

“*DBYAR RTSWA DGUN 'BU* IS A MARVELLOUS THING”
SOME NOTES ON THE CONCEPT OF *OPHIOCORDYCEPS*
SINENSIS AMONG TIBETAN PEOPLE AND ITS
SIGNIFICANCE IN TIBETAN MEDICINE*

ALESSANDRO BOESI

Milan, Italy

Introduction

dbyar rtswa dgun 'bu, “summer grass – winter worm”, is diffused over a large part of the Tibetan plateau and the Himalayan mountains. Tibetans have likely known it since ancient times and have seen it as a worm transforming into a kind of grass. Modern biologists identify *dbyar rtswa dgun 'bu* as *Ophiocordyceps sinensis*, a parasitizing fungus attacking the larva of a moth species.

One of the first western travellers to report on the collection and trade of *dbyar rtswa dgun 'bu* on the Tibetan plateau was William W. Rockhill,¹ who crossed the eastern part of the Tibetan plateau between 1891 and 1892. Ernest H. Wilson,² who travelled in today Sichuan province at the beginning of the 20th century, also reported, in his book chapter devoted to illustrating Chinese *materia medica*, that *Ophiocordyceps sinensis* was at that time “a valued product of the western uplands, where it is found from 12,000 to 15,000 feet altitude”.

In Tibet *dbyar rtswa dgun 'bu* has been used mostly as tonic and aphrodisiac both in the local “science of healing” and at the popular level, i.e. among people who do not practise medicine but know how to use some substances that they buy or themselves collect in the wild. Its features and qualities have been described in a number of medical treatises composed from the 15th to the end of pre-modern Tibet in the early 20th century, and also in more recent Tibetan *materia medica* and formularies. Tibetans have highly prized this natural product for its religious and medical significance, and recently also for its commercial value. For several centuries, but particularly in the last few decades, *dbyar rtswa dgun 'bu* has become one of the principal trade items and

* I am very pleased and honoured to have been invited to contribute an article for this book devoted to celebrating the career of Professor Elena De Rossi Filibeck. It was a great opportunity for me to work with her on several projects concerning the Tucci Tibetan Collection in Rome, and I look forward to the pleasure of working with her again in the future.

1 See Rockhill 1894: 361.

2 Wilson 1913: 39.

source of income for local communities, being mainly collected and traded for the Chinese market.³ Owing to the recent rapid increase of the standard of living in China, market demand for natural products used in Chinese medicine and as dietary supplements, principally the ones considered to have peculiar properties as aphrodisiacs and tonics, has dramatically augmented. The result of this trend is that the use of *dbyar rtswa dgun 'bu* has been constantly increasing among the Chinese and has also made inroads in several other Asian countries, as well as in Europe and America. That is the reason why its price has been skyrocketing and the amount of this natural product collected in the mountain areas of Tibet keeps increasing.

This article aims at examining the Tibetan understanding of *dbyar rtswa dgun 'bu* among both educated and non-educated people, particularly gatherers, traders, and Tibetan medical practitioners, and at elucidating its significance in Tibetan medicine. In the first part I will examine the way Tibetans describe this element, conceive of its transformation process and life, and attribute symbolic value to it. In the second part I will survey the popular use of *dbyar rtswa dgun 'bu* and its description and classification in Tibetan medical treatises.⁴

Ophiocordyceps sinensis

Ophiocordyceps is a genus of ascomycete fungi belonging to the family Ophiocordycipitaceae (formerly Clavicipitaceae), which includes species parasitic mainly on insects and other arthropods. These types of fungi are thus named entomophagous (feeding on insects) fungi. *Ophiocordyceps sinensis* (Berk.) G. H. Sung, J. M. Sung, Hywel-Jones & Spatafora⁵ is an insect-parasitizing fungus living on lepidopterous (butterflies and moth) larvae. It attacks and grows on caterpillars, specifically on larvae from the genus *Thitarodes* (Hepialidae, Lepidoptera). *Ophiocordyceps sinensis* thrives from 3,000 to 5,000 meters above sea level, in cold, grassy, alpine meadows of the Tibetan Autonomous Region, as well as Sichuan,

3 See Boesi 2003; Boesi & Cardi 2009; Winkler 2005; Winkler 2008; Winkler 2008a.

4 The field data shown in this article were primarily collected during two research trips conducted in Li thang County (Sichuan, PRC). The first extended from April to September 1999, the second from May to August 2000. Research methods included participant observation and open-ended conversations with the people involved in the gathering, utilization, and trading of *Ophiocordyceps sinensis*, and with Tibetan doctors. Interviews to Tibetan medical practitioners from lower Mustang District (Nepal) and from Kathmandu (Nepal) Kun phan Tibetan Medical Centre were also carried out in July-August 2001, May 2012 and 2014. Brief interviews were conducted with Tibetan doctors from Dar rtse (Dar mdo County Sichuan, China), 'Ba 'thang ('Ba 'thang County, Sichuan, China), and Reb kong County (Huangnan Tibetan Autonomous Prefecture, Qinghai, China). Excerpts of classic and modern treatises of Tibetan *materia medica* describing *dbyar rtswa dgun 'bu* were examined. The botanical identifications of the plants, when the reference is lacking, are based on the botanical specimens that the author collected in the field.

5 See Hywel-Jones *et al.* 2007.

Gansu, Qinghai, and Yunnan and in a few Nepalese, Bhutanese, and Indian areas of the Himalayas. The infected hosts, of which *T. armoricanus* (Oberthür) Ueda is the most commonly-mentioned species, live underground on the Tibetan plateau and Himalayan regions in the same areas where *O. sinensis* thrives, and they spend up to 5 years before pupating. The spores of *O. sinensis* are spread by the wind over the soil and onto plants, where they come into contact with *Thitarodes* larvae, particularly when the caterpillars emerge to feed on roots and herbaceous vegetation. Larvae were observed eating tender roots of alpine meadow species such as *Polygonum*, *Astragalus*, *Salix*, *Arenaria*, and *Rhododendron*.⁶ The caterpillars may either eat the spores or the spores lying on their bodies may germinate and enter their bodies through the mouth or the respiratory pores (two of them are present over each metamere). When *O. sinensis* attacks *T. armoricanus*, its mycelium invades the caterpillar's body, filling its cavity, killing the insect, and eventually completely replacing the host tissue. The dead caterpillar appears yellowish to brown in colour.

The cylindrical club-shaped fruiting body, 5-15 cm long and dark brown to black in colour, grows up from spring to early summer, protruding and developing out of the caterpillar's forehead. The stroma (mass of fungus tissue) bears many small, flask-shaped perithecia (fruiting bodies of ascomycetous fungi) that contain the asci (sacs in which the sexual spores are formed). According to Li *et al.* (1999), *O. sinensis* spores disperse and break up into 30-60 propagules, which attach themselves to the larval state of the insect; usually 15 days pass between spore dispersion and larval infection. In the Lithang area, where most of the fieldwork was conducted, the author observed *O. sinensis* between 4,000 and 4,500 meters of altitude in the alpine grasslands on the northern slopes of sPom ra, the mountain dominating Lithang town. The length of the larvae varied roughly from 3 to 6 centimetres. The length of the dry mushroom observed in the Lithang market spanned from 3 to 10 centimetres.

The Tibetan Concept of *dbyar rtswa dgun 'bu*

Ophiocordyceps sinensis is an important ingredient of Chinese medical preparations, and according to some sources it has been known in China since ancient times.⁷ Yet *Ophiocordyceps sinensis* is present over a large part of the area traditionally inhabited by Tibetan populations,⁸ and, as far as it is known today, its citation in Tibetan medical treatises pre-dates by two centuries its mentioning in Chinese medical texts (see below). Thus it is highly probable that Tibetans were the first to notice this fungus thriving on the high pasturelands, examine its morphological traits, understand its biological features, discover its qualities and therapeutic properties, and attribute it a name, symbolic and religious values.

6 See Shen *et. al.* 1990.

7 For example, see Holliday & Cleaver 2008: 220.

8 See Winkler 2005: 71.

As Carla Nappi (2010: 27) put forward, the Chinese designation *dongchong xiacao*, which also translates as “summer-grass winter-worm”, may well represent a translation of the Tibetan term *dbyar rtswa dgun 'bu*, and this medicinal fungus “may have been a Tibetan import into Chinese texts as a part of a Qing movement to translate Tibetan works in the 17th and 18th centuries. The court had established a Tibetan School (*Tanggute guanxue*) in 1657 to train scholars for translation works”. During this period the Qing had established strong contacts with the Tibetan elites and had increased their influence on Tibetan politics. Nappi (2010: 25) interestingly observed that in this period distant regions as today Sichuan and Yunnan Provinces, and what is now the Tibetan Autonomous Region, were becoming integral to the empire, and that the conquest and consolidation of these borderland regions was mirrored in Chinese medical texts by the integration of local medical drugs into the pharmacological canon. Thus *dbyar rtswa dgun 'bu* was possibly included into Chinese *materia medica* during this period, and it was sought for in China, particularly by the court, as testified by the request for *dbyar rtswa dgun 'bu* that the Qing emperor Kangxi (1662-1722) made to the 6th Dalai Lama (1683-1706), which will be discussed below.

Tibetan informants from the study areas, both educated and non educated, saw *dbyar rtswa dgun 'bu* as a single substance or phenomenon, which is subject to a metamorphosis occurring from the beginning of spring to the early summer. Its Tibetan designation reflects good knowledge of its life and seasonal changes based on observations in the field. In Lithang County and in the other regions visited the abbreviation *'bu*, commonly employed to designate many kinds of insects, worms, and maggots, is frequently used to indicate this product.

Tibetans believe that during winter (*dgun*) *dbyar rtswa dgun 'bu* lives as a worm (*'bu*) and that, after a metamorphosis occurring between the beginning of spring and early summer (*dbyar*), it changes into a kind of grass (*rtswa*). Tibetan people conceive the category *rtswa* as including all the various common grasses with narrow green leaves that are of little dimension and flexible nature, that are fixed to the ground by means of underground structures, and that are eaten by yaks, sheep, and goats.⁹ The aerial portion of this plant (the fruiting body of the fungus according to modern biology) is similar to a dry blade of grass as concerns size and general aspect. That is why the search for it over the high altitude meadows is a very difficult task, which requires concentration and patience.

Most informants described two distinct phases in the transformation process of *dbyar rtswa dgun 'bu*. At the beginning, the “grass” starts growing from the head of the worm. At this stage the worm, whitish in colour, is still alive and it is possible to see it moving over the ground with a short horn (*rwa*) protruding from its head. Subsequently, with the advancing of the season, the horn continues in its growth until the worm dies. When the metamorphosis is completed, the worm, now brownish-

9 See Boesi 2004: 58.

yellow in colour, is transformed into the underground portion (*rtsa ba*) of a kind of grass (*rtswa*).

An interesting perspective of this metamorphosis, which may influence the gathering of the product, is that, whereas the worm (*'bu*) is considered as a living being (*srog chags*) since it has a conscious principle (*rnam shes*), the grass (*rtswa*) is not considered so. That is why several informants stated that they do not pluck *dbyar rtswa dgun 'bu* when the worm is still alive since the killing of sentient beings is a negative action and their karma would be badly affected. Therefore, several gatherers affirmed that when they find a worm that is still alive, they just leave it in the same spot without touching it. These ideas are also shared by ethnic Tibetan people living in the high Nepalese valleys. Sacherer (1979: 51-52) reported similar information obtained among the Sherpa people living in the Rolwaling valley in Nepal: “The Sherpa explain that this creature is in fact a worm in winter whose head becomes grass in summer at which time the half worm dies and can be gathered and utilised without sin...”. According to Childs & Choedup (2014: 12), “Traditionally, Tsum’s [Gorkha District] residents were reluctant to gather *yartsa gunbu* [even when the worm was dead] on the grounds that doing so constituted the killing of a living being. As a local saying goes, ‘Digging up one worm is equivalent to killing one fully ordained monk’”.

Concerning Tibetan medical texts, Zur mkhar ba mnyam nyid rdo rje seems to have written the first and most detailed description of *dbyar rtswa dgun 'bu*’s place of growth, morphological features, and mode of life in his 15th century treatise.¹⁰ This information is similar to what I recorded during fieldwork. According to Zur mkhar ba mnyam nyid rdo rje,¹¹ “*dbyar rtswa dgun 'bu* grows in remote mountain regions on dry grass covered mountains (*rtswa ri sgam po*),¹² in summer it is a blade of grass on a worm, similar to the leaf of mountain garlic (*ri sgog*),¹³ its flower resembles the

10 *rTsa ri sgam po sogs la kyi / ri bo dben pa 'i ldong [ljong] su skye / dbyar dus 'bu la lo ma 'i rtsa / ri sgog 'dab ma 'dra ba la / me tog a wa dar ljang 'dra / rtsa ba ston mjug go snyod 'dra*. See Zur mkhar ba mnyam nyid rdo rje 2005: 308-09.

11 The entire section of the *Man ngag bye ba ring bsrel pod chung rab 'byams gsal ba 'i sgron me*, devoted to describing *dbyar rtswa dgun 'bu*, was translated by Jacob Winkler (see Winkler 2008a: 32-36).

12 *dByar rtswa dgun 'bu* starts developing in spring when growing season for most plants has not yet started, and dry herbaceous forbs and grasses from the previous year dominate the landscape.

13 Several types of wild garlic are recognized in Tibetan regions. Their classification, identification and nomenclature may vary from region to region, and village to village. According to De'u dmar dge shes bstan 'dzin phun tshogs's 17th century *Shel gong shel phreng* (2005: 356-357), seven types of wild *sgog pa* are differentiated, each type having its particular morphological traits, place of growth, and qualities: *ri sgog*, *brag sgog*, *'dzim nag*, *rgya sgog*, *klung sgog ke dzi*, *byi'u sgog* and *rug sgog*. According to dGa' ba' i rdo rje (1998: 288), *ri sgog* corresponds to *Allium atrosanguineum*, a species thriving in moist places between 2,400 and 5,400 m. in W Sichuan, NW Yunnan, Gansu, E and NW TAR (see Wu Z. G. *et al.* 1995-present: 165-202).

one of *a wa dar ljang*,¹⁴ and in autumn the root looks like the one of *Carum carvi* (*go snyod*).¹⁵ The majority of other Tibetan scholars and physicians mentioning this medicinal agent in their works mostly focused on its medical qualities and therapeutic action. Only rarely they do include brief information, often copied from Zur mkhar ba mnyam nyid rdo rje's work. For example, Cha har dge bshes Blo bzangs tshul khirms (1740-1810) in his medical treatise, after a description of morphology and mode of life likely inspired by Zur mkhar ba mnyam nyid rdo rje, wrote that *dbyar rtswa dgun 'bu* grows in mountain high altitude areas (*ri mtho sar skye ba*).¹⁶

Carla Nappi (2010: 25) mentioned the translation of an excerpt from one of the first Chinese texts¹⁷ describing *dongchong xiacao*, the 1848 *Zhiwu mingshi tukao*, a compendium of botanical knowledge.¹⁸ This detailed account shows that the understanding of this worm-plant features and mode of life is similar to the one explained by Zur mkhar ba mnyam nyid rdo rje and today's Tibetan informants: "In the winter it lives within the earth, its body like an old silkworm covered in hairs, and can move. In the summer it sheds its hairs, emerges from the surface of the soil, rotates its body and transforms into a plant. If it is not harvested, it returns to the earth in winter and transforms back into an insect...Its root is like a silkworm, its leaves look like the young sprouts of an herb". Accounts made by traders coming from Tibet

14 *A wa dar ljang* represents a variety of the plant named *a wa*. This type is mentioned in De'u dmar dge shes bstan dzin: phun tshogs's *Shel gong shel phreng* (2005: 296-297). According to him, three varieties of *a wa* may be distinguished: *bdud rtsi a wa*, the best one; *a wa dar ljang*, the medium quality one; and *a 'dra*, the low quality one. *A wa dar ljang* is described as similar to a thread. Two sub-varieties of it are distinguished: a female one (*mo*), which is similar to threads for fine silken garments and has a whitish flower, and a male (*pho*) one, which does not have flower. To my knowledge botanical identifications of these varieties are not available yet. According to *Zhongguo kexueyuan xibe gaoyuan shengwu yanjiusuo* (1991: 460-46) *A wa* corresponds to *Lloydia serotina* (Liliaceae) and to *Hippochaete ramosissima* (= *Equisetum ramosissimum*). Interestingly, the latter is often a creeping and climbing plant that might be associated to a thread.

15 Tibetans know well this plant, which grows all over Tibetan regions. Samples of its roots are in some way similar to what Tibetans conceive as *dbyar rtswa dgun 'bu* roots, which is what remains of the moth's larvae.

16 Blo bzangs tshul khirms 2007: 48.

17 What is indicated today as *Ophiocordyceps sinensis* is mentioned for the first time in Chinese texts around the middle of the 18th century. According to Nappi (2010: 24-25), a brief account of it appears in the *Sichuan Tongzhi* of 1731, a local gazetteer that was later republished in the *Siku Quanshu* compendium (The Emperor's four treasures) in 1782. It was described for the first time in Chinese medical treatises in 1751, particularly in the *Bencao congxin* (A compendium of *materia medica*) in a short account that was elaborated in subsequent pharmacological texts (see Wu 1990: 26). Nappi (2010:24-25) adds that some authors have argued that the first recorded instance of *dongchong xiacao* was in the *Bencao beiyao* in 1694. This attribution is, according to her, a mistake since the drug appears not in the original *Bencao beiyao*, but in a later revision of the text by Hong Yuan called *Zengpi bencao beiyao*.

18 See Wu 1993, vol 3: 286.

or/and Tibetan medical treatises, maybe the aforementioned one composed by Zur mkhar ba mnyam nyid rdo rje, may have inspired the Chinese author of this passage.

Informants from Lithang County gave an accurate morphological description of *dbyar rtswa dgun 'bu*. They showed the minute characteristics of the worm and the grass as the presence of tiny hairs (*spu*) and wrinkles (*sgal tshigs*) on the back of the worm, and indicated hands (*lag pa*), legs (*rkang pa*), head (*mgo*), mouth (*kha*), eyes (*mig*), and anus (*rgyu tog*) over its body. The part of the *dbyar rtswa dgun 'bu* indicated as a blade of grass was also designated *rwa co* (horn) since, protruding from the root-worm's head, is similar, in shape and colour, to a horn. Part of it lies under; part of it sticks out of the ground. The dead caterpillar that lies within the soil is called worm (*'bu*) or underground portion (*rtsa ba*). According to Kunga Lama (2007: 72), who worked in eastern Tibet, three different terms are used to indicate *dbyar rtswa dgun 'bu* according to its growing cycle: *snga 'bu*, “early worm”, *bar 'bu* “in-between worm”, and *tshar 'bu*, “finished worm”. Tibetan gatherers and merchants from Lithang assessed the quality of the product by carefully inspecting some of its features: status of conservation, texture, length, and thickness of the worm, length of the horn. The most valued specimens exhibit a long worm, thick and hard in texture, having short and thin horn.

Most of the informants from Lithang gave the following description of the places where *dbyar rtswa dgun 'bu* is found: it grows near Lithang town over the shady side of the mountains characterised by expanses of meadows (*srib ri'i spang du*) where the soil is of *sa nag* (black soil) type. This term connotes a type of soft soil, dark in colour, with relatively abundant vegetation. *Sa nag* is opposed to the hard soil (*sa 'khregs*) of the *spang rgod*, “wild meadows”, described as the meadows where herbaceous flowering plants (*me tog*) and grass (*rtswa*) are less abundant, and the sound of horses' hoofs clapping on the ground can be clearly heard.

Traders and gatherers from Lithang emphasized that, at the beginning of spring, when people start collecting *dbyar rtswa dgun 'bu*, a few flowering herbaceous plants (*me tog*) and woody plants (*shing sdong*) growing over the same area in the meadows have already bloomed. Among them they mention two types of *sur ru*,¹⁹ one with white flowers, *sur dkar* (*Rhododendron* sp.), and one with purple flowers, *sur nag*, (*Rhododendron* sp.), as well as the flowers known as *ut pal ser po* (*Meconopsis integrifolia*), and *khu yug me tog* (*Iris goniocarpa*).

According to a work on Nepalese medicinal plants, when yaks are driven to high altitude pastures during summer, they actively look for *dbyar rtswa dgun 'bu* in the alpine meadows to eat it, and it is very difficult to find this product in the areas where they graze.²⁰ I did not obtain this information during my fieldwork in Lithang County and in other Tibetan regions.

19 In Lithang County, as in other areas of eastern Tibetan regions, the term *sur ru* corresponds to the term *ba lu* used in several Himalayan and Tibetan areas.

20 See Ministry of Forests and Soil Conservation, Department of Medicinal Plants, 1970: 116.

Pickers and traders from Lithang County reported that the amount of *dbyar rtswa dgun 'bu* growing in the mountains is not always constant, but may vary from year to year. This variability is attributed to the climatic conditions during spring. Informants said that sometimes, particularly at its beginning, spring may be cold with frequent and abundant snowfalls. Owing to that it is very difficult for “the grass” to grow upwards because of the thick layer of snow that covers the ground. For that reason “the grass” and “the root-worm” get easily rotten within the soil. According to several traders and gatherers, during the spring of 2000 the weather had been very cold with frequent snowfalls. That is why only few *dbyar rtswa dgun 'bu* managed to survive: out of three, they claimed, two of them got rotten within the soil. At the time some other informants were wrong when claiming that the good season was simply a little bit late and that the gatherers had to wait for a few weeks to get a fine crop of this product as in the past years. Eventually at the end of the gathering season nearly all the people involved in this activity recognized that the amount of the product plucked in the mountains was inferior to the one of the previous year. The informants explained that the best weather conditions required for the abundant growth of *dbyar rtswa dgun 'bu* are moderate rainfalls and scanty snowfalls during spring. If it rains too much, the worm gets rotten, if it does not rain, it dries. If there is too much snow, the “grass” cannot grow up.

In Lithang County, the area where I spent most of my field research, many Tibetan informants, educated and non-educated, and notably pickers and traders, reported the following motto concerning *dbyar rtswa dgun 'bu*, which attests the significance of this natural substance/product for local people: “*dbyar rtswa dgun 'bu* is a marvellous thing” (*dbyar rtswa dgun 'bu ngo mtshar che*). Unfortunately, we do not know how old this popular expression is. It might have been devised either recently in the past few decades or in the remote past. Its origin is difficult to determine also because to my knowledge it is not reported in any written source. In the same way it is hard to establish why it has been devised. This motto may be connected with the use of the caterpillar-fungus as very profitable trade item, to its particular medical properties, or to the symbolic function that it had in the past and still has at present in specific areas. Also more than one of these options may have contributed to its elaboration.

The first hypothesis might be the most substantial one since at least for the past few centuries, and particularly in the last decades, *dbyar rtswa dgun 'bu* has represented an important source of income for many Tibetan communities. Its gathering and trading activities have been documented in both foreign travellers' accounts and local historical treatises. For example Rockhill (1894: 361), who crossed the eastern part of the Tibetan plateau between 1891 and 1892, described in his diary *Ophiocordyceps sinensis* as an important natural product from Lithang region. He reported: “We followed down the Lit'ang Golo valley for a couple of miles and then ascended the steep Mo-lung gung [located to the south-east of Lithang]... This mountain is famous as producing that curious worm-plant known as the Shar-tsa gong-bu (tung-chung hsia-ts'ao in Chinese), called by botanists *Cordyceps sinensis*”.

In the work of the Khams pa historian dMu dge bSam gtan²¹ it is reported that before the 1950s Tibetans did harvest and trade *dbyar rtswa dgun 'bu* specifically for the Chinese market. In his biography of the 6th Dalai Lama,²² the Regent Sangs rgyas rgya mtsho wrote that the Qing emperor Kangxi, through his representative in Lhasa, had asked the Dalai Lama to send him paper (*shog bu*), and notably the tonics and aphrodisiacs *dbyar rtswa dgun 'bu* and *dbang po lag pa* (see below), indicating that at the time these products were already well known and used at the Chinese court in Beijing.²³ Du Halde, one of the first Europeans to describe this product in 1736, already rated it as rare and precious. He reported that the Emperor’s physicians told him that “*hia tsao tong tchong*”, as this product was designated, was only prescribed at the Court because of the difficulty they had to procure it.²⁴

Concerning its medicinal qualities, for several reasons these do not seem to be significant enough to justify the elaboration of this motto. Traditional doctors and other people see *dbyar rtswa dgun 'bu* as an effective tonic and aphrodisiac. Yet this medicinal agent is not described in some of the most important classic treatises of Tibetan medicine and *materia medica* such as the *rGyud bzhi*²⁵ and the *Shel gong shel phreng*,²⁶ which list other substances as the best aphrodisiacs and tonics.²⁷ Also its use does not seem to be particularly widespread among both traditional doctors and Tibetan people in the area where the motto has been recorded. Some Tibetan doctors from Dartsendo and from the Kumbum medical institute in Qinghai stated that they do not often use this product, and that they mainly collect it for its trading value. Nawan Tashi, a traditional doctor from Lithang, at the time of my fieldwork had bought 2 kg of fresh *dbyar rtswa dgun 'bu* from the local market and had hung it to dry on the ceiling of his storeroom. He intended to sell it during the next winter, when the price would increase, and did not intend to use it to manufacture his medicines.

The adjective *ngo mtshar*, “marvellous”, used in the popular expression, is mentioned in the medical text *Man ngag bye ba ring bsrel* composed by Zur mkhar ba mnyam nyid rdo rje (2005: 308-310), where the author describes the therapeutic properties of this medicine. Particularly he wrote that *dbyar rtswa dgun 'bu* is a *ngo mtshar sman*, “a marvellous medicine”. This expression is often used in Tibetan medicine to connote medicinal substances having particularly strong therapeutic qualities and action. However, this single passage from the *Man ngag bye ba ring bsrel* cannot be utilized to demonstrate a connection between the present popular expression and the medical properties of this drug.

21 dMu dge bSam gtan 1987, Book 2: 289. I would like to thank Dr. Toni Huber for indicating me this reference and for his suggestions.

22 I would like to thank Lobsang Yongdan for indicating me this source.

23 Cf. sDe srid Sangs rgyas rgya mtsho 1989: 310.

24 See Du Halde 2003: 41-42.

25 Cf. g.Yu thog yon tan mgon po 1992.

26 Cf. De'u dmar dge shes bstan 'dzin phun tshogs 2005.

27 See below in the paragraph devoted to *dbyar rtswa dgun 'bu* in Tibetan medicine.

Concerning its symbolic function and collection regulations, in certain regions *dbyar rtswa dgun 'bu* has been related to the local popular religion. Animals that dwell underground in burrows, Huber observed, “are negatively associated with the archaic cosmology. These species are considered to be too close to the realm of the local subterranean and sub-aquatic deities (*klu, sa bdag, sri*, etc.), who are believed to be easily offended and also quick to cause harm to humans and their livestock in retribution for human encroachment upon their realm”.²⁸ *dByar rtswa dgun 'bu* is one of them. Namkhai Norbu (1997: 68), who travelled to the eastern part of the Tibetan plateau in 1953, reported that for the nomads of the regions of rDza chu kha and Se tha, *dbyar rtswa dgun 'bu* and *dkar mog*²⁹ represented the treasures (*snying nor*) of the lord of the soil (*gzhi bdag*), and *rdza yung*³⁰ their heart. The gathering of these plants was banned, according to the so-called *ri rgya*, the local law that governs the relations with the environment, and which prohibits the killing of wild animals. In his article “Territorial Controls by Sealing” (*rgya sdom pa*), Huber (2004: 142-43) clearly explains that in parts of Tibet, and particularly in A mdo and Khams, regional forms of territorial sealing established at the level of local lay communities existed. They were called *ri khrims* or *ri rgya*. Huber adds that these sealings were usually done to hill or mountain areas and water sources, the typical abodes of the territorial deities, and that they were introduced to protect local indigenous resources such as game animal and medicinal plants, which could be both economically valuable and associated with local deities. Norbu added that the gathering of these natural substances, upsetting the local deities, could cause the occurrence of epidemics that would severely affect both man and livestock. Also Gould, who has recently conducted a survey on *Ophiocordyceps sinensis* in Bhutan, reported that according to 67% of the herding families living near *dbyar rtswa dgun 'bu* gathering areas “the most serious effect of the new pickers [of caterpillar-fungus] is the upset they cause to the spiritual forces in the mountains”.³¹ The manifestation of their irritation was seen by the informants as the recent decrease of water level in the lakes located in their region. Concerning instead Norbu’s description of local sealing, Huber (2004: 142-43) explains that people from the neighbouring regions of 'Dzam thang, rNga ba, rMe ba, and rDzo dge also reported it and that the most important reason for sealing a certain territory was to protect it from members of rival neighbouring communities and other strangers travelling in the region. So in these areas *dbyar rtswa dgun 'bu* was one of the animals/plants/natural products to be protected, likely against the gathering by people coming from other areas.

28 See Huber 2005: 8.

29 A traditional doctor from Khyung bo I worked with mentioned this plant name. He reported that *dkar mog* grew in his homeland region. Unfortunately, I have never observed the plant in the field and have not been able to find, so far, its description in written Tibetan sources.

30 I did not find any Tibetan written source mentioning this plant and reporting its botanical identification.

31 See Gould 2007: 66.

Norbu (1997: 68) also affirmed that at that time several of the young generations had not any faith in the stories about the *dbyar rtswa dgun 'bu* and the other plants and secretly picked and bartered them. According to him, the people discovered carrying out that activity were severely punished. The record of this banning described by Norbu has most probably to be understood as limited to very small areas, for example near monasteries and sacred places, as it seems to still occur at the present time in several Tibetan regions. It is also worth noting that according to dMu dge bSam gtan data,³² *dbyar rtswa dgun 'bu* was abundantly gathered by Tibetan people in regions similar to, and close by Se thar and Dza chu kha. My informants from Lithang County, where the popular expression above was documented, and from the other areas where the author conducted fieldwork, did not report the information given by Norbu.

Popular use

The consuming of *dbyar rtswa dgun 'bu* as tonic and aphrodisiac does not seem to be particularly common among the Tibetans from the study areas. At Lithang it is sometimes used as tonic, and, according to my informants and observations, it is mainly drunk during winter in the form of a beverage prepared in different ways. During their daily activities, at home or in the open, Tibetans may sip small amounts of these potions contained in tiny bottles. I observed people drinking them while doing activities such as carving religious prayers on stones and gambling. People affirmed that the potions have the property of being beneficial to the health of the body and in particular of increasing its strength and vigour (*lus stobs*), and they are also deemed, though to a lesser extent, to boost sexual virility (*ro tsa*). Of course several young Tibetan *dbyar rtswa dgun 'bu* traders boastfully stated that only the Chinese and not the Tibetans need to consume this product for that purpose. In Lithang these potions are prepared by dipping into a container filled with *a rag* (a local spirit processed from barley or rice) a few *dbyar rtswa dgun 'bu* specimens. Their number may vary according to the quantity of *a rag* held in the container and the strength of the potion that is required. Usually, three to five specimens of *dbyar rtswa dgun 'bu* are steeped in half a litre of *a rag*. The potion is ready after having being kept in a cool place for two or three months. Some people wait one year or more before consuming it, claiming that the long period of permanence of the drug in the spirit increases the strength of the beverage. When the *a rag* is exhausted, some more can be added by filling the container again. The refilling can be done several times, though the potency of the potion decreases. Other ingredients may be added to the recipe, notably the bulbs of *peimou* (*a'u rtsi*, *Fritillaria* sp.), and the *goji* berries

32 dMu dge bSam gtan 1987, Book 2: 289.

(*'dre tsher ma*, *Lycium* sp.). I have reported here their Chinese names, which were used by the majority of local Tibetans.³³

As far as other Tibetan regions are concerned, information about *dbyar rtswa dgun 'bu* use at the popular level confirm that the properties attributed to the product are almost everywhere the same. An informant from Bathang in western Sichuan stated that *dbyar rtswa dgun 'bu* can be eaten as a tonic with melted butter (*mar khu*). In the Dolakha District (Central-east Nepal) Sherpa people use *dbyar rtswa dgun 'bu* as aphrodisiac and tonic: "One to two fruiting bodies are orally administered with milk, once a day".³⁴ According to Sacherer (1979: 51-52), in the Rolwaling valley of the same district the product is popularly used as tonic and aphrodisiac and "it is eaten in its entirety, caterpillar and fungus, mostly by middle aged men". In Nar, a region of Central Nepal (Manang District), it is said that "if a person mixes yertsagumbu with 13 other herbs and takes the mixture over a period of three years, he will become as thick as an elephant, quick as a horse and pretty as a peacock".³⁵

The same source attests that "the product is ground, boiled in milk and drunk with honey or rock [...]. In Thak areas (Sindhupalchok District, Nepal) the plant as a whole is taken orally in combination with *Dactylorhiza hatagirea* [named *dbang po lag pa* in Tibetan medicine and also considered an aphrodisiac and tonic], honey and cow's milk; tonic to yak and sheep".³⁶ A similar use has been attested also among the Tibetan population of Dolpa District (West Nepal).³⁷ According to Phuntsho Namgyel (2005: 130-31), in Bhutan people eat fried *dbyar rtswa dgun 'bu* to treat stomachache and cold disease.

***dByar rtswa dgun 'bu* in Tibetan Medicine**

Tibetans have likely known *dbyar rtswa dgun 'bu* as a medicinal agent well before the 15th century, when, according to the actual state of research, the Tibetan doctor Zur mkhar ba mnyam nyid rdo rje (1439-1475), the founder of the *zur lugs* medical

33 The underground portion of *a'u rtsi* is described in the *materia medica Shel gong shel phreng* as a remedy against the ailments caused by poison and to treat bone fractures (De'u dmar dge shes bstan 'dzin phun tshogs 2005: 350). Many informants from Lithang used it to relieve cough, bronchitis, and as tonic according to Chinese tradition (see also Karma chos 'phel 1993: 422, who mentioned these very properties as coming from Chinese tradition). In the same way *'dre tsher ma* is described as a remedy for liver, kidney, weakness of the eyes, and to treat ailments of the semen (*khu'i nad*), but only in Karma chos 'phel recent *materia medica* (1993: 74-75). These same properties are attributed to *goji* in Chinese medicine. The *peimou* is well-known to local Tibetans, being gathered and traded to Chinese merchants. The *goji* is an ingredient of the tea imported mainly from Gansu by Hui people. These remarks contribute to explain why these plants are indicated by using Chinese denominations and used according to Chinese knowledge.

34 See Bhattarai 1993: 392.

35 See Pohle 1990: 37.

36 Ministry of Forest and Soil Conservation 1970: 116.

37 Lama *et. al.* 2001: 56.

tradition, described it for the first time in his treatise devoted to Tibetan medical treatment and preparations, the *Man ngag bye ba ring bsrel* (“Ten millions of oral instructions: a relic”).³⁸ In a chapter on sexual virility entitled “An Ocean of Aphrodisiac Qualities” (*Ro tsa yon tan rgya mtsho*), Zur mkhar ba mnyam nyid rdo rje described ecology, morphological traits, therapeutic qualities of *dbyar rtswa dgun ’bu*, and a recipe for a medicament based on it. *dByar rtswa dgun ’bu* is highly praised as a marvellous medicine (*ngo mtshar sman*) having countless qualities, and giving great benefits not only to libido but also to the seven bodily constituents and the five senses. This description is the most detailed that I have found so far in Tibetan medical texts. In the first half of the 16th century mKhas dbang skyem pa tshe dbang mchogs (b. 1479)³⁹ mentioned *dbyar rtswa dgun ’bu* in his commentary to the *rGyud bzhi*, and particularly in the section devoted to the treatment of gynaecological diseases (*mo nad*), where this medicinal ingredient is listed as a possible substitute to the medicinal plant *rtswa khu byug*.⁴⁰ To my knowledge, mKhas dbang skyem pa tshe dbang mchogs has been the only physician to describe *dbyar rtswa dgun ’bu* as a medicine that can be used to treat gynaecological diseases.

The fundamental treatises of Tibetan medicine, the *rGyud bzhi* and its commentary *Vaidurya sngon po*,⁴¹ the former possibly composed for the first time around the 12th century⁴² by the doctor g.Yu thog yon tan mgon po, the latter in the second half of the 17th century by the Regent Sangs rgyas rgya mtsho, do not mention *dbyar rtswa dgun ’bu*. It is worth noting that the Regent knew this medicinal substance since he mentioned it in his practical treatise *Man ngag lhan thabs*⁴³ in the chapter concerning sexual desire (*ro tsa bar bya ba*). In this chapter it is listed two times as one of the several medicinal substances having the same qualities of alleviating and curing *ro tsa* diseases.

Surprisingly *dbyar rtswa dgun ’bu* is not described in the *Shel gong shel phreng*,⁴⁴ one of the most important Tibetan *materia medica* treatises, composed by the famous doctor De’u dmar dge shes bstan ’dzin phun tshogs in 1727. This text is still today one of the fundamental references for Tibetan practitioners owing to its completeness and details given in medicinal substance classification and description. It is really astonishing that De’u dmar dge shes bstan ’dzin phun tshogs, an authority on *materia*

38 See Zur mkhar ba mnyam nyid rdo rje 2005: 308-310.

39 See mKhas dbang skyem pa tshe dbang mchogs, vol 2: 313.

40 *Cypripedium tibeticum* (dGa’ ba’i rdo rje 1998: 176); *C. macranthos* and *Orostachys fimbriata* (Zhongguo kexueyuan xibe gaoyuan shengwu yanjiusuo 1991: 22-23); Karma chos ’phel (1993: 389-390) distinguishes two types of *khu byug pa*: *khu byug rtswa ljang mchog*, *Cypripedium tibeticum*, which is the best variety, and *khu byug rtswa ljang sman pa*, *Equisetum palustre*, the inferior variety.

41 Cf. sDe srid Sangs rgyas rgya mtsho 1982.

42 The *rGyud bzhi* used nowadays is the revised edition compiled by the same Regent Sangs rgyas rgya mtsho in the 17th century.

43 Cf. sDe srid Sangs rgyas rgya mtsho 2005: 568-574.

44 Cf. De’u dmar dge shes bstan ’dzin’ phun tshogs 2005.

medica, and who extensively travelled in eastern and central Tibetan plateau, did not mention this medicinal agent, common to many Tibetan regions, and which at that time already represented an important trade item.

The first author, and, as far as I know, the only one, to both describe (likely inspired by the words of Zur mkhar ba mnyam nyid rdo rje) and illustrate *dbyar rtswa dgun 'bu* was the Mongol doctor 'Jam dpal rdo rje in his illuminated Tibeto-Mongolian *materia medica* composed in the 19th century.⁴⁵ The way 'Jam dpal rdo rje represented *dbyar rtswa dgun 'bu* is revealing: the specimens are here depicted as prepared in bundles kept together by thin strings, ready to be sold, exactly as it happens nowadays in the pharmacies of Chinese medicine and medicinal plant markets in China, as one that I visited in Sichuan Province capital Chengdu. In addition, as it happens for every medicinal substance described in this work, its Mongolian, Manchu, and Chinese denominations are reported. These elements likely testify to the economic character of this work and notably to the importance of this product as a trade item in Tibet and China at that time. The way 'Jam dpal rdo rje represented *dbyar rtswa dgun 'bu* may reflect his belonging to the Naiman Banner of the Ju Uda League in what is today Inner Mongolia. Before its integration into Communist China in 1947, this region had played a very important role in trading activities and cultural exchanges between Tibet and Mongolia, and particularly between Tibetan and Chinese medical practitioners and traders.

dByar rtswa dgun 'bu is mentioned in several medical texts composed in the 18th, 19th and in the first half of the 20th century. The physician Blo bzang dbang rgyal (circa 18th century) mentioned this medicinal agent in a chapter concerning *ro tsa* diseases.⁴⁶ Sum pa ye shes dpal 'byor (1704-1788)⁴⁷ listed *dbyar rtswa dgun 'bu* under the *sngo sman* medicinal substance category (see below). Cha har dge bshes blo bzangs tshul khirms (1740-1810), as stated above, in his medical treatise⁴⁸ described morphology, ecology, and mode of life of *dbyar rtswa dgun 'bu* by using information likely taken from Zur mkhar ba mnyam nyid rdo rje's work. *dByar rtswa dgun 'bu* is mentioned in the medical formulary compiled by O rgyan theg mchog (b. 19th century),⁴⁹ in a section entitled "An ocean of aphrodisiac qualities", among the most effective medicinal substances used as aphrodisiacs, notably *dbyar rtswa dgun 'bu*, *'od ldan*,⁵⁰ *da lis*,⁵¹ and

45 See Chandra 1971: f. 168. The full title of 'Jam dpal rdo rje's work is *gSo byed bdud rtsi'i 'khrul med ngos 'dzin bzo rig me long du rnam par shar pa mdzes mtshar mig rgyan*.

46 Cf. Blo bzang dbang rgyal 2008: 609-10.

47 Cf. Sum pa ye shes dpal 'byor 2007: 153.

48 Cf. Blo bzang tshul khirms 2007: 48.

49 Cf. O rgyan theg mchog 2002: 277-83.

50 In Tibetan medicine two types of *'od ldan* are recognized. The former, yellow flowered (*ser*), corresponds to *Saxifraga egregia*; the latter, white flowered (*dkar*), corresponds to *S. melanocentra* (cf. dGa' ba'i rdo rje 1998: 279-80).

51 Two types of *da lis* are recognized in Tibetan medicine. The white (*dkar po*) type corresponds to *Rhododendron*. aff. *cephalanthum*, *R. anthopogonoides*; the black (*nag po*) type to *R. capitatum*

lug mur.⁵² The author also described collection modalities, one medical preparation based on *dbyar rtswa dgun 'bu*, and one, also to treat *ro tsa* diseases, where *dbyar rtswa dgun 'bu* is listed among its ingredients. The physician Karma don grub dpal ldan bSod nams dbang phyug tshe ring (circa 19th/20th Century) from Lha thog principality in Khams reported the same information (but he did not mention the second recipe) in a section of his medical treatise, entitled as the one by O rgyan theg mchog.⁵³ The *bon po* practitioner 'Jigs med nam mkha'i rdo rje (1897-1955) mentioned *dbyar rtswa dgun 'bu* among the *ro tsa* medicines.⁵⁴

Interestingly a preliminary examination has shown that *dbyar rtswa dgun 'bu* is not included in the *materia medica* written by mKhyen rab nor bu (1989), the well-known traditional doctor whom the 13th Dalai Lama appointed in 1916 as director of the newly founded Medical and Astrological Institute (sMan rtsi khang) in Lhasa. It is also not mentioned in the texts on medical prescriptions composed by the same mKhyen rab nor bu (1974 and 1974a), but it is mentioned (again among the *ro tsa* medicines) in a text composed by 'Jam mgon 'ju mi pham rgya mtsho (1846-1912) from rDza chu dkar in Kham Derge principality, a famous Buddhist master of the rNying ma school, and also a Tibetan doctor who was interested in Chinese medicine. His treatise, entitled *sMan sbyor bdud rtsi 'i thig le*,⁵⁵ was printed at the Lhasa sMan rtsi khang under the sponsorship of the same mKhyen rab nor bu. So at that time *dbyar rtswa dgun 'bu* was likely known among Lhasa practitioners of the sMan rtsi khang, but we do not know whether it was used or not there. Since it is not mentioned in the medical prescriptions listed in the texts composed by mKhyen rab nor bu, we can presume that this ingredient was not deemed to be important at the Lhasa Medical and Astrological Institute at that time.⁵⁶

(Karma chos 'phel 1993: 82-83). According to dGa' ba'i rdo rje (1998: 133) *da lis dkar po* corresponds to *R. primuliflorum*, *da lis nag po* to *R. nivale*. According to my work in lower Mustang District in Nepal, the black type corresponds to *R. lepidotum* (see Boesi 2014: 103). Practitioners from the Tibetan medical school from the Nordzinling (Nor 'dzin gling) Tibetan settlement of Dhorpatan (Baglung District, Nepal) collect *da lis dkar po* and *da lis nag po*. The first corresponds to *R. anthopogon*, the second to *R. lepidotum* (see Boesi & Cardi 2006: 54). According to *Zhongguo kexueyuan xibei gaoyuan shengwu yanjiusuo* (1991: 148-53), *da lis dkar po* corresponds to *R. anthopogonoides* and *R. anthopogon*, *da lis nag po* to *R. capitatum*, *R. bulu*, and *R. intricatum*.
52 *Lug mur* corresponds to *Phlomis younghusbandii* (cf. dGa' ba'i rdo rje 1998: 294; Karma chos 'phel 1993: 202), to *P. younghusbandii*, *P. dentosa*, and *P. medicinalis* (cf. *Zhongguo kexueyuan xibei gaoyuan shengwu yanjiusuo* 1991: 360-62).

53 Cf. Karma don grub dpal ldan bsod nams dbang phyug tshe ring rnam par gyal ba'i lha 1985: ff. 117-118.

54 Cf. 'Tsho byed 'jigs med nam mkha' rdo rje 2006: 445.

55 Cf. 'Jam mgon 'ju mi pham rgya mtsho 1974: 184-85.

56 For treating *ro tsa* ailments, *dbang po lag pa* seems to be one of the most valued medicinal substances according to these formularies. In the first one composed by mKhyen rab nor bu (1974: f. 50: *klu 'i bdud rtsi dbang po lag pa ni / sman nus brgya ldan lus stobs khu ba bskyed*) it is reported that “concerning *dbang po lag pa*, nectar of the water-deities, having the potencies of a hundred

Several Tibetan *materia medica* treatises and medical formularies that have been published from the 1970s onwards in Chinese Tibetan regions, and also outside China among expatriated Tibetans, describe *dbyar rtswa dgun 'bu* as a powerful aphrodisiac and tonic. To my knowledge, the first modern Tibetan *materia medica* was published in Lhasa in 1973, and it includes *dbyar rtswa dgun 'bu*.⁵⁷ Karma chos 'phel also includes it in his *materia medica* published in Lhasa in 1993,⁵⁸ and it is included as well in the already mentioned compilation by dGa' ba'i rdo rje,⁵⁹ published by the Medical and Astrological Institute of Chamdo. Also a Tibetan *materia medica* recently developed in collaboration with traditional doctors from Dolpo in Nepal includes this medicinal agent.⁶⁰

However, in this text the term *rtswa da byid*, “*da byid* grass”, is used to indicate this medicinal substance, and the term *dbyar rtswa dgun 'bu* is presented as a synonym for it. Only rarely I have heard Tibetan doctors using the name *rtswa da byid*. They know it from dGa' ba'i rdo rje's work, as this *materia medica* has become very popular among medical practitioners, likely because it includes photographs of medicinal substances. Some of my informants, for example practitioners from the Kunphen Tibetan Medical Clinic in Kathmandu, commented that this name can be appropriately used as another name for *dbyar rtswa dgun 'bu*, and that it has not been recently devised. Yet, they did not give references of classic medical treatises where the term *rtswa da byid* is used as a synonym for *dbyar rtswa dgun 'bu*. To my knowledge, this expression has never been used to indicate this product in both classical and in the majority of recent medical treatises.

In the chapter devoted to sexual virility of the treatise *Man ngag lhan thabs* by Sangs rgyas rgya mtsho, *da byid* is clearly seen as distinct from *dbyar rtswa dgun 'bu*. Among the types of meat used to treat *ro tsa* diseases, *da byid* is described as “the king” of them. Its different varieties are mentioned, but they seem to have no connection with *dbyar rtswa dgun 'bu*, since this is quoted later in the same chapter along with other medicinal substances sharing the same qualities of *da byid*. Also the other aforementioned authors of medical treatises from pre-modern Tibet consider the two medicinal substances as distinct elements sharing similar medical qualities. Only two modern dictionaries of Tibetan medicine⁶¹ include the entry *rtswa da byid* as a synonym for *dbyar rtswa dgun 'bu*. According to the first one, *rtswa da byid* is

medicines, it increases the strength of the body, and the semen.” Also in the second text it is written that “the libido is increased by *dbang po lag pa*” (mKhyen rab nor bu 1974a: f. 132: *ro tsar dbang po lag pas bskyed*). These pieces of information agree with my field data (see below). *dBang po lag pa* and *da byid* are mentioned as aphrodisiacs and tonics since the time of g.Yu thog yon tan mgon po in the 12th century (see g.Yu thog yon tan mgon po 2005: 104-05, 217).

57 Cf. Bod rang skyong ljongs gсар brje u yon lhan khang gi 'phrod bsten cus 1973: 579-80.

58 Cf. Karma chos 'phel 1993: 177.

59 Cf. dGa' ba'i rdo rje 1998: 109-10.

60 See Lama *et al.* 2001: 56.

61 dGra 'dul *et al.* 2006: 707.

one of the different types of names attributed to *dbyar rtswa dgun ’bu* according to its function. Thus it may be put forward that the name *rtswa da dbyi* has been devised recently in connection to the drug *da byid*, a kind of lizard (*Batrachuporus pinchonii*),⁶² which in Tibetan medicine is deemed to be one of the most powerful aphrodisiacs.

This manner of naming medicinal substances sharing the same qualities, but belonging to different categories of medicinal substances and often of life forms is not unusual in Tibetan medicine. For example, *ku sha* (*Tysanolaena maxima*),⁶³ the sacred plant imported from India, has a Tibetan type called *rtswa ku sha*, “grass *ku sha*”; and *ba sha ka* (*Adhatoda vasica* = *Justicia adhatoda*),⁶⁴ sometimes also called *shing ba sha ka*, “wood *ba sha ka*”, has a Tibetan type named *ldum ba sha ka* or *sngo ba sha ka* (*Corydalis impatiens*,⁶⁵ *C. longipes*⁶⁶) (*Veronica ciliata*),⁶⁷ “herbaceous *ba sha ka*”. In both of these examples the identifications of the same medicinal plant varieties correspond in reality to very different plants. Thus *rtswa da dbyi* is a type of *da dbyi* belonging to grasses (*rtswa*).

So far I have found only a few medical treatises composed in pre-modern Tibet that include *dbyar rtswa dgun ’bu* in a specific category of medicinal substances according to its nature and qualities, notably the Tibetan *materia medica* of ’Jam dpal rdo rje, the one of Cha har dge bshes Blo bzangs tshul khrim, and the treatise composed by Sum pa ye shes dpal ’byor (2007: 153). Concerning the first text, one should take into account that at present it is not used and even known by the majority of the Tibetan doctors with whom I have worked, and that it was likely not used also in the past. Following Tibetan traditional concepts, the authors included this medicinal agent in the category of herbaceous medicine (*sngo sman*), particularly

’Jam dpal rdo rje and Sum pa ye shes dpal ’byor in the section devoted to “underground portions from herbaceous medicines” (*sngo sman rtsa ba*),⁶⁸ since the worm becomes the root of an herbaceous plant. The last text attributes *dbyar rtswa dgun ’bu* to a category equally named *sngo sman*, which here includes also many herbaceous plants that in the majority of the other treatises aforementioned are integrated in the *thang sman* category.⁶⁹

Modern medical treatises devoted to Tibetan *materia medica* published in Chinese Tibetan regions from the 1970s onwards propose a classification that may vary from the one presented by ’Jam dpal rdo rje and Cha har dge bshes blo bzangs tshul khrim, possibly influenced by Chinese and modern scientific concepts. Karma chos ’phel

62 dGa’ ba’i rdo rje 1998: 376.

63 dGa’ ba’i rdo rje 1998: 173.

64 dGa’ ba’i rdo rje 1998: 141; Karma chos ’phel 1993: 143.

65 dGa’ ba’i rdo rje 1998: 142.

66 I gathered and identified a specimen of *sngo ba sha ka* during my research at Dhorpatan in west Nepal (see Boesi & Cardi 2006: 55).

67 Karma chos ’phel 1993: 144.

68 See Chandra 1971: ff. 158-68.

69 Cf. Blo bzang tshul khrim 2007: 43-90.

(1993: 177-78) surprisingly included the *dbyar rtswa dgun 'bu* in the category designated as *ldum bu thang sman*, “medicines of the plains of *ldum* type”,⁷⁰ which mainly includes stout and perennial herbaceous plants. This categorization contrasts the ones of 'Jam dpal rdo rje and Sum pa ye shes dpal 'byor according to which *dbyar rtswa dgun 'bu* is included in the *sngo sman* group, which mainly comprises tiny and annual herbaceous plants. These last classifications seem to be more appropriate taking into consideration the way Tibetans conceive *dbyar rtswa dgun 'bu*, seen more as a tiny annual grass than as a perennial with underground organs surviving to winter and/or having robust aerial parts.⁷¹

Differently, in dGa' ba'i rdo rje's⁷² *materia medica*, *dbyar rtswa dgun 'bu* (here named *rtswa da dbyi*) is included in the category *rtsi sman*, “the essence medicines”. This group includes heterogeneous substances coming from animals, minerals, and plants, which are seen as very powerful (*nus pa chen po*) and concentrated medicines, many of them having good fragrance, a quality connoting their curative properties. dGa' ba'i rdo rje (1998: 96) mentions that, according to the dictionary of Tibetan medicine *g. Yu thog dgongs rgyan*,⁷³ the *rtsi sman* category is defined as follows: “name of a class of medicines that are endowed with the essence (*rtsi bcud*) that gives sustain to bodily constituents and defeats the diseases”. He later also reports that, according to a commentary to the *rGyud bzhi* written by dPal spungs dbon karma bstan 'dzin 'phrin las rab rgyas (18th century),⁷⁴ the substances included in the *rtsi sman* have, among the others, the property of “increasing strength” (*zung skyed*). Also my informants agree to this statement. So dGa' ba'i rdo rje possibly decided to include the *dbyar rtswa dgun 'bu* among the *rtsi sman* since it is deemed to be a strong tonic.

Concerning the significance and use of *dbyar rtswa dgun 'bu* in Tibetan medicine, the following information may provide some evidence of it. Several medical treatises composed in pre-modern Tibet describe the qualities of *dbyar rtswa dgun 'bu* as excellent, particularly to increase vigour and libido, and this drug was certainly used

70 See Boesi 2005-2006: 73-77.

71 De'u dmar dge shes bstan dzin' phun tshogs (2005: 64) differentiated *ldum bu thang sman* and *sngo sman* categories as follows: “*Thang sman* represent the plants whose underground organs are developed and whose aerial organs grow each year as the ones of woody plants, but which, except for the underground organs, perish in winter as the plants of the *sngo* type, and therefore are replaced each year. For example *ma nu* (*Inula racemosa* [dGa' rab rdo rje'i 1998: 260]), *lcum* (*Rheum palmatum*), and, according to the *rGyud bzhi*, the main *thang sman* are: *tig ta* (*Swertia chirayita* [dGa' rab rdo rje'i 1998: 205]) and *ba sha ka* (*Justicia adhatoda*, *Corydalis* spp., see above). Their underground organs have the essential nature of woody plants (*shing*), their stalks the one of the *ldum* type, their leaves and flowers the green and tender (*sngo*) one of herbaceous plants” (*rtsa ba rgyas shing lo sdong sogs lo rer shing ltar skye yang dgun nas rtsa ba ma gtogs sngo ltar rgas nas lo re bzhin brje bas ma nu dang lcum lta bu'i rigs la / rgyud las / thang gi gtso bo tig ta ba sha ka / gsungs pas rtsa ba shing la sdong po ldum lo me sngo'i rang bzhin can.../*).

72 dGa' ba'i rdo rje 1998: 109.

73 dBang 'dus 1982.

74 Cf. dGa' ba'i rdo rje 1998: 96.

among medical practitioners. On the basis of mKhyen rab nor bu’s medical prescription works, it may be put forward that this ingredient was not commonly used at the Lhasa sMan rtsi khang before the the 1950s.

Concerning the present situation, we have seen that practitioners from the Kumbum Tibetan Medical Hospital in Qinghai do not frequently use this medicinal agent. The physician Tshang pa Ngag dbang from Jomsom (Mustang District, Nepal) was more interested in its commercial value than in its medical use, and notably, the majority of Tibetan doctors from Lithang County reported that they did not frequently include in their recipes *dbyar rtswa dgun 'bu*, while it was abundantly used in Chinese medicine and diet. Some of them did not value it highly, claiming that other medicinal agents, particularly *dbang po lag pa*,⁷⁵ mixed together, have the same properties of *dbyar rtswa dgun 'bu*, but give more effective results. Interestingly, *dbang po lag pa* is mentioned, as well as in several pre-modern medical treatises, in the works devoted to medicinal preparations compiled by mKhyen rab nor bu (1974: f. 50) where it is described as a very powerful medicine for increasing body energy, while *dbyar rtswa dgun 'bu* is not mentioned.

It seems that *dbyar rtswa dgun 'bu* is nowadays frequently used in Central Tibet (particularly Lhasa). This is according to the information given by several doctors coming from different parts of the region, who at the Congress on Tibetan medicine held in Lhasa in 2000 produced a list of the most rare medicinal substances, which included *dbyar rtswa dgun 'bu*. They lamented that it had become rare in the last few decades owing to its increased exploitation for commercial purpose. When I visited the Lhasa Tibetan Medicine Factory in January 2012, several medical preparations based on *dbyar rtswa dgun 'bu*, packed in luxury boxes printed with golden letters, had been placed on sale in the entrance hall, as the most important medical products manufactured there. Chinese influence may have played a central role in the increased importance of this ingredient at Lhasa Tibetan medical institutions and maybe also of its attribution to the “essence medicines” (*rtsi sman*) category (see above).

It seems that in other areas, as in the Nepal high valleys inhabited by ethnic Tibetan people, *dbyar rtswa dgun 'bu* has been important as medicinal agent. For example, according to the WWF’s “People and Plant Initiative”⁷⁶ this ingredient is one of the most used medicinal substances by Dolpo *am chi*. According to recent surveys, people from Nepal Manang District, in the areas of Kecho Lake, Khangshar, Braka, Hungde, Nar and Phoo, collect and sell *Ophiocordyceps sinensis* to local *am chi*, who use it to make medicines.⁷⁷ Pandey (2006: 76) attested the use of

75 According to modern medical texts, *dbang po lag pa* corresponds to the Orchidaceae *Gymnadenia orchidis* and *Habenaria* sp. (dGa’ ba’i rdo tje 1998: 255); *Gymnadenia crassinervis* and *Gymnadenia conopsea* (Karma chos ’phel 1993: 63); *Dactylorhiza hatagirea* (Lama et al. 2001: 63).

76 See Ghimire et al. 2000: 4.

77 See Bhattarai et al. 2006: 6.

Ophiocordyceps by traditional doctors of Upper Mustang District. The situation in Bhutan is different: according to Phuntsho Namgyel (2005: 130-31), only recently the Bhutanese Traditional Medicine system started collecting *dbyar rtswa dgun 'bu* and likely incorporating into medical formulae.

BIBLIOGRAPHY

Primary Sources

- Karma chos 'phel, *bDud rtsi sman gyi 'khrungs dpe legs bshad nor bu'i phreng mdzes*, Lhasa: Bod ljongs mi dmangs dpe skrun khang, 1993.
- Karma don grub dpal ldan bsod nams dbang phyug tshe ring rnam par gyal ba'i lha, *'Tsho byed las dang po pa la nye bar mkho ba'i zin tig bdud rtsi thig pa'i skabs nye bar mkho ba'i bsdus pa dgos dgu'i bang mdzod baidūrya'i lde'u mig*, Dharamsala: Library of Tibetan Works and Archives, 1985.
- mKhas dbang skyem pa tshe dbang mchogs, *rGyud bzhi'i 'grel*, Dharamsala: Bod gzhung sman rtsis khang.
- mKhyen rab nor bu, *Nyer mkho'i sman sbyor 'chi med bdud rtsi'i bum bzang*. In *Fundamental of Tibetan Medical Practise. Lha sa sman rtsi khang prints of mKhyen rab nor bu, 'Ju mi pham, Chos grags rgya mtsho and 'Jam mgon kong sprul*, edited by Tashigangpa D. L. and Nemo B. P. O., Leh: sManrtsis Shesrig sPenzod, 1974.
- mKhyen rab nor bu, *sMan sbyor gyi nus pa phyogs bsdus phan bde'i legs bshad*. In *Fundamental of Tibetan Medical Practise. Lha sa sman rtsi khang prints of mKhyen rab nor bu, 'Ju mi pham, Chos grags rgya mtsho and 'Jam mgon kong sprul*, edited by Tashigangpa D. L. and Nemo B. P. O., Leh: sManrtsis Shesrig sPenzod, 1974a.
- mKhyen rab nor bu, *Gangs ljong sman gyi grong skyer lcags ri bai dūrya gling gi sngo'i sman gyi 'khrungs dpe bsdus pa ngo mtshar gser gyi snye ma*. In *gSo rig skor gyi rgyun mkho gal che ba bdam bsgrigs*, Beijing: Mi rigs dpe skrun khang, 1989.
- dGa' ba'i rdo rje, *Khrungs dpe dri med shel gyi me long*, Beijing: Mi rigs dpe skrun khang, 1998.
- dGra 'dul, Tshe ring bag gro, Lho brag, *Bod lugs gso rig tshig mdzod chen mo*, Beijing: Mi rigs dpe skrun khang, 2006.
- Chandra, L. (ed), *An Illustrated Tibeto-Mongolian Materia Medica of Ayurveda of 'Jam-dpal rdo-rje of Mongolia*, New Delhi: Śata-pitaka Series of the International Academy of Indian Culture, 1971.
- 'Jam mgon 'Ju mi pham rgya mtsho, *sMan sbyor bdud rtsi'i thig le*. In *Fundamental of Tibetan Medical Practise, Lha sa sman rtsi khang prints of mKhyen rab nor bu, 'Ju mi pham, Chos grags rgya mtsho and 'Jam mgon kong sprul*, edited by Tashigangpa D. L. and Nemo B.P.O., Leh: sManrtsis Shesrig sPenzod, 1974.

- De'u dmar dge shes bstan 'dzin phun tshogs, *bDud rtsi sman gyi rnam dbye nus ming rgyas par bshad pa shel gong shel phreng zhes bya ba bzhugs so*, Beijing: Mi rigs dpe skrun khang, 2005.
- sDe srid Sangs rgyas rgya mtsho, *gSo ba rig pa'i bstan bcos sman bla'i dgongs rgyan rgyud bzhi'i gsal byed be daura sngon po'i malila ka*, Lhasa: Bod ljongs mi dmangs dpe skrun khang, 1982.
- sDe srid sangs rgyas rgya mtsho, *Thams cad mkhyen pa drug pa blo bzang rin chen tshangs dbyangs rgya mtsho'i thun mong phyi'i rnam par thar ba du ka'u la'i 'phro 'thud rab gsal gser gyi snye ma glegs bam dang po bzhugs so*, Lhasa: Bod ljongs mi dmangs dpe skrun khang, 1989.
- sDe srid sangs rgyas rgya mtsho, *Man ngag yon tan rgyud kyi lhan thabs zug rnga'i tsha gdung sel ba'i katapa'u ra dus min 'chi zhags gcod pa'i ral gri bzhugs so*, Dharamsala: Bod gzhung sman rtsi khang, 2005.
- Bod rang skyong ljongs gsar brje u yon lhan khang gi 'phrod bsten cus, *Bod ljongs rgyun spyod krung dbyi'i sman rigs*, Lhasa: Bod ljongs mi dmangs dpe skrun khang, 1973.
- Byams pa 'phrin las, *Bod lugs gso rig tshig mdzod chen mo*, Beijing: Mi rigs dpe skrun khang, 2006.
- Blo bzang tshul khirms, *Cha har dge bshes kyi sman yig byu ru do shel dang rin chen do shel*, Beijing: Mi rigs dpe skrun khang, 2007.
- Blo bzang dbang rgyal, *mChan brgyab lhan thabs*, Beijing: Mi rigs dpe skrun khang, 2008. dBang 'dus, *gSo ba rig pa'i tshig mdzod g.yu thog dgongs rgyan*, Lhasa: Mi rigs dpe skrun khang, 1982.
- dMu dge bsam gtan, *Bod kyi lo rgyus kun dga'i me long. 2: rNga ba bod rigs chang rigs rang skyong khul gyi rig gnas lo rgyus dpyad yig bdams bsgrigs*, rNga ba bod rigs chang rigs rang skyong khul rig gnas lo rgyus dpyad yig zhib 'jug u yon khang, 1987.
- Wu, Q., *Zhiwu mingshi tukao*, Zhengzhou: Zhongzhou guji chubanshe, 1993. Wu, Y., *Bencao congxin*, Beijing: Renmin weisheng chubanshe, 1990. Zhongguo kexueyuan xibei gaoyuan shengwu yanjiusuo (ed), *Zang yao zhi*. Xining: Qinghai renmin, 1991.
- Zur mkhar ba mnyam nyid rdo rje, *Man ngag bye ba ring bsrel pod chung rab 'byams gsal ba'i sgron me zhes bya ba bzhugs so*. Beijing: Mi rigs dpe skrun khang, 2005.
- g.Yu thog yon tan mgon po, *sNgo 'bum sman gyi gter mdzod*, Beijing: Mi rigs dpe skrun khang, 2005.
- g.Yu thog Yon tan mgon po, *bDud rtsi snying po yan lag brgyad pa gsang ba man ngag gi rgyud*, Lhasa: Bod ljongs mi dmangs dpe skrun khang, 1992.
- Sum pa ye shes dpal 'byor, *Gso dpyad bdud rtsi'i chu rgyun gyi cha lag gi nang tshan gyi sman so so'i mngon brjod dang ngos 'dzin shel dkar me long*. In *Sum pa'i sman yig phyogs bsgrigs*, Beijing: Mi rigs dpe skrun khang, 2007.
- O rgyan theg mchog, *Zin tig mdzes rgyan bdud rtsi'i sman mdzod*. In *gSo rig zin tig ma bu* edited by Rdo rje, Xianggang: Zhang kang then ma dpe skrun khang, 2002.

Secondary Sources

- Bhattarai, N. K. (1993), "Folk Herbal Medicines of Dolakha District, Nepal". *Fitoterapia* 66: 387-95.
- Bhattarai S., Chaudhary, R. P., and Taylor, R. S. (2006), "Ethnomedicinal plants used by the people of Manang district, central Nepal". *Journal of Ethnobiology and Ethnomedicine* 2: 41 (doi:10.1186/1746-4269-2-41, <http://www.ethnobiomed.com/content/2/1/41>).
- Bhattarai, S., Chaudhary, R. P., Quave, C. L., and Taylor, R. (2010), "The Use of Medicinal Plants in the Transhimalayan Arid Zone of Mustang District, Nepal". *Journal of Ethnobiology and Ethnomedicine* 6: 14 (<http://www.ethnobiomed.com/content/6/1/14>).
- Boesi, A. (2003), "The *dByar rtswa dgun 'bu* (*Cordyceps sinensis* Berk.): An Important Trade Item for the Tibetan Population of the Li thang District, Sichuan Province, China". *The Tibet Journal* 28/3: 29-42.
- Boesi, A. (2004), *Le savoir botanique des Tibétains: perception, classification et exploitation des plantes sauvages*, PhD Dissertation, Université de la Méditerranée, Marseille.
- Boesi, A. (2005-2006), "Plant Categories and Types in Tibetan Materia". *The Tibet Journal* 30/4-31/1: 67-92.
- Boesi, A. (2014), "The *Materia Medica* of Tibetan Medicine According to Practitioners from the Lower Mustang District in Nepal". *Rivista degli Studi Orientali* 87/1-4: 73-106.
- Boesi, A. and Cardi, F. (2006), "The Selection Process of the *Materia Medica*: the Approach of a Tibetan Practitioner in the Region of Dhorpatan (Nepal)". *Rivista degli Studi Orientali* 79/1-4: 47-64.
- Boesi, A. and Cardi, F. (2009), "*Cordyceps sinensis* Medicinal Fungus. Traditional Use among Tibetan People, Harvesting Techniques, and Modern Uses". *Herbalgram* 83: 52-61.
- Childs, G. and Choedup, N. (2014), "Indigenous Management Strategies and Socioeconomic Impacts of Yartsa Gunbu (*Ophiocordyceps sinensis*) Harvesting in Nubri and Tsum, Nepal". *Himalaya, the Journal of the Association for Nepal and Himalayan Studies* 34/1, Article 7.
- Du Halde, J. B. (1736), *The General History of China*, London (Electronic reproduction, Michigan, 2003, Vol 4: 41-42).
- Ghimire, S. K., Lama Y. C., and Aumeeruddy, Y. (2000), *Medicinal Plant Management and Health Care Development in Shey Phoksumdo National Park, Dolpa*, Kathmandu: People and Plants Initiative, WWF Nepal Program.
- Gould, R. (2007), "Himalayan Viagra, Himalayan Gold? *Cordyceps sinensis* Brings New Forces to the Bhutanese Himalaya". *Tropical Resources Bulletin* 26: 63-69.

- Holliday, J. and Cleaver, M. (2008), “Medicinal Value of the Caterpillar Fungi Species of the Genus *Cordyceps* (Fr.) Link (Ascomycetes). A Review”. *International Journal of Medicinal Mushrooms* 10/3: 219–34.
- Huber, T. (2004), “Territorial Control by Sealing’ (*rgya sdom-pa*): A Religio-Political Practice in Tibet”. *Zentralasiatische Studien* 33: 127-52.
- Huber, T. (2005), “Antelope Hunting in Northern Tibet: Cultural Adaptations to Animal Behaviour”. In *Wildlife and Plants in Traditional and Modern Tibet: Conceptions, Exploitation and Conservation*, edited by A. Boesi and F. Cardi. *Memorie della Società Italiana di Scienze Naturali e del Museo Civico di Storia Naturale di Milano* 33/1: 5-17.
- Hywel-Jones, N. L., Sung, J. M., Luangsa-ard, J., Shrestha, B., and Spatafora, J. W. (2007), “Phylogenetic Classification of *Cordyceps* and the clavicipitaceous fungi”. *Studies in Mycology* 57: 5–59.
- Lama, K. (2007), (Crowded Mountains, Empty Towns: Commodification and Contestation in Cordyceps Harvesting in Eastern Tibet), MA Thesis, University of Colorado.
- Lama, Y. C., Ghimire, S. K., and Thomas, Y. A. (2001), *Medicinal Plants of Dolpo. Amchis’ Knowledge and Conservation*, Kathmandu: People and Plants Initiative, WWF Nepal Program.
- Li, Q. S., Zeng, W., Yin, D. H., *et al.* (1999), “A Preliminary Study on Alternation of Generations of *Cordyceps sinensis* [In Chinese, Engl. Abstract]”. *Zhongguo Zhong Yao Za Zhi [China Jour. Chin. Mat. Med.]* 23/4: 210-12.
- Ministry of Forest and Soil Conservation, Department of Forestry and Plant Research (ed.) (1970), *Medicinal Plants of Nepal*, Kathmandu: Bulletin of the Department of Medicinal Plants 3.
- Namgyel, P. (2005), (Forest Policy and Income Opportunities from NTFP Commercialisation in Bhutan), PhD Dissertation, International and Rural Development Department, The University of Reading.
- Namkhai, N. (1997), *Journey among the Tibetan Nomads*, New Delhi: Library of Tibetan Works and Archives.
- Nappi, C. (2010), “Winter Worm, Summer Grass: *Cordyceps*, Colonial Chinese Medicine, and the Formation of Historical Objects”. In *Crossing Colonial Historiographies*, edited by A. Digby, W. Ernst, and P. Bihari Mukharji, Cambridge: Cambridge Scholars Publishing, pp. 21-36.
- Pandey, M. R. (2006), “Use of Medicinal Plants in Traditional Tibetan Therapy System in Upper Mustang, Nepal”. *Our Nature* 4: 69-82.
- Polhe, P. (1990), *Useful Plants of Manang District*, Stuttgart: Franz Steiner Verlag Wiesbaden GMBH, Nepal Research Centre Publications.
- Rockhill, W. W. (1894), *Diary of a Journey through Mongolia and Tibet in 1891 and 1892*, Washington: Smithsonian Institute.
- Sacherer, J. (1979), “The High Altitude Ethnobotany of the Rolwaling Sherpa”. *Contributions to Nepalese Studies* (CNAS, Tribhuvan University) 6/2: 45-74.

- Shen, F. R., Yang D. R., Yang, Y. X. *et al.* (1990), “Observation on the Feeding Habits of the Larvae of *Hepialus baimaensis* Liang [In Chinese]”. *Insect Knowledge* 27/1: 36-37.
- Wilson, E. H. (1986), *A Naturalist in Western China*, London: Cadogan Books.
- Winkler, D. (2005), “Yartsa gunbu—*Cordyceps sinensis*: Economy, Ecology & Ethno- mycology of a fungus Endemic to the Tibetan Plateau”. In *Wildlife and Plants in Traditional and Modern Tibet: Conceptions, Exploitation, and Conservation*, edited by A. Boesi and F. Cardi. *Memorie della Società Italiana di Scienze Naturali e del Museo Civico di Storia Naturale di Milano* 33/1: 69-85.
- Winkler, D. (2008), “Yartsa Gunbu (*Cordyceps sinensis*) and the Fungal Commodification of Tibet’s Rural Economy”. *Economic Botany* 62/3: 291-305.
- Winkler, D. (2008a), “The Mushrooming Fungi Market in Tibet Exemplified by *Cordyceps sinensis* and *Tricholoma matsutake*”. *Journal of the International Association of Tibetan Studies* 4: 1-47.
- Wu, Z. G., Raven, P. H., and Deyuan, H. (1995-present), *Flora of China*. Beijing: Science Press, St. Louis: Missouri Botanical Garden Press (<http://flora.huh.harvard.edu/china/mss/edit.htm>).