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Indigenous knowledge of medicinal plants used in the Altay-Dzungarian region of Mongolia

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For millennia plants and plant derivatives have been used as the main source of medicine in Mongolia to treat various diseases afflicting humans and their livestock. The aim of the present study, conducted within the WaterCope project, a Mongolian-Sino-German Research & Development effort, was to conduct an ethno-botanical survey documenting indigenous medicinal plants used by people of Altay-Dzungaria in Western Mongolia. The Bulgan River Basin is inhabited by three ethnic groups: the Torguuds, Uriankhai and Kazakh whose livelihoods all depend on the waters of the Bulgan River. While the first two groups have similar habits, culture and language, the latter is distinctly different.

Information on the different uses of medicinal plants and ethno-botanical data were obtained by formal interviews of randomly selected households (HHs) and individuals in summer 2012. The questionnaire consisted of 12 questions on the usage (if, which, when, what for), mode of obtaining (wild collection or purchase) and intention to cultivate (if, which, why) of the specified plant species. In total 188 households or individuals were interviewed, of which 89 were in their summer camps and 99 were in Bulgan soum center, Khovd province. About 50% of the interviewed were Torguud, 25% percent were Uriankhai and 25% Kazakh.

The data show that 88 HHs or individuals used medicinal plants, consisting of 46.8% of interviewed Torguuds, 55.3% of interviewed Uriankhais and 38.3% interviewed Kazakhs. Of these 55.7% lived in the soum center and 44.3% in the summer pastures.

The 38 species of vascular plants used belong to 33 genera and 25 families. Most prominent were the Asteraceae (6 species) and Fabaceae (4 species). The most commonly employed species were *Plantago major* (52 HHs/individuals) for the treatment of intestinal disorder and stomach ulcer, *Rosa acicularis* (23 HHs/individuals) mostly for curing hypertension, *Glycyrrhiza uralensis* (19 HHs/individuals) for the treatment of cough and *Urtica cannabina* (17 HHs/individuals) against animal diarrhea and fatigue. Some Kazakhs and Torguuds (22 HHs/individuals) use a plant, named 'Jalbas' or 'Yalbas' (Kazakh name) which could be *Mentha arvensis* or *Ziziphora pamirolaica* for curing bile and stomach disorders. Uriankhai people regularly use a plant named 'Gazar tsai' (Mongolian name meaning 'Ground tea') added into their normal tea for the treatment of hypertension.

Regardless of species, medicinal plants are self-collected or exchanged for free among the needy as medicinal plants are considered non-commercial goods in this region. At present most people do not intend to cultivate these plants due to the lack of knowledge and shortage of appropriate land and irrigation water. Despite cultural and language differences knowledge about medicinal plants is shared freely across ethnic groups, but with the advent of Western medicine such knowledge is rapidly vanishing, particularly in the young generation.

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