocephalum peregrinum	0	0	0	0	0	0	0	0	0
Dracocephalum propinquum	0	0	0	0	0	0	0	0	0
Dracocephalum psammophilum	0	0	0	0	0	0	0	0	0
Dracocephalum purdomii	0	0	0	0	0	0	0	0	0
Dracocephalum rigidulum	0	0	0	0	0	0	0	0	0
Dracocephalum rupestre	0	0	0	0	1	0	0	0	1
Dracocephalum ruyschiana	0	0	0	0	0	0	0	0	0
Dracocephalum stamineum	0	0	0	0	0	0	0	0	0
Dracocephalum taliense	0	0	0	0	0	0	0	0	0
Dracocephalum tanguticum	0	0	0	0	0	0	0	0	0
Dracocephalum truncatum	0	0	0	0	0	0	0	0	0
Dracocephalum velutinum	0	0	0	0	0	0	0	0	0
Dracocephalum wallichii	0	0	0	0	0	0	0	0	0
Dysophylla cruciata	0	0	0	0	0	0	0	0	0
Dysophylla linearis	0	0	0	0	0	0	0	0	0
Dysophylla pentagona	0	0	0	0	0	0	0	0	0
Dysophylla sampsonii	0	0	0	0	0	0	0	0	0

Table S3. (Cont'd.).

Plant species	Musculoskeletal disorder	Otorhinolaryngology disorder	Reproductive disorder	Digestive disorder	Hepatic disorder	Urinary disorder	Skin disorder	Circulatory disorder	Respiratory disorder
Dysophylla stellata	0	0	0	0	0	0	0	0	0
Dysophylla szemaoensis	0	0	0	0	0	0	0	0	0
Dysophylla yatabeana	0	0	0	0	0	0	0	0	0
Elsholtzia argyi	1	1	0	1	0	1	1	0	1
Elsholtzia blanda	1	1	0	1	0	1	1	0	1
Elsholtzia bodinieri	1	1	0	1	0	1	1	0	1
Elsholtzia capituligera	1	1	0	1	0	1	1	0	1
Elsholtzia cephalantha	1	1	0	1	0	1	1	0	1
Elsholtzia ciliata	1	1	0	1	0	1	1	0	1
Elsholtzia cyprianii	1	1	0	1	0	1	1	0	1
Elsholtzia densa	1	1	0	1	0	1	1	0	1
Elsholtzia eriocalyx	1	1	0	1	0	1	1	0	1
Elsholtzia eriostachya	1	1	0	1	0	1	1	0	1
Elsholtzia feddei	1	1	0	1	0	1	1	0	1
Elsholtzia flava	1	1	0	1	0	1	1	0	1
Elsholtzia fruticosa	1	1	0	1	0	1	1	0	1
Elsholtzia glabra	1	1	0	1	0	1	1	0	1
Elsholtzia heterophylla	1	1	0	1	0	1	1	0	1
Elsholtzia hunanensis	1	1	0	1	0	1	1	0	1
Elsholtzia kachinensis	1	1	0	1	0	1	1	0	1
Elsholtzia luteola	1	1	0	1	0	1	1	0	1
Elsholtzia myosurus	1	1	0	1	0	1	1	0	1
Elsholtzia ochroleuca	1	1	0	1	0	1	1	0	1
Elsholtzia penduliflora	1	1	0	1	0	1	1	0	1
Elsholtzia pilosa	1	1	0	1	0	1	1	0	1
Elsholtzia pygmaea	1	1	0	1	0	1	1	0	1
Elsholtzia rugulosa	1	1	0	1	0	1	1	0	1
Elsholtzia saxatilis	1	1	0	1	0	1	1	0	1
Elsholtzia souliei	1	1	0	1	0	1	1	0	1
Elsholtzia splendens	1	1	0	1	0	1	1	0	1
Elsholtzia stachyodes	1	1	0	1	0	1	1	0	1
Elsholtzia stauntonii	1	1	0	1	0	1	1	0	1
Elsholtzia strobilifera	1	1	0	1	0	1	1	0	1
Elsholtzia winitiana	1	1	0	1	0	1	1	0	1
Eremostachys boissieriana	0	0	0	0	0	0	0	0	0
Eremostachys desertorum	0	0	0	0	0	0	0	0	0
Eremostachys fetisovii	0	0	0	0	0	0	0	0	0
Eremostachys fulgens	0	0	0	0	0	0	0	0	0
Eremostachys moluccelloides	0	0	0	0	0	0	0	0	0
Eremostachys phlomoides	0	0	0	0	0	0	0	0	0
Eremostachys speciosa	0	0	0	0	0	0	0	0	0
Eriophyton rhomboideum	0	0	1	0	0	0	0	0	1
Eriophyton sunhangii	0	0	1	0	0	0	0	0	1
Eriophyton wallichii	0	0	1	0	0	0	0	0	1
Eurysolen gracilis	0	0	0	0	0	0	0	0	0

Table S3. (Cont'd.).

Plant species	Musculoskeletal disorder	Otorhinolaryngology disorder	Reproductive disorder	Digestive disorder	Hepatic disorder	Urinary disorder	Skin disorder	Circulatory disorder	Respiratory disorder
Galeobdolon chinense	0	0	0	0	0	0	0	0	0
Galeobdolon kwangtungense	0	0	0	0	0	0	0	0	0
Galeobdolon szechuanense	0	0	0	0	0	0	0	0	0
Galeobdolon tuberiferum	0	0	0	0	0	0	0	0	0
Galeobdolon yangsoense	0	0	0	0	0	0	0	0	0
Galeopsis bifida	0	0	0	0	0	0	0	0	0
Garrettia siamensis	0	0	0	0	0	0	0	0	0
Glechoma biondiana	0	0	0	0	0	1	0	0	0
Glechoma grandis	0	0	0	0	0	1	0	0	0
Glechoma hederacea	0	1	0	0	0	1	0	0	0
Glechoma longituba	0	1	0	0	0	1	0	0	0
Glechoma sinograndis	0	0	0	0	0	1	0	0	0
Gmelina arborea	1	0	0	0	0	0	0	0	0
Gmelina asiatica	1	0	0	0	0	0	0	0	0
Gmelina chinensis	1	0	0	0	0	0	0	0	0
Gmelina delavayana	1	0	0	0	0	0	0	0	0
Gmelina hainanensis	1	0	0	0	0	0	0	0	0
Gmelina lecomtei	1	0	0	0	0	0	0	0	0
Gmelina szechuanensis	1	0	0	0	0	0	0	0	0
Gmelina szechwanensis	1	0	0	0	0	0	0	0	0
Gomphostemma arbusculum	0	0	0	0	0	0	0	0	0
Gomphostemma callicarpoides	0	0	0	0	0	0	0	0	0
Gomphostemma chinense	0	0	0	0	0	0	0	0	0
Gomphostemma crinitum	0	0	0	0	0	0	0	0	0
Gomphostemma deltodon	0	0	0	0	0	0	0	0	0
Gomphostemma hainanense	0	0	0	0	0	0	0	0	0
Gomphostemma javanicum	0	0	0	0	0	0	0	0	0
Gomphostemma latifolium	0	0	0	0	0	0	0	0	0
Gomphostemma leptodon	0	0	0	0	0	0	0	0	0
Gomphostemma lucidum	0	0	0	0	0	0	0	0	0
Gomphostemma microdon	0	0	0	0	0	0	0	0	0
Gomphostemma parviflorum	0	0	0	0	0	0	0	0	0
Gomphostemma pedunculatum	0	0	0	0	0	0	0	0	0
Gomphostemma pseudocrinitum	0	0	0	0	0	0	0	0	0
Gomphostemma stellatohirsutum	0	0	0	0	0	0	0	0	0
Gomphostemma sulcatum	0	0	0	0	0	0	0	0	0
Hanceola cavaleriei	0	0	0	0	0	0	0	0	0
Hanceola cordiovata	0	0	0	0	0	0	0	0	0
Hanceola exserta	0	0	0	0	0	0	0	0	0
Hanceola flexuosa	0	0	0	0	0	0	0	0	0
Hanceola labordei	0	0	0	0	0	0	0	0	0
Hanceola mairei	0	0	0	0	0	0	0	0	0
Hanceola sinensis	0	0	0	0	0	0	0	0	0
Hanceola tuberifera	0	0	0	0	0	0	0	0	0
Heterolamium debile	0	0	0	0	0	0	0	0	0

Table S3. (Cont'd.).

Plant species	Musculoskeletal disorder	Otorhinolaryngology disorder	Reproductive disorder	Digestive disorder	Hepatic disorder	Urinary disorder	Skin disorder	Circulatory disorder	Respiratory disorder
Holocheila longipedunculata	0	0	0	0	0	0	0	0	0
Hymenopyramis brachiata	0	0	0	0	0	0	0	0	0
Hymenopyramis cana	0	0	0	0	0	0	0	0	0
Hyptis brevipes	0	0	0	0	0	0	0	0	0
Hyptis spicigera	0	0	0	0	0	0	0	0	0
Hyssopus cuspidatus	0	0	0	0	0	0	0	0	0
Hyssopus latilabiatus	0	0	0	0	0	0	0	0	0
Hyssopus officinalis	0	0	0	0	0	0	0	0	0
Isodon adenanthus	0	0	0	0	0	0	0	1	0
Isodon adenolomus	0	0	0	0	1	0	0	0	0
Isodon albopilosus	0	0	0	0	1	0	0	0	0
Isodon amethystoides	0	0	0	0	1	0	0	0	0
Isodon angustifolius	0	0	0	0	1	0	0	0	0
Isodon barbeyanus	0	0	0	0	1	0	0	0	0
Isodon brevicalcaratus	0	0	0	0	1	0	0	0	0
Isodon bulleyanus	0	0	0	1	1	0	0	0	0
Isodon calcicolus	0	0	0	0	1	0	0	0	0
Isodon coetsa	0	0	0	1	1	0	0	0	0
Isodon dawoensis	0	0	0	0	1	0	0	0	0
Isodon enanderianus	0	0	0	0	0	0	0	1	0
Isodon eriocalyx	0	0	0	1	1	0	0	0	0
Isodon excisoides	0	0	0	0	1	0	0	0	0
Isodon excisus	0	0	0	0	1	0	0	0	0
Isodon flabelliformis	0	0	0	0	1	0	0	0	0
Isodon flavidus	0	0	0	0	1	0	0	0	0
Isodon flexicaulis	0	0	0	0	1	0	0	0	0
Isodon forrestii	0	0	0	0	1	0	0	0	0
Isodon gesneroides	0	0	0	0	0	0	0	0	0
Isodon gibbosus	0	0	0	0	0	0	0	0	0
Isodon glutinosus	0	0	0	0	1	0	0	0	0
Isodon grandifolius	0	0	0	0	1	0	0	0	0
Isodon grosseserratus	0	0	0	0	0	0	0	0	0
Isodon henryi	0	0	0	0	1	0	0	0	0
Isodon hirtellus	0	0	0	0	1	0	0	0	0
Isodon hispidus	0	0	0	0	1	0	0	0	0
Isodon inflexus	0	0	0	0	1	0	0	0	0
Isodon interruptus	0	0	0	0	0	0	0	0	0
Isodon irroratus	0	0	0	0	1	0	0	0	0
Isodon japonicus	0	0	0	0	1	0	0	0	0
Isodon latifolius	0	0	0	0	1	0	0	0	0
Isodon leucophyllus	0	0	0	0	1	0	0	0	0
Isodon liangshanicus	0	0	0	0	1	0	0	0	0
Isodon lihsienensis	0	0	0	0	0	0	0	0	0
Isodon longitubus	0	0	0	0	1	0	0	0	0
Isodon lophanthoides	0	0	0	0	1	0	0	0	0

Table S3. (Cont'd.).

Plant species	Musculoskeletal disorder	Otorhinolaryngology disorder	Reproductive disorder	Digestive disorder	Hepatic disorder	Urinary disorder	Skin disorder	Circulatory disorder	Respiratory disorder
Isodon loxothyrsus	0	0	0	0	1	0	0	0	0
Isodon lungshengensis	0	0	0	0	1	0	0	0	0
Isodon macrocalyx	0	0	0	0	1	0	0	0	0
Isodon macrophyllus	0	0	0	0	1	0	0	0	0
Isodon medilungensis	0	0	0	0	1	0	0	0	0
Isodon megathyrsus	0	0	0	0	0	0	0	0	0
Isodon melissoides	0	0	0	0	1	0	0	0	0
Isodon mucronatus	0	0	0	0	1	0	0	0	0
Isodon muliensis	0	0	0	0	0	0	0	0	0
Isodon nervosus	0	0	0	0	1	0	0	0	0
Isodon oresbius	0	0	0	0	0	0	0	0	0
Isodon pantadenius	0	0	0	0	1	0	0	0	0
Isodon parvifolius	0	0	0	0	1	0	0	0	0
Isodon pharicus	0	0	0	0	1	0	0	0	0
Isodon phyllopodus	0	0	0	0	0	0	0	0	0
Isodon phyllostachys	0	0	0	0	1	0	0	0	0
Isodon pleiophyllus	0	0	0	0	0	0	0	1	0
Isodon racemosus	0	0	0	0	1	0	0	0	0
Isodon rosthornii	0	0	0	0	1	0	0	0	0
Isodon rubescens	0	0	0	0	1	0	0	0	0
Isodon rugosiformis	0	0	0	0	0	0	0	0	0
Isodon rugosus	0	0	0	0	1	0	0	0	0
Isodon scoparius	0	0	0	0	0	0	0	0	0
Isodon scrophularioides	0	0	0	0	1	0	0	0	0
Isodon sculponeatus	0	0	0	0	1	0	0	1	0
Isodon sculponiatus	0	0	0	1	1	0	0	0	0
Isodon secundiflorus	0	0	0	0	1	0	0	0	0
Isodon serra	0	0	0	0	1	0	0	0	0
Isodon setschwanensis	0	0	0	0	0	0	0	0	0
Isodon silvaticus	0	0	0	0	1	0	0	0	0
Isodon smithianus	0	0	0	0	0	0	0	0	0
Isodon tenuifolius	0	0	0	0	0	0	0	0	0
Isodon ternifolius	0	0	0	0	1	0	0	0	0
Isodon walkeri	0	0	0	0	1	0	0	0	0
Isodon wardii	0	0	0	0	0	0	0	0	0
Isodon websteri	0	0	0	0	1	0	0	0	0
Isodon weisiensis	0	0	0	0	0	0	0	0	0
Isodon wikstroemioides	0	0	0	0	0	0	0	0	0
Isodon xerophilus	0	0	0	0	0	0	0	0	0
Isodon yuennanensis	0	0	0	0	1	0	0	0	0
Kinostemon alborubrum	0	0	0	1	0	0	0	0	0
Kinostemon ornatum	0	0	0	1	0	0	0	0	0
Kinostemon veronicifolia	0	0	0	1	0	0	0	0	0
Lagochilus bungei	0	0	0	0	0	0	0	0	0
Lagochilus cabulicus	0	0	0	0	0	0	0	0	0

Table S3. (Cont'd.).

Plant species	Musculoskeletal disorder	Otorhinolaryngology disorder	Reproductive disorder	Digestive disorder	Hepatic disorder	Urinary disorder	Skin disorder	Circulatory disorder	Respiratory disorder
Lagochilus diacanthophyllus	0	0	0	0	0	0	0	0	0
Lagochilus grandiflorus	0	0	0	0	0	0	0	0	0
Lagochilus hirtus	0	0	0	0	0	0	0	0	0
Lagochilus ilicifolius	0	0	0	0	0	0	0	0	0
Lagochilus kaschgaricus	0	0	0	0	0	0	0	0	0
Lagochilus lanatonodus	0	0	0	0	0	0	0	0	0
Lagochilus macrodontus	0	0	0	0	0	0	0	0	0
Lagochilus platyacanthus	0	0	0	0	0	0	0	0	0
Lagochilus pungens	0	0	0	0	0	0	0	0	0
Lagochilus xinjiangensis	0	0	0	0	0	0	0	0	0
Lagopsis eriostachys	0	0	1	0	0	1	0	0	1
Lagopsis flava	0	0	1	0	0	1	0	0	1
Lagopsis marrubiastrum	0	0	1	0	0	1	0	0	1
Lagopsis supina	0	0	1	0	0	1	0	0	1
Lallemantia iberica	0	0	0	0	0	0	0	0	0
Lallemantia royleana	0	0	0	0	0	0	0	0	0
Lamiophlomis rotata	0	0	0	0	0	0	0	0	0
Lamium album	1	0	1	0	0	1	1	1	1
Lamium amplexicaule	1	0	1	0	0	1	1	1	1
Lamium barbatum	1	0	1	0	0	1	1	1	1
Lamium maculatum	1	0	1	0	0	1	1	1	1
Lavandula angustifolia	0	0	0	0	0	0	0	0	0
Lavandula latifolia	0	0	0	0	0	0	0	0	0
Leonurus chaituroides	0	0	1	0	0	1	0	0	1
Leonurus deminutus	0	0	1	0	0	1	0	0	0
Leonurus glaucescens	0	0	1	0	0	1	0	0	0
Leonurus japonicus	0	0	1	0	0	1	0	0	0
Leonurus macranthus	0	0	1	0	0	1	0	0	1
Leonurus pseudomacranthus	0	0	1	0	0	1	0	0	1
Leonurus pseudopanzerioides	0	0	1	0	0	1	0	0	1
Leonurus sibiricus	0	0	1	0	0	1	0	0	1
Leonurus turkestanicus	0	0	1	0	0	1	0	0	0
Leonurus urticifolius	0	0	1	0	0	1	0	0	1
Leonurus villosissimus	0	0	1	0	0	1	0	0	0
Leonurus wutaishanicus	0	0	1	0	0	1	0	0	0
Leucas aspera	0	0	1	0	0	0	1	0	1
Leucas cephalotes	0	0	1	0	0	0	1	0	1
Leucas chinensis	0	0	1	0	0	0	1	0	1
Leucas ciliata	0	0	1	0	0	0	1	0	1
Leucas lavandulifolia	0	0	1	0	0	0	1	0	1
Leucas martinicensis	0	0	1	0	0	0	1	0	1
Leucas minimifolia	0	0	1	0	0	0	0	0	1
Leucas mollissima	0	0	1	0	0	0	1	0	1
Leucas stachydiformis	0	0	1	0	0	0	0	0	1
Leucas zeylanica	0	0	1	0	0	0	1	0	1

Table S3. (Cont'd.).

Plant species	Musculoskeletal disorder	Otorhinolaryngology disorder	Reproductive disorder	Digestive disorder	Hepatic disorder	Urinary disorder	Skin disorder	Circulatory disorder	Respiratory disorder
Leucosceptrum canum	0	0	0	0	0	0	0	0	0
Lophanthus chinensis	0	0	0	1	0	0	0	1	0
Lophanthus krylovii	0	0	0	1	0	0	0	1	0
Lophanthus schrenkii	0	0	0	1	0	0	0	1	0
Lophanthus tibeticus	0	0	0	1	0	0	0	1	0
Loxocalyx quinquenervius	0	0	1	0	0	0	0	0	1
Loxocalyx urticifolius	0	0	1	0	0	0	0	0	1
Lycopus americanus	0	0	0	0	0	0	0	0	0
Lycopus cavaleriei	0	0	0	0	0	0	0	0	0
Lycopus europaeus	0	0	0	0	0	0	0	0	0
Lycopus lucidus	0	0	0	0	0	0	0	0	0
Lycopus parviflorus	0	0	0	0	0	0	0	0	0
Marmoritis complanatum	0	0	0	0	0	0	0	0	0
Marmoritis decolorans	0	0	0	0	0	0	0	0	0
Marmoritis nivalis	0	0	0	0	0	0	0	0	0
Marmoritis pharicus	0	0	0	0	0	0	0	0	0
Marmoritis rotundifolia	0	0	0	0	0	0	0	0	0
Marrubium vulgare	0	0	1	0	0	1	0	1	1
Meehania faberi	0	0	0	0	0	0	0	0	0
Meehania fargesii	0	0	0	0	0	1	0	0	0
Meehania henryi	0	0	0	0	0	1	0	0	0
Meehania pinfaensis	0	0	0	0	0	1	0	0	0
Meehania urticifolia	0	0	0	0	0	1	0	0	0
Melissa axillaris	0	0	0	0	0	0	0	0	0
Melissa flava	0	0	0	0	0	0	0	0	0
Melissa officinalis	0	0	0	0	0	0	0	0	0
Melissa yunnanensis	0	0	0	0	0	0	0	0	0
Mentha asiatica	0	1	0	0	0	0	0	0	1
Mentha canadensis	0	1	0	0	0	0	0	0	1
Mentha dahurica	0	1	0	0	0	0	0	0	1
Mentha sachalinensis	0	1	0	0	0	0	0	0	1
Mentha spicata	0	1	0	0	0	0	0	0	1
Mentha suaveolens	0	1	0	0	0	0	0	0	1
Mentha vagans	0	1	0	0	0	0	0	0	1
Mesona chinensis	0	0	0	1	0	0	0	1	0
Micromeria barosma	0	1	0	0	0	0	0	0	1
Micromeria biflora	0	1	0	0	0	0	0	0	1
Micromeria euosma	0	1	0	0	0	0	0	0	1
Micromeria wardii	0	1	1	0	1	0	0	1	1
Microtoena affinis	0	0	0	0	0	0	0	0	0
Microtoena albescens	0	0	0	0	0	0	0	0	0
Microtoena delavayi	0	0	0	0	0	0	0	0	0
Microtoena insuavis	0	0	0	1	0	0	0	0	1
Microtoena longisepala	0	0	0	0	0	0	0	0	0
Microtoena maireana	0	0	0	0	0	0	0	0	0

Table S3. (Cont'd.).

Plant species	Musculoskeletal disorder	Otorhinolaryngology disorder	Reproductive disorder	Digestive disorder	Hepatic disorder	Urinary disorder	Skin disorder	Circulatory disorder	Respiratory disorder
Microtoena megacalyx	0	0	0	0	0	0	0	0	0
Microtoena miyiensis	0	0	0	0	0	0	0	0	0
Microtoena mollis	0	0	0	0	0	0	0	0	0
Microtoena moupinensis	0	0	0	0	0	0	0	0	0
Microtoena muliensis	0	0	0	0	0	0	0	0	0
Microtoena omeiensis	0	0	0	0	0	0	0	0	0
Microtoena patchoulii	0	1	0	0	0	0	0	0	0
Microtoena pauciflora	0	1	0	0	0	0	0	0	0
Microtoena prainiana	0	0	0	1	0	0	0	0	1
Microtoena robusta	0	0	0	0	0	0	0	0	0
Microtoena stenocalyx	0	0	0	0	0	0	0	0	0
Microtoena subspicata	0	0	0	0	0	0	0	0	0
Microtoena urticifolia	0	0	0	0	0	0	0	0	0
Microtoena vanchingshanensis	0	0	0	0	0	0	0	0	0
Monarda didyma	0	1	1	0	1	0	0	0	1
Monarda fistulosa	0	1	1	0	1	0	0	0	1
Mosla cavaleriei	1	1	1	1	0	1	1	0	1
Mosla chinensis	1	1	1	1	0	1	1	0	1
Mosla dianthera	1	1	1	1	0	1	1	0	1
Mosla exfoliata	1	1	1	1	0	1	1	0	1
Mosla formosana	1	1	1	1	0	1	1	0	1
Mosla grosseserrata	1	1	1	1	0	1	1	0	1
Mosla hangchowensis	1	1	1	1	0	1	1	0	1
Mosla longibracteata	1	1	1	1	0	1	1	0	1
Mosla longispica	1	1	1	1	0	1	1	0	1
Mosla pauciflora	1	1	1	1	0	1	1	0	1
Mosla scabra	1	1	1	1	0	1	1	0	1
Mosla soochouensis	1	1	1	1	0	1	1	0	1
Mosla soochowensis	1	1	1	1	0	1	1	0	1
Nepeta annua	0	0	0	0	0	0	0	0	0
Nepeta cataria	0	0	0	0	0	0	0	0	0
Nepeta coerulescens	0	0	0	0	0	0	0	0	0
Nepeta densiflora	0	0	0	0	0	0	0	0	0
Nepeta dentata	0	0	0	0	0	0	0	0	0
Nepeta discolor	0	0	0	0	0	0	0	0	0
Nepeta everardi	0	0	0	0	0	0	0	0	0
Nepeta faasenii	0	0	0	0	0	0	0	0	0
Nepeta floccosa	0	0	0	0	0	0	0	0	0
Nepeta fordii	0	0	0	0	0	0	0	0	0
Nepeta glutinosa	0	0	0	0	0	0	0	0	0
Nepeta hemsleyana	0	0	0	0	0	0	0	0	0
Nepeta italica	0	0	0	0	0	0	0	0	0
Nepeta jomdaensis	0	0	0	0	0	0	0	0	0
Nepeta kokamirica	0	0	0	0	0	0	0	0	0
Nepeta kokanica	0	0	0	0	0	0	0	0	0
Nepeta laevigata	0	0	0	0	0	0	0	0	0

Table S3. (Cont'd.).

Plant species	Musculoskeletal disorder	Otorhinolaryngology disorder	Reproductive disorder	Digestive disorder	Hepatic disorder	Urinary disorder	Skin disorder	Circulatory disorder	Respiratory disorder
Nepeta lamiopsis	0	0	0	0	0	0	0	0	0
Nepeta leucolaena	0	0	0	0	0	0	0	0	0
Nepeta longibracteata	0	0	0	0	0	0	0	0	0
Nepeta manchuriensis	0	0	0	0	0	0	0	0	0
Nepeta membranifolia	0	0	0	0	0	0	0	0	0
Nepeta micrantha	0	0	0	0	0	0	0	0	0
Nepeta multifida	0	0	0	0	0	0	0	0	0
Nepeta nuda	0	0	0	0	0	0	0	0	0
Nepeta prattii	0	0	0	0	0	0	0	0	0
Nepeta pungens	0	0	0	0	0	0	0	0	0
Nepeta raphanorhiza	0	0	0	0	0	0	0	0	0
Nepeta sessilis	0	0	0	0	0	0	0	0	0
Nepeta sibirica	0	0	0	0	0	0	0	0	0
Nepeta souliei	0	0	0	0	0	0	0	0	0
Nepeta stewartiana	0	0	0	0	0	0	0	0	0
Nepeta sungpanensis	0	0	0	0	0	0	0	0	0
Nepeta supina	0	0	0	0	0	0	0	0	0
Nepeta taxkorganica	0	0	0	0	0	0	0	0	0
Nepeta tenuiflora	0	0	0	0	0	0	0	0	0
Nepeta tenuifolia	0	0	0	0	0	0	0	0	0
Nepeta tuberosa	0	0	0	0	0	0	0	0	0
Nepeta ucranica	0	0	0	0	0	0	0	0	0
Nepeta veitchii	0	0	0	0	0	0	0	0	0
Nepeta virgata	0	0	0	0	0	0	0	0	0
Nepeta wilsonii	0	0	0	0	0	0	0	0	0
Nepeta yanthina	0	0	0	0	0	0	0	0	0
Nepeta zandaensis	0	0	0	0	0	0	0	0	0
Notochaete hamosa	0	0	0	0	0	0	0	0	0
Notochaete longiaristata	0	0	0	0	0	0	0	0	0
Ocimum americanum	0	0	0	0	0	0	0	0	0
Ocimum basilicum	0	0	0	1	0	0	0	1	0
Ocimum gratissimum	0	0	0	0	0	0	0	0	0
Ocimum sanctum	0	0	0	0	0	0	0	0	0
Origanum vulgare	0	1	0	0	0	0	0	0	1
Orthosiphon aristatus	0	0	0	0	0	0	0	0	0
Orthosiphon marmoritis	0	0	0	0	0	0	0	0	0
Orthosiphon rubicundus	0	0	0	0	0	0	0	0	0
Orthosiphon wulfenioides	0	0	0	0	0	0	0	0	0
Panzerina canescens	0	0	1	0	0	1	0	0	1
Panzerina lanata	0	0	1	0	0	1	0	0	1
Paraphlomis albida	0	0	0	0	0	0	0	0	0
Paraphlomis albiflora	0	0	0	0	0	0	0	0	0
Paraphlomis albotomentosa	0	0	0	0	0	0	0	0	0
Paraphlomis brevifolia	0	0	0	0	0	0	0	0	0
Paraphlomis foliata	0	0	0	0	0	0	0	0	0
Paraphlomis formosana	0	0	0	0	0	0	0	0	0

Table S3. (Cont'd.).

Plant species	Musculoskeletal disorder	Otorhinolaryngology disorder	Reproductive disorder	Digestive disorder	Hepatic disorder	Urinary disorder	Skin disorder	Circulatory disorder	Respiratory disorder
Paraphlomis gracilis	0	0	0	0	0	0	0	0	0
Paraphlomis hirsutissima	0	0	0	0	0	0	0	0	0
Paraphlomis hispida	0	0	0	0	0	0	0	0	0
Paraphlomis intermedia	0	0	0	0	0	0	0	0	0
Paraphlomis javanica	0	0	0	0	0	0	0	0	0
Paraphlomis kwangtungensis	0	0	0	0	0	0	0	0	0
Paraphlomis lanceolata	0	0	0	0	0	0	0	0	0
Paraphlomis lancidentata	0	0	0	0	0	0	0	0	0
Paraphlomis membranacea	0	0	0	0	0	0	0	0	0
Paraphlomis pagantha	0	0	0	0	0	0	0	0	0
Paraphlomis parviflora	0	0	0	0	0	0	0	0	0
Paraphlomis patentisetulosa	0	0	0	0	0	0	0	0	0
Paraphlomis paucisetosa	0	0	0	0	0	0	0	0	0
Paraphlomis reflexa	0	0	0	0	0	0	0	0	0
Paraphlomis seticalyx	0	0	0	0	0	0	0	0	0
Paraphlomis setulosa	0	0	0	0	0	0	0	0	0
Paraphlomis subcoriacea	0	0	0	0	0	0	0	0	0
Paraphlomis tomentosocapitata	0	0	0	0	0	0	0	0	0
Perilla frutescens	1	1	1	1	0	1	1	0	1
Perovskia abrotanoides	0	0	0	0	0	0	0	0	0
Perovskia atriplicifolia	0	0	0	0	0	0	0	0	0
Phlomis agraria	0	0	0	0	0	0	0	0	0
Phlomis alpina	0	0	0	0	0	0	0	0	0
Phlomis ambigua	0	0	0	0	0	0	0	0	0
Phlomis atropurpurea	0	0	0	0	0	0	0	0	0
Phlomis betonicoides	0	0	0	0	1	0	0	0	0
Phlomis bruguieri	0	0	0	0	0	0	0	0	0
Phlomis chinghoensis	0	0	0	0	0	0	0	0	0
Phlomis congesta	0	0	0	0	0	0	0	0	0
Phlomis cretica	0	0	0	0	0	0	0	0	0
Phlomis cuneata	0	0	0	0	0	0	0	0	0
Phlomis dentosa	0	0	0	0	0	0	0	0	0
Phlomis elliptica	0	0	0	0	0	0	0	0	0
Phlomis fimbriata	0	0	0	0	0	0	0	0	0
Phlomis forrestii	0	0	0	0	0	0	0	0	0
Phlomis franchetiana	0	0	0	0	0	0	0	0	0
Phlomis fruticosa	0	0	0	0	0	0	0	0	0
Phlomis inaequalisepala	0	0	0	0	0	0	0	0	0
Phlomis jeholensis	0	0	0	0	0	0	0	0	0
Phlomis kansuensis	0	0	0	0	0	0	0	0	0
Phlomis koraiensis	0	0	0	0	0	0	0	0	0
Phlomis likiangensis	0	0	0	0	0	0	0	0	0
Phlomis longicalyx	0	0	0	0	1	0	0	0	0
Phlomis maximowiczii	0	0	0	0	0	0	0	0	0
Phlomis medicinalis	0	0	0	0	0	0	0	0	0

Table S3. (Cont'd.).

Plant species	Musculoskeletal disorder	Otorhinolaryngology disorder	Reproductive disorder	Digestive disorder	Hepatic disorder	Urinary disorder	Skin disorder	Circulatory disorder	Respiratory disorder
Phlomis megalantha	0	0	0	0	0	0	0	0	0
Phlomis melanantha	0	0	0	0	0	0	0	0	0
Phlomis milingensis	0	0	0	0	0	0	0	0	0
Phlomis mongolica	0	0	0	0	0	0	0	0	0
Phlomis muliensis	0	0	0	0	0	0	0	0	0
Phlomis oreophila	0	0	0	0	0	0	0	0	0
Phlomis ornata	0	0	0	0	0	0	0	0	0
Phlomis paohsingensis	0	0	0	0	0	0	0	0	0
Phlomis pararotata	0	0	0	0	0	0	0	0	0
Phlomis pedunculata	0	0	0	0	0	0	0	0	0
Phlomis pratensis	0	0	0	0	0	0	0	0	0
Phlomis purpurea	0	0	0	0	0	0	0	0	0
Phlomis pygmaea	0	0	0	0	0	0	0	0	0
Phlomis ruptilis	0	0	0	0	0	0	0	0	0
Phlomis setifera	0	0	0	0	0	0	0	0	0
Phlomis strigosa	0	0	0	0	0	0	0	0	0
Phlomis szechuanensis	0	0	0	0	0	0	0	0	0
Phlomis tatsienensis	0	0	0	0	0	0	0	0	0
Phlomis tibetica	0	0	0	0	0	0	0	0	0
Phlomis tuberosa	0	0	0	0	0	0	0	0	0
Phlomis umbrosa	0	0	0	0	0	0	0	0	0
Phlomis uniceps	0	0	0	0	0	0	0	0	0
Phlomis younghusbandii	0	0	0	0	0	0	0	0	0
Pogostemon auricularius	0	0	0	1	0	0	0	0	0
Pogostemon brevicorollus	0	0	0	0	0	0	0	0	0
Pogostemon cablin	0	0	0	1	0	0	0	0	1
Pogostemon championii	0	0	0	0	0	0	0	0	0
Pogostemon chinensis	0	0	0	0	0	0	0	0	0
Pogostemon dielsianus	0	0	0	0	0	0	0	0	0
Pogostemon esquirolii	0	0	0	0	0	0	0	0	0
Pogostemon falcatus	0	0	0	0	0	0	0	0	0
Pogostemon formosanus	0	0	0	0	0	0	0	0	0
Pogostemon glaber	0	0	0	1	0	0	0	0	1
Pogostemon griffithii	0	0	0	0	0	0	0	0	0
Pogostemon hispidocalyx	0	0	0	1	0	0	0	0	0
Pogostemon menthoides	0	0	0	0	0	0	0	0	0
Pogostemon nigrescens	0	0	0	1	0	0	0	0	0
Pogostemon septentrionalis	0	0	0	0	0	0	0	0	0
Pogostemon xanthiifolius	0	0	0	0	0	0	0	0	0
Premna acutata	0	0	0	0	0	0	0	0	0
Premna angolensis	0	0	0	0	0	0	0	0	0
Premna bracteata	0	0	0	0	0	0	0	0	0
Premna cavaleriei	0	0	0	0	0	0	0	0	0
Premna chevalieri	0	0	0	0	0	0	0	0	0
Premna confinis	0	0	0	0	0	0	1	0	0
Premna crassa	0	0	0	0	0	0	0	0	0
Premna flavescens	0	0	0	0	0	0	0	0	0
Premna fohaiensis	0	0	0	0	0	0	0	0	0

Table S3. (Cont'd.).

Plant species	Musculoskeletal disorder	Otorhinolaryngology disorder	Reproductive disorder	Digestive disorder	Hepatic disorder	Urinary disorder	Skin disorder	Circulatory disorder	Respiratory disorder
Premna fordii	0	0	0	0	0	0	0	0	0
Premna fulva	0	0	0	0	1	0	1	0	0
Premna glandulosa	0	0	0	0	0	0	1	0	0
Premna hainanensis	0	0	0	0	0	0	0	0	0
Premna henryana	0	0	0	0	0	0	0	0	0
Premna herbacea	0	0	0	0	0	0	0	0	0
Premna interrupta	0	0	0	0	0	0	0	0	0
Premna laevigata	0	0	0	0	0	0	0	0	0
Premna latifolia	0	0	0	0	0	0	0	0	0
Premna ligustroides	0	0	0	0	1	0	1	0	0
Premna maclurei	0	0	0	0	0	0	0	0	0
Premna mekongensis	0	0	0	0	0	0	0	0	0
Premna microphylla	0	0	0	0	0	0	0	0	0
Premna obtusifolia	0	0	0	0	0	0	0	0	0
Premna octonervia	0	0	0	0	0	0	0	0	0
Premna odorata	0	0	0	0	0	0	0	0	0
Premna oligantha	0	0	0	0	0	0	0	0	0
Premna paisehensis	0	0	0	0	0	0	0	0	0
Premna parvilimba	0	0	0	0	0	0	1	0	0
Premna puberula	0	0	0	0	0	0	0	0	0
Premna puerensis	0	0	0	0	0	0	0	0	0
Premna punicea	0	0	0	0	0	0	0	0	0
Premna pyramidata	0	0	0	0	0	0	0	0	0
Premna racemosa	0	0	0	0	0	0	0	0	0
Premna rubroglandulosa	0	0	0	0	0	0	0	0	0
Premna scandens	0	0	0	0	0	0	0	0	0
Premna scoriarum	0	0	0	0	0	0	0	0	0
Premna serratifolia	0	0	0	0	0	0	0	0	0
Premna steppicola	0	0	0	0	0	0	0	0	0
Premna straminicaulis	0	0	0	0	0	0	0	0	0
Premna subcapitata	0	0	0	0	0	0	0	0	0
Premna subscandens	0	0	0	0	0	0	0	0	0
Premna sunyiensis	0	0	0	0	0	0	1	0	0
Premna szemaoensis	0	0	0	0	0	0	1	0	0
Premna tapintzeana	0	0	0	0	0	0	0	0	0
Premna tenii	0	0	0	0	0	0	0	0	0
Premna urticifolia	0	0	0	0	0	0	0	0	0
Premna velutina	0	0	0	0	0	0	0	0	0
Premna yunnanensis	0	0	0	0	0	0	0	0	0
Prunella asiatica	0	0	0	0	0	1	0	0	0

Table S3. (Cont'd.).

Plant species	Musculoskeletal disorder	Otorhinolaryngology disorder	Reproductive disorder	Digestive disorder	Hepatic disorder	Urinary disorder	Skin disorder	Circulatory disorder	Respiratory disorder
Prunella grandiflora	0	0	0	0	0	1	0	0	0
Prunella hispida	0	0	0	0	0	1	0	0	0
Prunella vulgaris	0	0	0	0	0	1	0	0	0
Rosmarinus officinalis	0	1	0	0	0	0	0	0	1
Rostrinucula dependens	0	0	0	0	0	0	0	0	0
Rostrinucula sinensis	0	0	0	0	0	0	0	0	0
Rubiteucris palmata	0	0	0	0	0	0	0	0	0
Salvia adiantifolia	0	0	1	0	0	0	0	0	0
Salvia adoxoides	0	0	1	0	0	0	0	0	0
Salvia aerea	0	0	1	0	0	0	0	0	0
Salvia alatipetiolata	0	0	1	0	0	0	0	0	0
Salvia appendiculata	0	0	1	0	0	0	0	0	0
Salvia atropurpurea	0	0	1	0	0	0	0	0	0
Salvia atrorubra	0	0	1	0	0	0	0	0	0
Salvia baimaensis	0	0	1	0	0	0	0	0	0
Salvia bifidocalyx	0	0	1	0	0	0	0	0	0
Salvia bowleyana	0	0	1	0	1	0	0	0	0
Salvia brachyloma	0	0	1	0	1	0	0	0	0
Salvia breviconnectivata	0	0	1	0	0	0	0	0	0
Salvia brevilabra	0	0	1	0	0	0	0	0	0
Salvia bulleyana	0	0	1	0	0	0	0	0	0
Salvia campanulata	0	0	1	0	0	0	0	0	0
Salvia castanea	0	0	1	0	0	0	0	0	0
Salvia cavaleriei	0	0	1	0	0	0	0	0	0
Salvia chienii	0	0	1	0	0	0	0	0	0
Salvia chinensis	1	0	1	0	1	0	0	0	0
Salvia chunganensis	0	0	1	0	0	0	0	0	0
Salvia coccinea	0	0	1	0	0	0	0	0	0
Salvia cyclostegia	0	0	1	0	0	0	0	0	0
Salvia cynica	0	0	1	0	0	0	0	0	0
Salvia dabieshanensis	0	0	1	0	0	0	0	0	0
Salvia deserta	0	0	1	0	0	0	0	0	0
Salvia digitaloides	0	0	1	0	0	0	0	0	0
Salvia divinorum	0	0	1	0	0	0	0	0	0
Salvia dolichantha	0	0	1	0	0	0	0	0	0
Salvia evansiana	0	0	1	0	0	0	0	0	0
Salvia filicifolia	0	0	1	0	0	0	0	0	0
Salvia flava	0	0	1	0	0	0	0	0	0
Salvia fragarioides	0	0	1	0	0	0	0	0	0
Salvia grandifolia	0	0	1	0	0	0	0	0	0

Table S3. (Cont'd.).

Plant species	Musculoskeletal disorder	Otorhinolaryngology disorder	Reproductive disorder	Digestive disorder	Hepatic disorder	Urinary disorder	Skin disorder	Circulatory disorder	Respiratory disorder
Salvia guaranitica	0	0	1	0	0	0	0	0	0
Salvia handelii	0	0	1	0	0	0	0	0	0
Salvia hayatae	0	0	1	0	0	0	0	0	0
Salvia heterochroa	0	0	1	0	0	0	0	0	0
Salvia himmelbaurii	0	0	1	0	0	0	0	0	0
Salvia honania	0	0	1	0	0	0	0	0	0
Salvia hupehensis	0	0	1	0	0	0	0	0	0
Salvia hylocharis	0	0	1	0	0	0	0	0	0
Salvia japonica	0	0	1	0	1	0	0	0	0
Salvia kiangsiensis	0	0	1	0	0	0	0	0	0
Salvia kiaometiensis	0	0	1	0	0	0	0	0	0
Salvia lankongensis	0	0	1	0	0	0	0	0	0
Salvia liguliloba	0	0	1	0	0	0	0	0	0
Salvia mairei	0	0	1	0	0	0	0	0	0
Salvia maximowicziana	0	0	1	0	0	0	0	0	0
Salvia meiliensis	0	0	1	0	0	0	0	0	0
Salvia mekongensis	0	0	1	0	0	0	0	0	0
Salvia miltiorrhiza	0	0	1	0	0	0	0	0	0
Salvia nanchuanensis	0	0	1	0	0	0	0	0	0
Salvia nipponica	0	0	1	0	0	0	0	0	0
Salvia omeiana	1	0	1	0	1	0	0	0	0
Salvia paohsingensis	0	0	1	0	0	0	0	0	0
Salvia paramiltiorrhiza	0	0	1	0	0	0	0	0	0
Salvia pauciflora	0	0	1	0	0	0	0	0	0
Salvia piasezkii	0	0	1	0	0	0	0	0	0
Salvia plebeia	0	0	1	0	0	0	0	0	0
Salvia plectranthoides	0	0	1	0	0	0	0	0	0
Salvia pogonochila	0	0	1	0	0	0	0	0	0
Salvia prattii	0	0	1	0	1	0	0	0	0
Salvia prionitis	0	0	1	0	0	0	0	0	0
Salvia przewalskii	0	0	1	0	0	0	0	0	0
Salvia qimenensis	0	0	1	0	0	0	0	0	0
Salvia roborowskii	0	0	1	0	0	0	0	0	0
Salvia scapiformis	0	0	1	0	0	0	0	0	0
Salvia schizocalyx	0	0	1	0	0	0	0	0	0
Salvia schizochila	0	0	1	0	1	0	0	0	0
Salvia sikkimensis	0	0	1	0	1	0	0	0	0
Salvia sinica	0	0	1	0	0	0	0	0	0
Salvia smithii	0	0	1	0	0	0	0	0	0
Salvia sonchifolia	0	0	1	0	0	0	0	0	0

Table S3. (Cont'd.).

Plant species	Musculoskeletal disorder	Otorhinolaryngology disorder	Reproductive disorder	Digestive disorder	Hepatic disorder	Urinary disorder	Skin disorder	Circulatory disorder	Respiratory disorder
Salvia subpalmatinervis	0	0	1	0	0	0	0	0	0
Salvia substolonifera	0	0	1	0	1	0	0	0	0
Salvia tricuspis	0	0	1	0	0	0	0	0	0
Salvia trijuga	0	0	1	0	0	0	0	0	0
Salvia umbratica	0	0	1	0	0	0	0	0	0
Salvia wardii	0	0	1	0	0	0	0	0	0
Salvia weihaiensis	0	0	1	0	0	0	0	0	0
Salvia yunnanensis	1	0	1	0	1	0	0	0	0
Schnabelia oligophylla	0	0	0	0	0	0	0	0	0
Schnabelia terniflora	0	0	0	0	0	0	0	0	0
Schnabelia tetrodonta	0	0	0	0	0	0	0	0	0
Scutellaria alpina	0	0	0	0	0	0	0	0	0
Scutellaria altaica	0	0	0	0	0	0	0	0	0
Scutellaria amoena	0	0	0	1	0	1	0	0	0
Scutellaria anhweiensis	0	0	0	0	1	0	0	0	0
Scutellaria austrotaiwanensis	0	0	0	0	0	1	0	0	0
Scutellaria axilliflora	0	0	0	0	0	0	0	0	0
Scutellaria baicalensis	0	0	0	1	1	1	0	0	0
Scutellaria bambusetorum	0	0	0	0	0	0	0	0	0
Scutellaria barbata	0	1	0	0	1	1	1	1	1
Scutellaria bolanderi	0	0	0	0	0	1	0	0	0
Scutellaria calcarata	0	0	0	0	0	0	0	0	0
Scutellaria caryopteroides	0	0	0	0	1	0	0	0	0
Scutellaria caudifolia	0	0	0	0	0	0	0	0	0
Scutellaria chekiangensis	0	0	0	0	0	0	0	0	0
Scutellaria chihshuiensis	0	0	0	0	0	0	0	0	0
Scutellaria chimenensis	0	0	0	0	0	0	0	0	0
Scutellaria chungtienensis	0	0	0	0	0	0	0	0	0
Scutellaria delavayi	0	0	0	0	0	0	0	0	0
Scutellaria dependens	0	0	0	0	0	0	0	0	0
Scutellaria diffusa	0	0	0	0	0	1	0	0	0
Scutellaria discolor	0	0	0	0	1	0	0	0	1
Scutellaria formosana	0	0	0	0	0	0	0	0	0
Scutellaria forrestii	0	0	0	0	0	0	0	0	0
Scutellaria franchetiana	0	0	0	0	0	0	0	0	0
Scutellaria galericulata	0	0	0	0	0	1	0	0	0
Scutellaria grossecrenata	0	0	0	0	0	0	0	0	0
Scutellaria guilielmii	0	0	0	0	0	0	0	0	0
Scutellaria hainanensis	0	0	0	0	0	0	0	0	0
Scutellaria hirta	0	0	0	0	0	1	0	0	0

Table S3. (Cont'd.).

Plant species	Musculoskeletal disorder	Otorhinolaryngology disorder	Reproductive disorder	Digestive disorder	Hepatic disorder	Urinary disorder	Skin disorder	Circulatory disorder	Respiratory disorder
Scutellaria honanensis	0	0	0	0	0	0	0	0	0
Scutellaria hunanensis	0	0	0	0	0	0	0	0	0
Scutellaria hypericifolia	0	0	0	0	0	0	0	0	0
Scutellaria incisa	0	0	0	0	0	0	0	0	0
Scutellaria indica	0	1	0	0	1	1	1	1	1
Scutellaria inghokensis	0	0	0	0	0	0	0	0	0
Scutellaria javanica	0	0	0	0	0	0	0	0	0
Scutellaria kingiana	0	0	0	0	0	0	0	0	0
Scutellaria laeteviolacea	0	0	0	0	0	0	0	0	0
Scutellaria lateriflora	0	0	0	0	0	1	0	0	0
Scutellaria laxa	0	0	0	0	0	0	0	0	0
Scutellaria likiangensis	0	0	0	0	1	0	0	0	1
Scutellaria linarioides	0	0	0	0	0	0	0	0	0
Scutellaria lotienensis	0	0	0	0	0	0	0	0	0
Scutellaria lutescens	0	0	0	0	0	0	0	0	0
Scutellaria luzonica	0	0	0	0	0	0	0	0	0
Scutellaria macrodonta	0	0	0	0	0	0	0	0	0
Scutellaria macrosiphon	0	0	0	0	0	0	0	0	0
Scutellaria mairei	0	0	0	0	0	0	0	0	0
Scutellaria meehanioides	0	0	0	0	0	0	0	0	0
Scutellaria megaphylla	0	0	0	0	0	0	0	0	0
Scutellaria microviolacea	0	0	0	0	0	0	0	0	0
Scutellaria mollifolia	0	0	0	0	0	0	0	0	0
Scutellaria moniliorrhiza	0	0	0	0	0	0	0	0	0
Scutellaria nigricans	0	0	0	0	1	0	0	0	0
Scutellaria nigrocardia	0	0	0	0	0	0	0	0	0
Scutellaria obtusifolia	0	0	0	0	0	0	0	0	0
Scutellaria oligodonta	0	0	0	0	0	0	0	0	0
Scutellaria oligophlebia	0	0	0	0	0	0	0	0	0
Scutellaria omeiensis	0	0	0	0	1	0	0	0	0
Scutellaria orthocalyx	0	0	0	0	0	0	0	0	0
Scutellaria orthotricha	0	0	0	0	0	0	0	0	0
Scutellaria pekinensis	0	0	0	0	1	0	0	0	0
Scutellaria pingbienensis	0	0	0	0	0	0	0	0	0
Scutellaria playfairii	0	0	0	0	0	1	0	0	0
Scutellaria prostrata	0	0	0	0	0	0	0	0	0
Scutellaria przewalskii	0	0	0	0	0	0	0	0	0
Scutellaria pseudotenax	0	0	0	0	0	0	0	0	0
Scutellaria purpureocardia	0	0	0	0	0	0	0	0	0
Scutellaria quadrilobulata	0	0	0	0	0	0	0	0	0

Table S3. (Cont'd.).

Plant species	Musculoskeletal disorder	Otorhinolaryngology disorder	Reproductive disorder	Digestive disorder	Hepatic disorder	Urinary disorder	Skin disorder	Circulatory disorder	Respiratory disorder
Scutellaria regeliana	0	0	0	0	0	0	0	0	0
Scutellaria rehderiana	0	0	0	0	0	1	0	0	0
Scutellaria reticulata	0	0	0	0	0	0	0	0	0
Scutellaria scandens	0	0	0	0	0	0	0	0	0
Scutellaria sciaphila	0	0	0	0	0	0	0	0	0
Scutellaria scordifolia	0	0	0	1	1	1	0	0	0
Scutellaria sessilifolia	0	0	0	0	0	0	0	0	0
Scutellaria shansiensis	0	0	0	0	0	0	0	0	0
Scutellaria shweliensis	0	0	0	0	0	0	0	0	0
Scutellaria sichourensis	0	0	0	0	0	0	0	0	0
Scutellaria sieversii	0	0	0	0	0	0	0	0	0
Scutellaria spectabilis	0	0	0	0	0	0	0	0	0
Scutellaria stenosiphon	0	0	0	0	0	0	0	0	0
Scutellaria strigillosa	0	0	0	0	0	0	0	0	0
Scutellaria subintegra	0	0	0	0	0	0	0	0	0
Scutellaria supina	0	0	0	0	0	0	0	0	0
Scutellaria taipeiensis	0	0	0	0	0	0	0	0	0
Scutellaria taiwanensis	0	0	0	0	0	0	0	0	0
Scutellaria tapintzeensis	0	0	0	0	0	0	0	0	0
Scutellaria tayloriana	0	0	0	0	0	0	0	0	0
Scutellaria tenax	0	0	0	0	0	0	0	0	0
Scutellaria tenera	0	0	0	0	0	0	0	0	0
Scutellaria teniana	0	0	0	0	0	0	0	0	0
Scutellaria tenuiflora	0	0	0	0	0	0	0	0	0
Scutellaria tienchueanensis	0	0	0	0	0	0	0	0	0
Scutellaria tsinyunensis	0	0	0	0	0	0	0	0	0
Scutellaria tuberifera	0	0	0	0	0	0	0	0	0
Scutellaria tuminensis	0	0	0	0	0	0	0	0	0
Scutellaria violacea	0	0	0	0	0	0	0	0	0
Scutellaria viscidula	0	0	0	1	0	1	0	0	0
Scutellaria weishanensis	0	0	0	0	0	0	0	0	0
Scutellaria wenshanensis	0	0	0	0	0	0	0	0	0
Scutellaria wongkei	0	0	0	0	0	0	0	0	0
Scutellaria yangbiense	0	0	0	0	0	0	0	0	0
Scutellaria yingtakensis	0	0	0	0	0	0	0	0	0
Scutellaria yunnanensis	0	0	0	0	0	0	0	0	0
Sideritis macrostachys	0	0	0	0	0	0	0	0	0
Sideritis montana	0	0	0	0	0	0	0	0	0
Siphocranion macranthum	0	0	0	0	0	0	0	0	0
Siphocranion nudipes	0	0	0	0	0	0	0	0	0

Table S3. (Cont'd.).

Plant species	Musculoskeletal disorder	Otorhinolaryngology disorder	Reproductive disorder	Digestive disorder	Hepatic disorder	Urinary disorder	Skin disorder	Circulatory disorder	Respiratory disorder
Skapanthus oreophilus	0	0	0	0	1	0	0	0	0
Sphenodesme floribunda	0	0	0	0	0	0	0	0	0
Sphenodesme involucrata	0	0	0	0	0	0	0	0	0
Sphenodesme mollis	0	0	0	0	0	0	0	0	0
Sphenodesme pentandra	0	0	0	0	0	0	0	0	0
Stachyopsis lamiiflora	0	0	1	0	0	0	0	0	1
Stachyopsis marrubioides	0	0	1	0	0	0	0	0	1
Stachyopsis oblongata	0	0	1	0	0	0	0	0	1
Stachys adulterina	0	0	0	1	0	0	0	0	0
Stachys arrecta	0	0	0	0	0	0	0	0	0
Stachys arvensis	0	1	1	0	1	0	1	1	1
Stachys baicalensis	0	0	0	1	1	0	1	0	1
Stachys chinensis	0	0	0	0	0	0	0	0	0
Stachys geobombycis	0	0	0	0	0	0	0	0	0
Stachys japonica	0	0	0	1	0	0	1	0	0
Stachys kouyangensis	0	0	0	1	1	0	1	0	1
Stachys melissifolia	0	0	0	0	0	0	0	0	0
Stachys oblongifolia	0	0	0	1	0	0	0	0	0
Stachys palustris	0	0	0	0	0	0	0	0	0
Stachys pseudophlomis	0	0	0	0	0	0	0	0	0
Stachys sieboldii	0	0	0	0	0	0	0	0	0
Stachys strictiflora	0	0	0	1	0	0	1	0	0
Stachys sylvatica	0	0	0	0	0	0	0	0	0
Stachys taliensis	0	0	0	0	0	0	0	0	0
Stachys xanthantha	0	0	0	0	0	0	0	0	0
Suzukia luchuensis	0	0	0	0	0	0	0	0	0
Suzukia shikikunensis	0	0	0	0	0	0	0	0	0
Symphorema involucratum	0	0	0	0	0	0	0	0	0
Tectona grandis	0	0	0	0	0	0	0	0	0
Teucrium anlungense	0	0	0	1	0	0	0	0	0
Teucrium bidentatum	0	0	0	1	0	0	0	0	0
Teucrium integrifolium	0	0	0	1	0	0	0	0	0
Teucrium japonicum	0	0	0	1	0	0	0	0	0
Teucrium labiosum	0	0	0	1	0	0	0	0	0
Teucrium manghuaense	0	0	0	1	0	0	0	0	0
Teucrium montanum	0	0	0	1	0	0	0	0	0
Teucrium nanum	0	0	0	1	0	0	0	0	0
Teucrium omeiense	0	0	0	1	0	0	0	0	0
Teucrium pernyi	0	0	0	1	0	0	0	0	0
Teucrium pilosum	0	0	0	1	0	0	0	0	0

Table S3. (Cont'd.).

Plant species	Musculoskeletal disorder	Otorhinolaryngology disorder	Reproductive disorder	Digestive disorder	Hepatic disorder	Urinary disorder	Skin disorder	Circulatory disorder	Respiratory disorder
Teucrium polium	0	0	0	1	0	0	0	0	0
Teucrium quadrifarium	0	0	0	1	1	0	0	0	0
Teucrium scordioides	0	0	0	1	0	0	0	0	0
Teucrium scordium	0	0	0	1	0	0	0	0	0
Teucrium simplex	0	0	0	1	1	0	0	0	0
Teucrium tsinlingense	0	0	0	1	0	0	0	0	0
Teucrium ussuriense	0	0	0	1	0	0	0	0	0
Teucrium veronicoides	0	0	0	1	0	0	0	0	0
Teucrium viscidum	0	0	0	1	0	0	0	0	0
Thymus altaicus	0	1	0	0	0	0	0	0	1
Thymus amurensis	0	1	0	0	0	0	0	0	1
Thymus disjunctus	0	1	0	0	0	0	0	0	1
Thymus mandschuricus	0	1	0	0	0	0	0	0	1
Thymus marschallianus	0	1	0	0	0	0	0	0	1
Thymus mongolicus	0	1	0	0	0	0	0	0	1
Thymus proximus	0	1	0	0	0	0	0	0	1
Thymus pulegioides	0	1	0	0	0	0	0	0	1
Thymus quinquecostatus	0	1	0	0	0	0	0	0	1
Thymus zygioides	0	1	0	0	0	0	0	0	1
Tsoongia axillariflora	0	0	0	0	0	0	0	0	0
Vitex burmensis	0	0	0	0	0	0	0	0	0
Vitex canescens	0	0	0	0	0	0	0	0	0
Vitex duclouxii	0	0	0	0	0	0	0	0	0
Vitex kwangsiensis	0	0	0	0	0	0	0	0	0
Vitex negundo	0	0	0	0	0	0	0	0	0
Vitex patula	0	0	0	0	0	0	0	0	0
Vitex peduncularis	0	0	0	0	0	0	0	0	0
Vitex pierreana	0	0	0	0	0	0	0	0	0
Vitex quinata	0	0	0	0	0	0	0	0	0
Vitex rotundifolia	0	0	0	0	0	0	0	0	0
Vitex sampsonii	0	0	0	0	0	0	0	0	0
Vitex simplicifolia	0	0	0	0	0	0	0	0	0
Vitex trifolia	0	0	0	0	0	0	0	0	0
Vitex tripinnata	0	0	0	0	0	0	0	0	0
Vitex vestita	0	0	0	0	0	0	0	0	0
Vitex yunnanensis	0	0	0	0	0	0	0	0	0
Wenchengia alternifolia	0	0	0	0	0	0	0	0	0
Ziziphora bungeana	0	1	1	0	1	0	0	0	1
Ziziphora pamiroalaica	0	1	1	0	1	0	0	0	1
Ziziphora tenuior	0	1	1	0	1	0	0	0	1
Ziziphora tomentosa	0	1	1	0	1	0	0	0	1

1= Present, 0= Absent