

パキスタン国における麦類遺伝資源の共同調査と収集, 1996

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Collaborative Exploration of Wheat, Barley and Their Wild Relatives in Pakistan, 1996

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Summary

A joint mission for collecting wheat and barley in Pakistan was undertaken from July 1 to July 24, 1996. The exploration was divided into two stages, and covered high altitudinal areas in NWFP (first stage) and Gilgit Agency (second stage). The itinerary and exploration route are shown in Table 1 and Fig. 1. The mission covered about 4,715km and collections were made at altitudes ranging from 1,170 to 3,280m (Fig. 1 and Fig. 2). In all 217 samples in 18 genera, 23 species were collected (Table 2). Almost all samples of wheat and barley were collected from farmers' stores and were mainly landraces. A great diversity was observed among these crops.

KEY WORDS : wheat, barley, exploration, collection, landraces, Pakistan

1. 目的

パキスタンは南部の平坦地から北部の山岳地帯まで地形の変化が大きく、麦類の起源地に

隣接しており、在来種および近縁野生種ともに遺伝的変異に富んでいる。そのため、これまでに麦類を含む穀類を対象とした探索がIPGRIと農業生物資源研究所により1989年と1991年に実施されている。また、1993年には農林水産ゾーンバンク事業により、同国のパンジャブ州と北西辺境州（NWFP）の一部で麦類遺伝資源の探索収集が行われている。しかし、前者での麦類の収集点数は多くはなく、また後者では高標高域での収集は行われていない。そこで今回は、NWFPとGilgit地方の高標高地域において麦類の探索収集を行うことにした。

2. 経過

1996年度の農林水産ゾーンバンク事業による麦類遺伝資源の探索収集は、当初イランを候補地として準備に入ったが、探索収集を目的とした入国許可が下りず、目的地の変更を余儀なくされた。

同時期に、JICAが行っているパキスタン植物遺伝資源保存研究所計画で、短期専門家による探索収集が計画されていた。そこで、同計画と探索期間および地域を分担し、パキスタン農業研究センター植物遺伝資源研究所（Plant Genetic Resources Institute, National Agricultural Research Center, 以下PGRIと略す）と共同で探索収集を実施する方向で計画が進められた。

その結果、NWFPとGilgit地方の高標高地域を対象として麦類遺伝資源の探索収集を行うこととなった。具体的な日程と探索地域の概略図はTable 1とFig. 1に示すとおりである。



Fig. 1 The exploration route and collection sites (black circle) in Pakistan
 パキスタンにおける探索・収集ルートと収集地点

Table 1 Itinerary

探索・収集日程

Date	1996	Movement		Lodging	Note
1	June 28	Fri. Tokyo to Islamabad		Islamabad	Narita 11 : 25, Islamabad 20 : 15 (PK 751, via Beijing)
2	29	Sat. Islamabad		Islamabad	Meeting with Dr. Zahoor, Director of PGRI and Dr. Masood)
3	30	Sun. Islamabad		Islamabad	Arrangement of expedition
4	July 1	Mon. Islamabad to Dir	(377km)	Dir	Exploration (Collection No.1-5)
5	2	Tue. Dir - Lamotai - Dir	(96km)	Dir	Exploration (Collection No.6-22)
6	3	Wed. Dir - Chitral	(120km)	Chitral	Exploration (Collection No.23-35)
7	4	Thu. to southeast mountain side from Chitral	(127km)	Chitral	Exploration (Collection No.36-53)
8	5	Fri. Chitral - Booni - Mastuji	(122km)	Mastuji	Exploration (Collection No.54-75)
9	6	Sat. Mastuji - Shandur pass - Mastuji	(96km)	Mastuji	Exploration (Collection No.76-81)
10	7	Sun. Mastuji - Chitral	(108km)	Chitral	Movement
11	8	Mon. Chitral - Garam Chashma - Chitral	(92km)	Chitral	Exploration (Collection No.82-97)
12	9	Tue. Chitral - Karash Valley	(80km)	Karash	Exploration (Collection No.98-107)
13	10	Wed. Karash Valley - Mingora	(275km)	Mingora	Movement
14	11	Thu. Mingora - Karam - Mingora	(196km)	Mingora	Visit to Karam and meeting with Dr. Masood
15	12	Fri. Mingora - Chilas	(304km)	Chilas	Movement
16	13	Sat. Chilas - Kagan valley - Chilas - Gilgit	(182km)	Gilgit	Exploration (Collection No.108-111)
17	14	Sun. Gilgit - Gupis - Yasin	(139km)	Yasin	Exploration (Collection No.112-123)
18	15	Mon. Yasin - Gupis - Phandar	(93km)	Phandar	Exploration (Collection No.124-137)
19	16	Tue. Phandar - Ghizer - Phandar - Gilgit	(150km)	Gilgit	Exploration (Collection No.138-143)
20	17	Wed. Gilgit - Sost - Khunjerab pass - Sost	(386km)	Sost	Exploration (Collection No.144-159)
21	18	Thu. around Sost - Skardu	(427km)	Skardu	Exploration (Collection No.160-163) and movement
22	19	Fri. Skardu - Shigar - Kashmal - Skardu	(155km)	Skardu	Exploration (Collection No.164-185)
23	20	Sat. Skardu - Khaplu - Lunkha - Khaplu	(154km)	Khaplu	Exploration (Collection No.186-207)
24	21	Sun. Khaplu - Hushke valley - Khaplu	(88km)	Khaplu	Exploration (Collection No.208-217)
25	22	Mon. Khaplu - Skardu - Gilgit	(327km)	Gilgit	Movement
26	23	Tue. Gilgit - Mansehra	(476km)	Mansehra	Movement
27	24	Wed. Mansehra - Abbottabad - Islamabad	(145km)	Islamabad	Movement
28	25	Thu. Islamabad		Islamabad	Seed arrangement
29	26	Fri. Islamabad		Islamabad	Received the samples
30	27	Sat. Islamabad		Islamabad	Packing
31	28	Sun. Islamabad - Tokyo			Islamabad 7 : 30, Narita 21 : 55 (PK 752, via Beijing) Quarantine inspection in Tokyo airport (Narita)

Total 31 days (28 June to 28 July), exploration: 4,715km during 1st to 24th, July (24 days)

3. 調査・収集方法

1996年6月28日に成田を出発し、北京経由でIslamabadへ。当地のPGRIで探索収集のルートと日程の打ち合わせを行い、前半の7月1日から12日までがNWFPのChitralを中心とした地帯、後半の13日から24日まではGilgit地方で探索収集を行うこととした。現地での共同探索メンバーは、前半がPGRIからDr. Zahoor、国際協力事業団（JICA）パキスタン植物遺伝資源保存研究所計画から蒲生卓磨リーダー。後半はPGRIからDr. Masoodが参加した。車を1台借り上げ、運転手も含め前半は5名、後半は4名で行動した。

1) 前半の探索地域

Islamabadから一路Dirをめざす。目的地Dirの手前の町（Darora）で農家からの大麦の種子を採集する。今回の探索最初の収集品である。取材をしているうちに周りはたくさんの男達や子供で人だかりになる。はじめは戸惑ったが、取材中はどこでもこの状態であった。収集記録はDr. Zahoorが現地語で収集物の栽培方法などを聞き取り、それを英語に翻訳してもらって野帳に記入した。その後しばらく走り、別の地点で大麦と豆類を3点収集。大麦は在来種でかなり混種しているようだった。

Dirには2泊することにし、1日目は東方の谷あいへ入る。最奥はDirから45kmであった。農家や山あいの道路脇に野積みされている麦類を収集する。大麦、小麦、トウモロコシ、豆類がこの日の収集品。このあたりは大麦の在来種が多い。トウモロコシも多様であった。人々の生活様式は、山の中腹に家があり、段々畑が周りにあるというのが多かった。畑はよく整備されていた。水田もあり、水路も行き届いていた。

2日目はChitralへ向かう。Lawarai峠に入る前に農家から大麦、小麦、トウモロコシを採集し、山また山の石ころ道を進む。峠は3,150m。遠くには雪をかぶった山々。雄大である。下りもまた石ころだらけの道をゆっくり進む。険しい山道から出た後、舗装された川沿の道を走っていると正面に高い山が出現する。Tirich Mir山（7,708m）である。道沿いで小麦を採集する。途中の町Droshでは種物店に入り、トウモロコシ、ハウレンソウ、豆、ウリ等の種を購入後、目的地Chitralへ向かう。

Chitralでも2泊することにして、1日目は地域農業試験場を訪問した。ここで収集保存している材料の中から小麦7種、イネ、トウモロコシ各1種を分譲してもらう。いずれもこのあたりの在来種とのことである。次はDroshの東側の山あいに入り、険しい道を奥へ進む。途中の畑から小麦を、さらに進んで、一軒の農家から小麦の種を採集する。Chitralへ戻る途中もう一軒農家に寄って大麦、小麦、トウモロコシを採集。

2日目は北方のBooni, Mastujiをめざす。Chitral付近の農家でまず収集。大麦、小麦、豆類など。どこの農家も気軽に種を分けてくれる。Roghと言う町のあたりになると土の色が臙脂に近い赤色となり、他のところとは土壌が異なっていた。農家で大麦、小麦を採集。このあたりでは、大麦の熟期は小麦より15日程度早いとのこと。Mastuji近くになって採集した小麦には、穂が黒褐色の在来種あり。田植えをしている最中の農家に立ち寄り、大麦、小麦を

計3種類収集した。この日は24点を採集した。Mastujiで2泊することにする。ここは北緯36度を北へ越えたところで、標高は2,500mである。

ここでの1日目はShandur峠方面である。絶壁に作られた険しく狭い道を車は歩くようなスピードでゆっくり進む。途中の農家に立ち寄り、大麦、小麦、トウモロコシを採集。その後、峠までは山道のみで採集はなし。峠は標高3,720mであった。ここから同じ道を引き返す。Mastujiまでの帰り道で別の農家に寄り大麦2点を収集。この2点の大麦には裸麦が混じっていた。後半の探索でGilgit側からShandur峠方面への収集では大麦がすべて裸麦だったことを考えると、このあたりが皮麦と裸麦の栽培の境界のようだ。翌日はChitralまでの移動のみ。再びChitralで2泊し、前回とは別の方向をめざして収集することにする。

1日目は北西方向のGram Chashmaまでの行程。片道46kmの区間で採集を行う。野積みのものであれ、圃場のものであれ、すべて種子についての情報を農家の人に聞きながら集めていく。大麦、小麦、トウモロコシ、米、豆類を集める。目的地まで行き着いたあと同じ道を引きかえす。Gram Chashmaからアフガニスタン国境まではわずかであるが、歩くかロパでしか行けない道になっているとのこと。間近に異国がある雰囲気は感じない。アフガニスタン方向の山々を見ながら異国を想像するのみ。

2日目はChitralの南西にある異教徒の地Kalash valleyをめざす。Chitralから南下し、Ayunから西へ入る。途中で小麦、トウモロコシを採集する。Kalash valleyの中心地Bumburetに着いてからジープに乗り換え、道が狭く我々の車では入ることができない谷へ向かう。そこで大麦、小麦、トウモロコシ、豆を採集。翌日はKalashからMingoraまでの移動日。移動は長い長い道のりであった。この日までで前半の収集行程が終了した。

2) 後半の探索地域

7月11日にMingoraでDr. Masoodと合流し収集地域の確認を行う。後半の1日目はMingoraからChilasまでの移動日。翌日はChilasから南方の谷へ入り、2軒の農家からそれぞれ小麦とトウモロコシを収集する。その後同じ道に戻り、KKH (Karakoram highway)に出て一路Gilgitをめざす。途中、PARCのKarakoram Agriculture Research Instituteに寄って所長のMr. Rash Khanからこの地域の農業の状況を聞く。大麦、小麦、トウモロコシともまだ在来種が多いとのこと。夕方Gilgitに到着する。

ここからは、まず3日間の行程で西方をめざす。Gachuch, Gupisを通り、Yasinまで行く。この間、約20kmごとに収集する。Gilgitを出てしばらくはバスも通る広い道が続くが、やがて離合もできないような狭い山道となる。大麦、小麦、トウモロコシなど計5ヵ所の農家に寄り12点を集めた。大麦はすべて裸麦であった。

2日目は朝から雨。初めての雨の中での収集。YasinからGupisを通過し、Phandarまでで、12点を収集。この日の道もまた凄まじかった。ほとんど歩く程度のスピードしかでない。山腹の道は極端に狭く、また、村中に入ると道の両側に石が背の高さまで積み上げてあってとても通りにくい。標高は2,000mを越えており、到着地Phandarは3,000mの高地であった。

3日目はPhandarからTeru方面へ少し進み、山あいの広い平坦地で6点を採集。大麦、小麦、トウモロコシ、豆、アワ等。収集品は変化に富んでいる。隔離された場所ではあるが、土は肥沃で作物もよくできていた。冬はすべてが雪で閉ざされるので、今の時期から冬の準備をしているのだそうだ。ここから西に進めばShandur峠である。Gilgitから高地に入って集めた大麦はすべて裸麦であった。採集後は反転し、一路Gilgitをめざす。

翌日はKKHを北上、中国との国境Khunjerab峠まで。途中4ヵ所で採集。大麦、小麦以外ではソバや豆など珍しいものを採集できた。国境は標高4,695mの高さであった。呼吸のしづらさを感じたが、写真をとったり、景色を見たりと短い時間を過ごす。Sost泊。

Sost周辺の村で大麦、小麦、豆等4点を集めた後、Gilgit東方のSkarduへ向かう。KKHでGilgitを通過し、Skarduへの道に入り、ひたすら走る。移動距離は427kmであった。Skarduでは2泊することにする。

Skarduからの1日目は、北方のAlchuli方面に向かう。朝早くから収穫作業をしている圃場で収集する。こちらの収穫方法は鎌で根から引き抜くやり方である。根がついたまま圃場に広げ乾燥させていた。さらに奥の方へ向かい、村々で採集する。ソバやアワ、ヒエ、大麦、小麦などを集める。探索中に集めている大麦、小麦はそれぞれのところで呼び名が変わる。小麦でGome, Tru, Ghannam, Gham, Zhaf, 大麦でVarvashi, Seri, Jau, Yurk, Nasといろいろである。この日はエンドウ豆、クラブ小麦 (*T. compactum*) なども採集できた。

2日目はさらに東方のKhapluへ向けて出発。約100kmの道のり。20kmおきに採集する。すべて農家に取材しながらの採集である。クラブ小麦をまたひとつ採集。アワやソバも集めることができた。この地域の大麦も裸麦ばかりである。青色糊粉層 (blue aluerone) のものが多い。食べ方はペーストが主であった。その他に、裸麦を焦がして挽いた粉に水を混ぜて飲みものにしたたり、挽いて煎った粉を食べるなど様々であった。この地域は大麦の栽培が小麦より多かった。この時期は収穫乾燥していた大麦を脱穀にかけるところ。小麦はまだ圃場で登熟中であった。Khapluの北東のDamsumへは外国人は立入禁止で行けず、方向を変えて南東のLunkhaへ行き、大麦、ソバ、アワなどを収集して戻る。今回の収集旅行では、西はアフガニスタン国境付近のGram Chashma。北は中国国境のKhunjerab峠。東はここインドとの境界付近と3ヵ国に接近した。Khapluでも2泊する。

Khapluからの1日目は、北方のHushke valleyへ向かう。片道44kmを5ヵ所で採集しながら進む。今日の採集は大麦、小麦が主で、大麦が収穫期、小麦がまだ畑で生育中であった。どこも段々畑であり、灌漑をしながらの栽培である。険しい山道を、散在する村を訪ねての収集で10点を集める。行き着いた先のHushke valleyは世界第2位の高峰K2への登山口になっていて、車はここで行き止まりだった。ここからK2のベースキャンプまで歩いて10日、そこから頂上まで3日かかるとのこと。標高は3,000mを越えていた。この日の探索も道は険しく1日ばかりでの往復となった。収集はこの日までで終了とし、あとはIslamabadまでの移動のみとなった。

4. 収集結果

Table 2 に収集したすべての遺伝資源を示す。24日間の全行程は総走行距離4,715kmであり、77地点から18属、23種、217点を収集した。麦類では大麦 (*Hordeum vulgare*) が50点、大麦近縁野生種 (*H. murinum*) が2点、小麦 (*Triticum aestivum*) が74点、クラブ小麦 (*T. compactum*) が2点、ライ麦 (*Secale cereale*) が3点であった。収集はほとんどが農家に取材しながら行った。得られた情報では、各地域で呼び方は異なるが、それらは先祖代々受け継がれてきたものであり、在来種であると思われた。また大麦はすべて六条種であったが、皮裸性ではその栽培地域が明瞭に別れ、Shandur 峠を境に西方は皮麦、東方は裸麦であった。Fig. 2 には大麦及び小麦の収集地点の標高と収集点数を示した。標高は1,170m~3,280m と垂直分布の幅が広く、2,000m以上の地点が全体の63%を占めた。なお、今回の探索・収集の目的は大麦、小麦を中心とした麦類遺伝資源の収集であったが、他の作物も収集した。農家から集める場合、彼らは他の作物も栽培していることが普通で、話をしながら他作物の種を分けてくれた。また、パキスタン側としても、当初からなるべく幅広く遺伝資源を収集したいとの要望であった。これら数多くの遺伝資源が、育種や遺伝的多様性研究の素材として利用されることを期待したい。

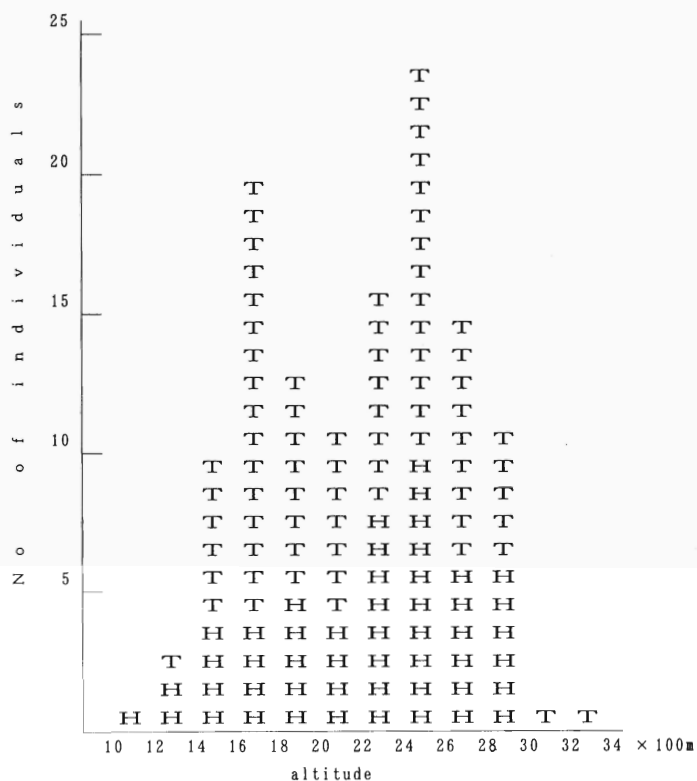


Fig. 2 Altitudinal distribution and number of individuals of wheat and barley collected

T : wheat, H : barley

小麦、大麦の各標高における収集数

Table 2 Samples collected in Pakistan.
探索・収集リスト

Genus	species	和名	点数
<i>Triticum</i>	<i>aestivum</i>	コムギ	7 4
<i>Triticum</i>	<i>compactum</i>	クラブコムギ	2
<i>Hordeum</i>	<i>vulgare</i>	オオムギ	5 0
<i>Hordeum</i>	<i>murinum</i>	オオムギ野生種	2
<i>Zea</i>	<i>mays</i>	トウモロコシ	3 6
<i>Oryza</i>	<i>sativa</i>	イネ	3
<i>Secale</i>	<i>cereale</i>	ライムギ	3
<i>Brassica</i>	<i>napus</i>	ナタネ	1
<i>Eleusine</i>	<i>coracana</i>	シコクビエ	1
<i>Fagopyrum</i>	<i>esculentum</i>	ソバ	3
<i>Fagopyrum</i>	<i>tataricum</i>	ダツタンソバ	3
<i>Linum</i>	<i>lusitaticum</i>	アマ	2
<i>Panicum</i>	spp.	キビ	1
<i>Setaria</i>	spp.	アワ	8
<i>Lens</i>	spp.	ヒラマメ	3
<i>Phaseolus</i>	<i>vulgaris</i>	インゲンマメ	5
<i>Pisum</i>	<i>sativum</i>	エンドウ	2
<i>Pisum</i>	spp.	エンドウ	4
<i>Vicia</i>	<i>faba</i>	ソラマメ	4
<i>Vigna</i>	<i>radiata</i>	リョクトウ	4
<i>Vigna</i>	<i>unguiculata</i>	ササゲ	3
<i>Cucurbita</i>	spp.	ウリ	1
<i>Spinacia</i>	<i>oleraceae</i>	ホウレンソウ	2
Total	1 8 属 2 3 種		2 1 7 点

注) 収集地点数：7 7

5. 収集品の今後の処理

収集した遺伝資源はパキスタン側と日本側で折半した。持ち帰った材料は農業生物資源研究所に保存するとともに、大麦は福岡県農業総合試験場で、小麦は北海道立北見農業試験場で栽培し、特性評価等を行う予定である。

6. 所感

麦類を中心にした探索であったにもかかわらず、様々な作物の在来種と考えられる遺伝資源を収集できたことは、遺伝資源保有国でそれらが消失する前に保存できること、またそれらの特性評価や育種利用へ研究を進めるためにも有意義であった。

さらに、探索収集の過程で接する遺伝資源の豊富さは、その地域の文化を理解する上でも貴重な情報源となるものであった。遺伝資源集めは文化集めであるという感を強く持った。

この1ヶ月間、パキスタンのいろいろなところを回って人々の生活と文化にふれることができた。こちらから見ると不思議と思うことも多いのだが、それはこちら側からの見方で、相手側から見ると何ら不思議ではなく普通の生活なのであろう。その国のことはその国に入らないと分からないものである。今回のパキスタンでの探索収集行程は想像していたよりも厳しかったが、訪れた国は好きになるものだ、ということを感じている。

貴重な経験をし、また充実した1ヶ月であった。

7. 謝辞

今回の探索を実施するにあたり、貴重な助言を賜った龍谷大学阪本寧男教授。現地で多大の協力をいただいた国際協力事業団パキスタン植物遺伝資源保存研究所計画の木村健司調整員、三枝隆夫専門家及び佐藤博保専門家。本探索の策定をされ、筆者らに参加の機会を与えていただいた関係各位。これらの方々に対し、ここに記して深甚なる感謝の意を表する。

8. 引用文献

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- 3) 田谷省三・石川直幸・M. Afzal (1994) パキスタン国における麦類遺伝資源の探索収集、植物遺伝資源探索導入調査報告書(農業生物資源研究所編) 10:55-73.

Genus: *Triticum*

List of collected materials (Collaborative exploration of wheat, barley and their wild relatives in Pakistan, 1996)

No	Collection No.	Date July 96	Genus & Species	Cultivar local name	Locality (Country, City, km)	Alt. m	Source ¹⁾	Status ²⁾	Topography ³⁾	Site ⁴⁾	Stoniness ⁵⁾	Soil texture ⁶⁾	Drainage ⁷⁾	Length (cm) Culm Spike	Disease & pest	time		Notes	
																sowing	harvest		latitude longitude
6	3811	2	<i>Triticum aestivum</i>	Parami	Panakot 3Km N of Dir	1530	3	3	6	2		2		9		Oct.	June		
11	3816	2	<i>Triticum aestivum</i>	Ghannam	Dodbar 7Km E of Dir	1255	4	3	6	2		2	4			Oct.	June		
14	3819	2	<i>Triticum aestivum</i>		Pitaobanda 25Km E of Dir	1420	3	3	6	2				8	smut				
16	3821	2	<i>Triticum aestivum</i>	Ghannam	Shirumai 26Km E of Dir	1415	3	3	6	2				9		Oct.	June		
21	3823(3)	2	<i>Triticum aestivum</i>	Ghannam	Salool 52Km E of Dir	1440	3	3	6	2		2	4						
26	3826(1)	3	<i>Triticum aestivum</i>	Gham	Kusangal (Chitral) 50 Km N of Dir	1845	4	3	6	2		2		8		Oct.	June	35-25-07 N 71-45-17 E	
29	3827(1)	3	<i>Triticum aestivum</i>	Gham	Nagara (Chitral) 61 Km N of Dir	1460	3	3	6	2						Sept.	June	35-29-49 N 71-44-38 E	
36	3830(1)	4	<i>Triticum aestivum</i>	Gome (Shag-hasti)	Seenlasht 11 Km N of Chitral	1700	3	3										35-54-45 N 71-48-47 E	CADP Agric. Res stn. Chitral
37	3830(2)	4	<i>Triticum aestivum</i>	Gome (Touf)	Seenlasht 11 Km N of Chitral	1700	3	3										35-54-45 N 71-48-47 E	CADP Agric. Res stn. Chitral
38	3830(3)	4	<i>Triticum aestivum</i>	Gome (Redland)	Seenlasht 11 Km N of Chitral	1700	3	3										35-54-45 N 71-48-47 E	CADP Agric. Res stn. Chitral
39	3830(4)	4	<i>Triticum aestivum</i>	Gome (Toeh)	Seenlasht 11 Km N of Chitral	1700	3	3										35-54-45 N 71-48-47 E	CADP Agric. Res stn. Chitral
40	3830(5)	4	<i>Triticum aestivum</i>	Gome (Zoatt)	Seenlasht 11 Km N of Chitral	1700	3	3										35-54-45 N 71-48-47 E	CADP Agric. Res stn. Chitral
41	3830(6)	4	<i>Triticum aestivum</i>	Gome (Nimbus)	Seenlasht 11 Km N of Chitral	1700	3	3										35-54-45 N 71-48-47 E	CADP Agric. Res stn. Chitral
42	3830(7)	4	<i>Triticum aestivum</i>	Gome (Bow)	Seenlasht 11 Km N of Chitral	1700	3	3										35-54-45 N 71-48-47 E	CADP Agric. Res stn. Chitral

1) Source: 1 wild, 2 farmland, 3 farmstore, 4 backyard, 5 village market, 6 commercial market 2) Status: 1 wild, 2 weedy, 3 landrace, 4 pure line, 5 cultivar 6 other

3) Topography: 1 swamp, 2 Flood plain, 3 plain, 4 undulating, 5 hilly, 6 mountainous, 6 other

4) Site: 1 level, 2 slope, 3 summit, 4 depression

5) Stoniness: 1 none, 2 low, 3 medium, 4 rocky

6) Soil texture: 1 sand, 2 loam, 3 clay, 4 silt 5 highly organic

7) Drainage: 1 poor, 2 moderate, 3 good, 4 excess

Genus: *Triticum* (continued)

List of collected materials (Collaborative exploration of wheat, barley and their wild relatives in Pakistan, 1996)

No	Collection No.	Date July 96	Genus & Species	Cultivar local name	Locality (Country, City, km)	Alt. m	Source ¹⁾	Status ²⁾	Topography ³⁾	Site ⁴⁾	Stoniness ⁵⁾	Soil ⁶⁾ texture	Drainage ⁷⁾	Length (cm)		Disease & pest	time		Notes	
														Culm	Spike		sowing	harvest		latitude
45	3831 (1)	4	<i>Triticum aestivum</i>		Nohidas 53 Km S of Chitral	1650	2	3	6	2	4	3	3	60	8	smut			36-35-39 N 71-48-16 E	white spike
46	3831 (2)	4	<i>Triticum aestivum</i>		Nohidas 53 Km S of Chitral	1650	2	3	6	2	4	3	3	60	8				36-35-39 N 71-48-16 E	brown spike
47	3831 (3)	4	<i>Triticum aestivum</i>		Nohidas 53 Km S of Chitral	1650	2	3	6	2	4	3	3	60	7				36-35-39 N 71-48-16 E	dark brown spike
48	3832 (1)	4	<i>Triticum aestivum</i>	Gome	Lavi goal 57 Km S of Chitral	1685	3	3	6	2							Oct. June		36-35-22 N 71-49-49 E	
53	3834 (3)	4	<i>Triticum aestivum</i>	Gome	Baoze kore 13 Km S of Chitral	1710	3	3	6	2							Nov. June		36-46-36 N 71-46-24 E	
58	3835 (5)	5	<i>Triticum aestivum</i>	Gome (Touf)	Ragh 14 Km N of Chitral	1750	3	3	6	2							Oct. June		36-55-53 N 71-52-23 E	for chapati
62	3837 (2)	5	<i>Triticum aestivum</i>	Gome (Touf)	Maroi 33 Km N of Chitral	1995	4	3	6	2				80	8		Oct. June		36-00-43 N 72-00-19 E	
67	3838 (1)	5	<i>Triticum aestivum</i>	Gome (Touf)	Reshun 56 Km N of Chitral	2055	4	3	6	2					8		Nov. July			
70	3838 (4)	5	<i>Triticum aestivum</i>		Reshun 56 Km N of Chitral	2055	4	3	6	2					8		Nov. July			Chinese variety
71	3839 (1)	5	<i>Triticum aestivum</i>	Zhaf	Awilasht 4 Km E of Booni	2225	3	3	6	2				70	7		Nov. July		36-15-21 N 72-16-15 E	
72	3839 (2)	5	<i>Triticum aestivum</i>	Touf	Awilasht 4 Km E of Booni	2225	3	3	6	2							Nov. July		36-15-21 N 72-16-15 E	
74	3840 (1)	5	<i>Triticum aestivum</i>	Zhaf	Parawak 14 Km E of Booni	2465	3	3	6	2	4	3	4	100	7		Nov. July		36-11-61 N 72-22-29 E	
75	3840 (2)	5	<i>Triticum aestivum</i>	Cru	Parawak 14 Km E of Booni	2465	3	3	6	2	4	3	4	98	8		Nov. July		36-11-61 N 72-22-29 E	
76	3841 (1)	6	<i>Triticum aestivum</i>	Zhaf	Hirchin 21 Km S of Mastuji	2830	3	3	6	2							April Aug.		36-06-52 N 72-28-34 E	Red grain

1) Source: 1 wild, 2 farmland, 3 farmstore, 4 backyard, 5 village market, 6 commercial market 2) Status: 1 wild, 2 weedy, 3 landrace, 4 pure line, 5 cultivar 6 other

3) Topography: 1 swamp, 2 flood plain, 3 plain, 4 undulating, 5 hilly, 6 mountainous, 6 other 4) Site: 1 level, 2 slope, 3 summit, 4 depression

5) Stoniness: 1 none, 2 low, 3 medium, 4 rocky

6) Soil texture: 1 sand, 2 loam, 3 clay, 4 silt 5 highly organic

7) Drainage: 1 poor, 2 moderate, 3 good, 4 excess

Genus: *Triticum* (continued)

List of collected materials (Collaborative exploration of wheat, barley and their wild relatives in Pakistan, 1986)

No	Collection No.	Date July 96	Genus & Species	Cultivar local name	Locality (Country, City, km)	Alt. m	Source ¹⁾	Status ²⁾	Topography ³⁾	Site ⁴⁾	Stoniness ⁵⁾	Soil texture ⁶⁾	Drainage ⁷⁾	Length (cm) Culm Spike	Disease & pest	time		Latitude longitude	Notes
																sowing	harvest		
77	3841(2)	6	<i>Triticum aestivum</i>	Safedec	Hirchin 21 Km S of Mastuji	2830	3	3	6	2						March	Aug.	36-06-52 N 72-28-34 E	White grain
84	3844(1)	8	<i>Triticum aestivum</i>	Gome (Touf)	Bilpok 16 Km N of Chitral	1765	4	3	6	2		3				Nov.	June	35-58-28 N 71-49-09 E	
86	3845(1)	8	<i>Triticum aestivum</i>	Gome (Touf)	Ruji 29 Km N of Chitral	1990	3	3	6	2		3		90 8	smut rust	Nov.	June	36-00-27 N 71-43-70 E	
93	3847(1)	8	<i>Triticum aestivum</i>	Gome (Shafkani)	Uchu 39 Km NW of Chitral	2170	3	3	6	2		3		7		Oct.	June	36-00-43 N 71-39-45 E	food
98	3849(1)	9	<i>Triticum aestivum</i>	Gome (Touf)	Gorapon 5 Km W Ayun	1685	4	3	6	2						Nov.	July	35-43-52 N 71-44-17 E	
100	3850(1)	9	<i>Triticum aestivum</i>	Gome	Wadwos 2 Km SW of Karash bridge	1910	4	3	6	2						Nov.	July	35-43-17 N 71-42-29 E	
103	3851(1)	9	<i>Triticum aestivum</i>	Gome (Touf)	Anig 6 Km SW of Karash bridge	2070	4	3	6	2						Oct.	June	35-42-13 N 71-41-00 E	
105	3852(2)	9	<i>Triticum aestivum</i>	Gome (Touf)	Jolivial 8 Km NW of Karash bridge	2060	4	3	6	2						Oct.	July	35-46-39 N 71-41-44 E	
108	3853(1)	13	<i>Triticum aestivum</i>	Gome	Dazar 23 Km SE of Chilas	1590	4	3	6	2	4	3	3	6		Oct.	June	35-21-13 N 74-08-23 E	food
110	3854(1)	13	<i>Triticum aestivum</i>	Gome	Jal 30 Km SE of Chilas	1885	3	3	6	2	4	3	3			Nov.	June	35-18-34 N 74-07-31 E	
112	3855(1)	14	<i>Triticum aestivum</i>	Gome	Jagir Basem 8 Km W of Gilgit	1650	3	3	6	2						Jan.	June	35-55-44 N 74-15-01 E	
114	3856(1)	14	<i>Triticum aestivum</i>	Gome	Shekyot 33 Km W of Gilgit	1845	3	3	6	2	3					Feb.	June	36-02-27 N 74-06-37 E	
116	3857(1)	14	<i>Triticum aestivum</i>	Sharooti	Single 54 Km W of Gilgit	1955	3	3	6	2						Oct.	June	36-05-50 N 73-56-36 E	
118	3858(1)	14	<i>Triticum aestivum</i>	Sharooti	Gakuch 80 Km W of Gilgit	2065	3	3	6	2						Oct.	June	36-11-18 N 73-45-01 E	

1) Source: 1 wild, 2 farmland, 3 farmstore, 4 backyard, 5 village market, 6 commercial market 2) Status: 1 wild, 2 weedy, 3 landrace, 4 pure line, 5 cultivar 6 other

3) Topography: 1 swamp, 2 Flood plain, 3 plain, 4 undulating, 5 hilly, 6 mountainous, 6 other 4) Site: 1 level, 2 slope, 3 summit, 4 depression

5) Stoniness: 1 none, 2 low, 3 medium, 4 rocky 6) Soil texture: 1 sand, 2 loam, 3 clay, 4 silt 5 highly organic

7) Drainage: 1 poor, 2 moderate, 3 good, 4 excess

Genus: *Triticum* (continued)

List of collected materials (Collaborative exploration of wheat, barley and their wild relatives in Pakistan, 1996)

No	Collection No.	Date July 96	Genus & Species	Cultivar local name	Locality (Country, City, km)	Alt. ■	Source ¹⁾	Status ²⁾	Topography ³⁾	Site ⁴⁾	Stoniness ⁵⁾	Soil ⁶⁾ texture	Drainage ⁷⁾	Length (cm) Culm Spike	Disease & pest	time		Notes	
																sowing	harvest		latitude longitude
122	3859(2)	14	<i>Triticum aestivum</i>	Gome	Yangal 98 Km W of Gilgit	2215	3	3	6	2						Jan.	July	36-15-15 N 73-36-23 E	
124	3860(1)	15	<i>Triticum aestivum</i>	Gome	Yasin 3 Km S of Yasin	2435	3	3	6	2						April	Aug.	36-21-15 N 73-20-40 E	
130	3864(1)	15	<i>Triticum aestivum</i>	Gome	Julijal 22 Km W of Gupis	2440	3	3	6	1	4	3	3	7		March	July	36-11-45 N 73-16-15 E	
132	3865(1)	15	<i>Triticum aestivum</i>	Gome	Pingal 42 Km W of Gupis	2615	3	3	6	1	4	3	3			March	Aug.	36-09-48 N 73-06-43 E	
135	3866(1)	15	<i>Triticum aestivum</i>	Gome	Chashi 56 Km W of Gupis	2795	3	3	6	2						March	Aug.	36-10-54 N 72-57-52 E	
141	3867(4)	16	<i>Triticum aestivum</i>	Gome	Phadar 3 Km W of Phandar	3000	3	3	6	1	3	3	3			April	Sept.	36-10-11 N 72-55-04 E	
145	3868(2)	17	<i>Triticum aestivum</i>	Gur	Rahim abad 42 km N of Gilgit	1855	3	3	6	2						Dec.	June	36-06-12 N 74-18-20 E	Chinese variety
149	3869(1)	17	<i>Triticum aestivum</i>	Gur	Jafar abad 80 km N of Gilgit	2095	3	3	6	1	3	3	3	80 8		Feb.	July	36-14-03 N 74-23-31 E	
156	3870(6)	17	<i>Triticum aestivum</i>	Gur	Martaza abad 96 Km N of Gilgit	2245	3	3	6	2						Nov.	July	36-16-58 N 74-35-26 E	
157	3871(1)	17	<i>Triticum aestivum</i>	Gadeem	Gulmit 146 Km N of Gilgit	2575	3	3	6	1						March	Aug.	36-19-13 N 74-53-08 E	
160	3872(1)	18	<i>Triticum aestivum</i>	Gadeem	Gercha 5 Km S of Sost	2835	3	3	6	1	3	3	3			March	Aug.	36-39-38 N 74-51-25 E	
164	3873(1)	19	<i>Triticum aestivum</i>	Tru	Kuru 8 Km E of Skardu	2390	3	3	2	1	2	3	3			March	July	35-17-10 N 75-40-22 E	
168	3874(1)	19	<i>Triticum aestivum</i>	Tru	Kothang pine 28 Km N of Skardu	2405	3	3	6	1						March	Aug.	35-27-20 N 75-40-47 E	
173	3875(1)	19	<i>Triticum aestivum</i>	Tru	Fiaz pur 37 Km N of Skardu	2405	3	3	6	1	2	3						35-27-48 N 75-42-07 E	

1) Source: 1 wild, 2 farmland, 3 farmstore, 4 backyard, 5 village market, 6 commercial market 2) Status: 1 wild, 2 weedy, 3 landrace, 4 pure line, 5 cultivar 6 other

3) Topography: 1 swamp, 2 Flood plain, 3 plain, 4 undulating, 5 hilly, 6 mountainous, 6 other

4) Site: 1 level, 2 slope, 3 summit, 4 depression

5) Stoniness: 1 none, 2 low, 3 medium, 4 rocky

6) Soil texture: 1 sand, 2 loam, 3 clay, 4 silt 5 highly organic

7) Drainage: 1 poor, 2 moderate, 3 good, 4 excess

Genus: *Triticum* (continued)

List of collected materials (Collaborative exploration of wheat, barley and their wild relatives in Pakistan, 1996)

No	Collection No.	Date July 96	Genus & Species	Cultivar local name	Locality (Country, City, km)	Alt. m	Source ¹⁾	Status ²⁾	Topography ³⁾	Site ⁴⁾	Stoniness ⁵⁾	Soil ⁶⁾ texture	Drainage ⁷⁾	Length (cm) Culm Spike	Disease & pest	time		latitude longitude	Notes	
																sowing	harvest			
176	3876(1)	19	<i>Triticum aestivum</i>	Tru	Tiegrung 51 Km N of Skardu	2465	3	3	6	2						March	Aug.	35-31-45 N 75-38-51 E		
178	3877(1)	19	<i>Triticum aestivum</i>	Tru	Kashumal 60 Km N of Skardu	2495	3	3	6	2						April	Aug.	35-35-29 N 75-35-15 E		
182	3878(1)	19	<i>Triticum aestivum</i>	Tru	Shagarkalan 7 Km W of Skardu	2430	3	2	2	1	2	3	3	70	7	smut	March	July	35-18-03 N 75-33-43 E	
184	3879(1)	19	<i>Triticum aestivum</i>	Tru	Hotomurtaza abad 17 Km W of Skardu	2400	3	2	6	1	2	3	3				March	Aug.	35-22-22 N 75-30-05 E	
186	3880(1)	20	<i>Triticum aestivum</i>	Tru	Thargo bala 16 Km E of Skardu	2395	3	2	6	1	2	3	2	80	8		March	Aug.	35-16-37 N 75-49-12 E	
189	3881(2)	20	<i>Triticum aestivum</i>	Tru	Gol 36 Km E of Skardu	2500	3	3	6	1	2	3	2	100	9	mildew smut	March	Aug.	35-15-45 N 75-50-53 E	
191	3882(1)	20	<i>Triticum aestivum</i>	Tru	Gulokhor Ghowari 61 Km E of Skardu	2505	3	3	6	1	2	3				March	Aug.	35-10-04 N 76-01-51 E		
195	3883(2)	20	<i>Triticum aestivum</i>	Tru	Yago 78 Km E of Skardu	2600	3	3	6	1	1	3	2				March	Aug.	35-11-25 N 76-08-50 E	
197	3884(2)	20	<i>Triticum aestivum</i>	Tru	Bara pine 10 Km W of Khaplu	2640	3	3	6	1	1	3	2				March	Aug.	35-11-15 N 76-16-29 E	
200	3885(2)	20	<i>Triticum aestivum</i>	Tru	Surmu bala 13 Km SE of Khaplu	2665	3	3	6	1	3	3	2	80	7		March	Aug.	35-09-36 N 76-25-44 E	
201	3886(1)	20	<i>Triticum aestivum</i>	Tru	Surmo bridge 16 Km SE of Khaplu	2675	3	2	6	1	1	3	2	90	7		March	Aug.	35-08-07 N 76-28-04 E	awnless
202	3886(2)	20	<i>Triticum aestivum</i>	Tru	Surmo bridge 16 Km SE of Khaplu	2575	3	2	6	1	1	3	2	90	8		March	Aug.	35-08-07 N 76-28-04 E	awned
203	3887(1)	20	<i>Triticum aestivum</i>	Tru	Lunkha 26 Km SE of Khaplu	2705	3	3	6	1	1	3	2				March	Aug.	35-05-11 N 76-27-38 E	
209	3888(2)	21	<i>Triticum aestivum</i>	Tru	Khaplu	2640	3	2	6	1	1	3	3	90	7		March	Aug.	35-09-02 N 76-23-04 E	

1) Source: 1 wild, 2 farmland, 3 farmstore, 4 backyard, 5 village market, 6 commercial market 2) Status: 1 wild, 2 weedy, 3 landrace, 4 pure line, 5 cultivar 6 other

3) Topography: 1 swamp, 2 flood plain, 3 plain, 4 undulating, 5 hilly, 6 mountainous, 6 other 4) Site: 1 level, 2 slope, 3 summit, 4 depression

5) Stoniness: 1 none, 2 low, 3 medium, 4 rocky

6) Soil texture: 1 sand, 2 loam, 3 clay, 4 silt 5 highly organic

7) Drainage: 1 poor, 2 moderate, 3 good, 4 excess

Genus: *Triticum* (continued)

List of collected materials (Collaborative exploration of wheat, barley and their wild relatives in Pakistan, 1996)

No	Collection No.	Date July 96	Genus & Species	Cultivar local name	Locality (Country, City, km)	Alt. m	Source ¹⁾	Status ²⁾	Topography ³⁾	Site ⁴⁾	Stoniness ⁵⁾	Soil ⁶⁾ texture	Drainage ⁷⁾	Length (cm) Culm Spike	Disease & pest	time		latitude longitude	Notes	
																sowing	harvest			
210	3889(1)	21	<i>Triticum aestivum</i>	Tru	Saling 10 Km E of Khaplu	2650	3	3	6	1	1	1	2			March	Aug.	35-11-18 N 76-23-10 E		
213	3890(2)	21	<i>Triticum aestivum</i>	Tru	Talis 19 Km N of Khaplu	2820	3	2	6	1	1	3	3	80	6	March	Aug.	35-14-25 N 76-23-42 E		
214	3891(1)	21	<i>Triticum aestivum</i>	Tru	Kande 33 Km N of Khaplu	3040	3	3	6	1						March	Sept.	35-21-35 N 76-22-22 E		
216	3892(1)	21	<i>Triticum aestivum</i>	Tru	Hushe valley 44 Km N of Khaplu	3280	3	3	6	1	1	3	3			April	Sept.	35-27-44 N 76-21-23 E		
185	3879(2)	19	<i>Triticum compactum</i>	Tru	Hotomurtaza abad 17 Km W of Skardu	2400	3	2	6	1	2	3	3	100	4	March	Aug.	35-22-22 N 75-30-05 E		
190	3881(3)	20	<i>Triticum compactum</i>	Tru	Gol 36 Km E of Skardu	2500	3	3	6	1	2	3	2	100	3	mildew smut	March	Aug.	35-15-45 N 75-50-53 E	

1) Source: 1 wild, 2 farmland, 3 farmstore, 4 backyard, 5 village market, 6 commercial market 2) Status: 1 wild, 2 weedy, 3 landrace, 4 pure line, 5 cultivar 6 other

3) Topography: 1 swamp, 2 flood plain, 3 plain, 4 undulating, 5 hilly, 6 mountainous, 6 other 4) Site: 1 level, 2 slope, 3 summit, 4 depression

5) Stoniness: 1 none, 2 low, 3 medium, 4 rocky

6) Soil texture: 1 sand, 2 loam, 3 clay, 4 silt 5 highly organic

7) Drainage: 1 poor, 2 moderate, 3 good, 4 excess

Genus: *Hordeum*

List of collected materials (Collaborative exploration of wheat, barley and their wild relatives in Pakistan, 1996)

No	Collection No.	Date July 96	Genus & Species	Cultivar local name	Locality (Country, City, km)	Alt. m	Source ¹⁾	Status ²⁾	Topography ³⁾	Site ⁴⁾	Stoniness ⁵⁾	Soil ⁶⁾ texture	Drainage ⁷⁾	Length (cm) Culm Spike	Disease & pest	time		latitude longitude	Notes
																sowing	harvest		
1	3806	1	<i>Hordeum vulgare</i>	Varbashi	Darora 35km S of Dir	1170	4	3	6	2						Oct.	June	33° 40' 27"E 73° 07' 34"N	feed
2	3807	1	<i>Hordeum vulgare</i>	Varbashi	Bebiwala 26km S of Dir	1225	4	3	6	2						Oct.	June		food (barley bread)
7	3812	2	<i>Hordeum vulgare</i>	Varbashi	Panakot 3km N of Dir	1530	3	3	6	2		2				Oct.	June		feed
8	3813	2	<i>Hordeum vulgare</i>	Varbashi	Dodbar 7km E of Dir	1255	4	3	6	2		2	4						
17	3822(1)	2	<i>Hordeum vulgare</i>	Varbashi	Sawani Sharif 41km E of Dir	1415	5												
20	3823(2)	2	<i>Hordeum vulgare</i>	Varbashi	Salool 52km E of Dir	1440	3	3	6	2		2	4			Oct.	June		feed
23	3824(1)	3	<i>Hordeum vulgare</i>	Varvashi	Kashikare 8 km N of Dir	1760	3	3	6	2		2				Oct.	May		
27	3826(2)	3	<i>Hordeum vulgare</i>	Shishe	Kusangal (Chitral) 50 km N of Dir	1845	4	3	6	2		2		6		Oct.	June	35-25-07 N 71-45-17 E	
50	3833(2)	4	<i>Hordeum vulgare</i>	Seri	Basnak 64 km S of Chitral	1545	3	3	6	2						Nov.	May	35-35-41 N 71-48-20 E	
51	3834(1)	4	<i>Hordeum vulgare</i>	Seri	Baoze kore 13 km S of Chitral	1710	3	3	6	2						Oct.	June	35-46-36 N 71-46-24 E	food and feed
54	3835(1)	5	<i>Hordeum vulgare</i>	Seri	Ragh 14 km N of Chitral	1750	3	3	6	2	2	3	3			Nov.	May	35-55-53 N 71-52-23 E	feed
64	3837(4)	5	<i>Hordeum vulgare</i>	Seri	Maroi 33 km N of Chitral	1995	4	3	6	2				7		Oct.	June	36-00-43 N 72-00-19 E	
68	3838(2)	5	<i>Hordeum vulgare</i>	Seri	Reshun 56 km N of Chitral	2055	4	3	6	2				70	7	Nov.	July		
73	3839(3)	5	<i>Hordeum vulgare</i>	Seri	Awilasht 4 km E of Booni	2225	3	3	6	2						Nov.	July	36-15-21 N 72-16-15 E	

1)Source:1 wild, 2 farmland, 3 farmstore, 4 backyard, 5 village market, 6 commercial market 2)Status:1 wild, 2 weedy, 3 landrace, 4 pure line, 5 cultivar 6 other

3)Topography:1 swamp, 2 Flood plain, 3 plain, 4 undulating, 5 hilly, 6 mountainous, 6 other 4)Site:1 level, 2 slope, 3 summit, 4 depression

5)Stoniness:1 none, 2 low, 3 medium, 4 rocky

6)Soil texture:1 sand, 2 loam, 3 clay, 4 silt 5 highly organic

7)Drainage:1 poor, 2 moderate, 3 good, 4 excess

Genus: *Hordeum* (continued)

List of collected materials (Collaborative exploration of wheat, barley and their wild relatives in Pakistan, 1986)

No	Collection No.	Date July 96	Genus & Species	Cultivar local name	Locality (Country, City, km)	Alt. m	Source ¹⁾	Status ²⁾	Topography ³⁾	Site ⁴⁾	Stoniness ⁵⁾	Soil texture ⁶⁾	Drainage ⁷⁾	Length (cm) Culm Spike	Disease & pest	time sowing harvest	latitude longitude	Notes
78	3841 (3)	6	<i>Hordeum vulgare</i>	Seri	Hirchin 21 Km S of Mastuji	2830	3	3	6	2						April July	36-06-52 N 72-28-34 E	food and feed
80	3842 (1)	6	<i>Hordeum vulgare</i>	Seri	Laspur Broke 18 Km W of Shandur	2950	3	3	6	2							36-01-22 N 72-24-39 E	mixed with naked barley
81	3842 (2)	6	<i>Hordeum vulgare</i>	Seri	Laspur Broke 18 Km W of Shandur	2950	3	3	6	2							36-01-22 N 72-24-39 E	
85	3844 (2)	8	<i>Hordeum vulgare</i>	Seri	Bilpok 16 Km N of Chitral	1765	4	3	6	2		3				Nov. May	35-58-28 N 71-49-09 E	
87	3845 (2)	8	<i>Hordeum vulgare</i>	Seri	Ruji 29 Km N of Chitral	1990	3	3	6	2		3				Nov. June	36-00-27 N 71-43-70 E	mainly feed
92	3846 (1)	8	<i>Hordeum vulgare</i>	Seri	Mogh 35 Km N of Chitral	2085	3	3	6	2		3		60 6		March June	36-00-36 N 71-40-01 E	feed and food spring type
95	3848 (1)	8	<i>Hordeum vulgare</i>	Seri	Gram Chashma 46 Km NW of Chitral	2355	2	3	6	2	3	3	3	60 6		March July	35-58-04 N 71-34-07 E	feed
102	3850 (3)	9	<i>Hordeum vulgare</i>	Seri	Wadwos 2 Km SW of Karash bridge	1910	4	3	6	2						Nov. May	35-43-17 N 71-42-29 E	
104	3852 (1)	9	<i>Hordeum vulgare</i>	Jau	Jolivial 8 Km NW of Karash bridge	2060	4	3	6	2						Nov. June	35-46-39 N 71-41-44 E	
119	3858 (2)	14	<i>Hordeum vulgare</i>	Jau	Gakuch 80 Km W of Gilgit	2065	3	3	6	2						March June	36-11-18 N 73-45-01 E	
123	3859 (3)	14	<i>Hordeum vulgare</i>	Seri	Yangal 96 Km W of Gilgit	2215	3	3	6	2						Jan. June	36-15-15 N 73-36-23 E	naked barley
125	3861 (1)	15	<i>Hordeum vulgare</i>	Jau	Hatar Har 16 Km S of Yasin	2320	3	3	6	1	4	3	3	60 6		March June	36-16-16 N 73-24-38 E	naked barley
126	3862 (1)	15	<i>Hordeum vulgare</i>	Jau	Gupis 0 Km - of Gupis	2275	4	3	6	1	4	3	3	6		March June	36-14-06 N 73-25-39 E	naked barley
129	3863 (2)	15	<i>Hordeum vulgare</i>	Jau	Kharti 11 Km W of Gupis	2345	3	3	6	1	4	3	3			March June	36-13-56 N 73-21-39 E	naked barley

1) Source: 1 wild, 2 farmland, 3 farmstore, 4 backyard, 5 village market, 6 commercial market 2) Status: 1 wild, 2 weedy, 3 landrace, 4 pure line, 5 cultivar 6 other

3) Topography: 1 swamp, 2 Flood plain, 3 plain, 4 undulating, 5 hilly, 6 mountainous, 6 other 4) Site: 1 level, 2 slope, 3 summit, 4 depression

5) Stoniness: 1 none, 2 low, 3 medium, 4 rocky

6) Soil texture: 1 sand, 2 loam, 3 clay, 4 silt 5 highly organic

7) Drainage: 1 poor, 2 moderate, 3 good, 4 excess

Genus: *Hordeum* (continued)

List of collected materials (Collaborative exploration of wheat, barley and their wild relatives in Pakistan, 1996)

No	Collection No.	Date July 96	Genus & Species	Cultivar local name	Locality (Country, City, km)	Alt. m	Source ¹⁾	Status ²⁾	Topog-raphy ³⁾	Site ⁴⁾	Stoni-ness ⁵⁾	Soil ⁶⁾ texture	Drain- age ⁷⁾	Length (cm) Culm Spike	Disease & pest	time		Notes	
																sowing	harvest		latitude
131	3864 (2)	15	<i>Hordeum vulgare</i>	Jau	Julijal 22 Km W of Gupis	2440	3	3	6	1	4	3	3	7		March	June	36-11-45 N 73-16-15 E	naked barley
137	3866 (3)	15	<i>Hordeum vulgare</i>	Seri	Chashi 56 Km W of Gupis	2795	3	3	6	2						April	July	36-10-54 N 72-57-52 E	
143	3867 (6)	16	<i>Hordeum vulgare</i>	Seri	Phadar 3 Km W of Phandar	3000	3	3	6	1	3	3	3			April	Aug.	36-10-11 N 72-55-04 E	
146	3868 (3)	17	<i>Hordeum vulgare</i>	Hari	Rahim abad 42 Km N of Gilgit	1855	3	3	6	2						Nov.	June	36-06-12 N 74-18-20 E	naked barley
158	3871 (2)	17	<i>Hordeum vulgare</i>	Yurk	Gulmit 146 Km N of Gilgit	2575	3	3	6	1						March	July	36-19-13 N 74-53-08 E	naked barley
161	3872 (2)	18	<i>Hordeum vulgare</i>	Yurk	Gercha 5 Km S of Sost	2835	3	3	6	1	3	3	3			March	July	36-39-38 N 74-51-25 E	naked barley blue areulon
166	3873 (3)	19	<i>Hordeum vulgare</i>	Nas	Kuru 8 Km E of Skardu	2390	3	3	2	1	2	3	3			March	June	35-17-10 N 75-40-22 E	naked barley
169	3874 (2)	19	<i>Hordeum vulgare</i>	Nas	Kothang pine 28 Km N of Skardu	2405	3	3	6	1						March	July	35-27-20 N 75-40-47 E	naked barley make paste
174	3875 (2)	19	<i>Hordeum vulgare</i>	Nas	Fiaz pur 37 Km N of Skardu	2405	3	3	6	1	2	3				March	July	35-27-48 N 75-42-07 E	make paste naked barley
177	3876 (2)	19	<i>Hordeum vulgare</i>	Nas	Tiegrung 51 Km N of Skardu	2465	3	3	6	2						March	July	35-31-45 N 75-38-51 E	make bread naked barley
181	3877 (4)	19	<i>Hordeum vulgare</i>	Nas	Kashumal 60 Km N of Skardu	2495	3	3	6	2						March	July	35-35-29 N 75-35-15 E	make bread naked barley
183	3878 (2)	19	<i>Hordeum vulgare</i>	Nas	Shagarkalan 7 Km W of Skardu	2430	3	2	2	1	2	3	3			March	June	35-18-03 N 75-33-43 E	make paste naked barley
187	3880 (2)	20	<i>Hordeum vulgare</i>	Nas	Thargo bala 16 Km E of Skardu	2395	3	2	6	1	2	3	2			March	July	35-16-37 N 75-49-12 E	make bread naked barley
188	3881 (1)	20	<i>Hordeum vulgare</i>	Nas	Gol 36 Km E of Skardu	2500	3	3	6	1	2	3	2			March	July	35-15-45 N 75-50-53 E	make bread naked barley

1) Source: 1 wild, 2 farmland, 3 farmstore, 4 backyard, 5 village market, 6 commercial market 2) Status: 1 wild, 2 weedy, 3 landrace, 4 pure line, 5 cultivar 6 other

3) Topography: 1 swamp, 2 Flood plain, 3 plain, 4 undulating, 5 hilly, 6 mountainous, 6 other 4) Site: 1 level, 2 slope, 3 summit, 4 depression

5) Stoniness: 1 none, 2 low, 3 medium, 4 rocky

6) Soil texture: 1 sand, 2 loam, 3 clay, 4 silt 5 highly organic

7) Drainage: 1 poor, 2 moderate, 3 good, 4 excess

Genus: *Hordeum* (continued)

List of collected materials (Collaborative exploration of wheat, barley and their wild relatives in Pakistan, 1996)

No	Collection No.	Date July 96	Genus & Species	Cultivar local name	Locality (Country, City, km)	Alt. m	Source ¹⁾	Status ²⁾	Topography ³⁾	Site ⁴⁾	Stoniness ⁵⁾	Soil ⁶⁾ texture	Drainage ⁷⁾	Length (cm) Culm Spike	Disease & pest	time sowing harvest	latitude longitude	Notes
192	3882 (2)	20	<i>Hordeum vulgare</i>	Nas	Gulokhor Ghowari 61 Km E of Skardu	2505	3	3	6	1	2	3				March June	35-10-04 N 76-01-51 E	make paste naked barley
184	3883 (1)	20	<i>Hordeum vulgare</i>	Nas	Yago 78 Km E of Skardu	2600	3	3	6	1	1	3	2	70 6		March June	35-11-25 N 76-08-50 E	make paste naked barley
196	3884 (1)	20	<i>Hordeum vulgare</i>	Nas	Bara pine 10 Km W of Khaplu	2640	3	3	6	1	1	3	2	80 7		March July	35-11-15 N 76-16-29 E	naked barley blue areulon
199	3885 (1)	20	<i>Hordeum vulgare</i>	Nas	Surmu bala 13 Km SE of Khaplu	2685	3	3	6	1	3	3	2	60 5		March July	35-09-36 N 76-25-44 E	naked blue areulon paste
204	3887 (2)	20	<i>Hordeum vulgare</i>	Nas	Lunkha 26 Km SE of Khaplu	2705	3	3	6	1	1	3	2			March July	35-05-11 N 76-27-38 E	naked barley eat flower
206	3888 (1)	21	<i>Hordeum vulgare</i>	Nas	Khaplu	2640	3	2	6	1	1	3	3	60 4		April July	35-09-02 N 76-23-04 E	naked barley make paste
211	3889 (2)	21	<i>Hordeum vulgare</i>	Nas	Saling 10 Km E of Khaplu	2650	3	2	6	1	1	1	2	50 4		April July	35-11-18 N 76-23-10 E	naked barley
212	3890 (1)	21	<i>Hordeum vulgare</i>	Nas	Talis 19 Km N of Khaplu	2820	3	2	6	1	1	3	3	60 5		March July	35-14-25 N 76-23-42 E	naked barley
35	3829 (1)	3	<i>Hordeum murinum</i>		89 Km N of Dir	1615	1	1	6	2	4	3		10 2			35-39-39 N 71-46-05 E	
96	3848 (2)	8	<i>Hordeum murinum</i>		Gram Chashma 46 Km NW of Chitral	2355	1	1	6	2							35-58-04 N 71-34-07 E	

1) Source: 1 wild, 2 farmland, 3 farmstore, 4 backyard, 5 village market, 6 commercial market 2) Status: 1 wild, 2 weedy, 3 landrace, 4 pure line, 5 cultivar 6 other

3) Topography: 1 swamp, 2 Flood plain, 3 plain, 4 undulating, 5 hilly, 6 mountainous, 6 other 4) Site: 1 level, 2 slope, 3 summit, 4 depression

5) Stoniness: 1 none, 2 low, 3 medium, 4 rocky

6) Soil texture: 1 sand, 2 loam, 3 clay, 4 silt 5 highly organic

7) Drainage: 1 poor, 2 moderate, 3 good, 4 excess

Genus: *Zea*

List of collected materials (Collaborative exploration of wheat, barley and their wild relatives in Pakistan, 1996)

No	Collection No.	Date July 96	Genus & Species	Cultivar local name	Locality (Country, City, km)	Alt. m	Source ¹⁾	Status ²⁾	Topography ³⁾	Site ⁴⁾	Stoniness ⁵⁾	Soil texture ⁶⁾	Drainage ⁷⁾	Length (cm) Culm Spike	Disease & pest	time		latitude longitude	Notes
																sowing	harvest		
12	3817	2	<i>Zea mays</i>	Joar	Dodbar 7 Km E of Dir	1255	4	3	6	2		2	4			June	Oct.		for bread
19	3823(1)	2	<i>Zea mays</i>	Joar	Salool 52 Km E of Dir	1440	3	3	6	2		2	4			June	Oct.		
22	3823(4)	2	<i>Zea mays</i>	Joar	Salool 52 Km E of Dir	1440	3	3	6	2									yellow, red, purple mixed
24	3824(2)	3	<i>Zea mays</i>	Juan	Kashikare 8 Km N of Dir	1760	3	3	6	2		2				May	June		
25	3825(1)	3	<i>Zea mays</i>	Juan	Baradam (Chitral) 48 Km N of Dir	2045	3	3	6	2		2				June	Oct.	35-23-56 N 71-45-58 E	
30	3828(1)	3	<i>Zea mays</i>	Juali	Darosh (Chitral) 73 Km N of Dir	1540	6	3										35-30-37 N 71-44-22 E	
44	3830(9)	4	<i>Zea mays</i>	Jawari	Seenlasht 11 Km N of Chitral	1700	3	3										35-54-45 N 71-48-47 E	CADP Agric. Res stn. Chitral
49	3833(1)	4	<i>Zea mays</i>	Juali	Basnak 64 Km S of Chitral	1545	3	3	6	2						June	Oct.	35-35-41 N 71-48-20 E	
52	3834(2)	4	<i>Zea mays</i>	Juali	Baoze kore 13 Km S of Chitral	1710	3	3	6	2						June	Oct.	35-46-36 N 71-46-24 E	
55	3835(2)	5	<i>Zea mays</i>	Juali	Ragh 14 Km N of Chitral	1750	3	3	6	2						June	Oct.	35-55-53 N 71-52-23 E	food
61	3837(1)	5	<i>Zea mays</i>	Juali	Maroi 33 Km N of Chitral	1936	4	3	6	2						July	Oct.	36-00-43 N 72-00-19 E	
79	3841(4)	6	<i>Zea mays</i>	Juali	Hirchin 21 Km S of Mastuji	2830	3	3	6	2								36-06-52 N 72-28-34 E	
82	3843(1)	8	<i>Zea mays</i>	Juali	Khanzghair 14 Km N of Chitral	1725	3	3	6	2		3				July	Oct.	35-57-39 N 71-48-56 E	yellow grain early matured
83	3843(2)	8	<i>Zea mays</i>	Juali	Khanzghair 14 Km N of Chitral	1725	3	3	6	2		3				July	Oct.	35-57-39 N 71-48-56 E	white grain late matured

1) Source: 1 wild, 2 farmland, 3 farmstore, 4 backyard, 5 village market, 6 commercial market 2) Status: 1 wild, 2 weedy, 3 landrace, 4 pure line, 5 cultivar 6 other

3) Topography: 1 swamp, 2 Flood plain, 3 plain, 4 undulating, 5 hilly, 6 mountainous, 6 other

4) Site: 1 level, 2 slope, 3 summit, 4 depression

5) Stoniness: 1 none, 2 low, 3 medium, 4 rocky

6) Soil texture: 1 sand, 2 loam, 3 clay, 4 silt 5 highly organic

7) Drainage: 1 poor, 2 moderate, 3 good, 4 excess

Genus: *Zea* (continued)

List of collected materials (Collaborative exploration of wheat, barley and their wild relatives in Pakistan, 1996)

No	Collection No.	Date July 96	Genus & Species	Cultivar local name	Locality (Country, City, km)	Alt. m	Source ¹⁾	Status ²⁾	Topography ³⁾	Site ⁴⁾	Stoniness ⁵⁾	Soil ⁶⁾ texture	Drainage ⁷⁾	Length (cm) Culm Spike	Disease & pest	time sowing harvest	latitude longitude	Notes
90	3845 (5)	8	<i>Zea mays</i>	Juali	Ruji 29 Km N of Chitral	1990	3	3	6	2		3			smut	July Oct.	36-00-27 N 71-43-70 E	late matured
91	3845 (6)	8	<i>Zea mays</i>	Juali	Ruji 29 Km N of Chitral	1990	3	3	6	2		3			smut	July Oct.	36-00-27 N 71-43-70 E	early matured
94	3847 (2)	8	<i>Zea mays</i>	Juali	Uchu 39 Km NW of Chitral	2170	3	3	6	2		3				July Oct.	36-00-43 N 71-39-45 E	white grain
99	3849 (2)	9	<i>Zea mays</i>	Juali	Gorapon 5 Km W Ayun	1685	4	3	6	2							35-43-52 N 71-44-17 E	
101	3850 (2)	9	<i>Zea mays</i>	Juali	Wadwos 2 Km SW of Karash bridge	1910	4	3	6	2						June Oct.	35-43-17 N 71-42-29 E	
106	3852 (3)	9	<i>Zea mays</i>	Juali	Jolivial 8 Km NW of Karash bridge	2060	4	3	6	2						April Aug.	35-46-39 N 71-41-44 E	
109	3853 (2)	13	<i>Zea mays</i>	Makai	Dazar 23 Km SE of Chilas	1590	4	3	6	2	4	3	3			June Sept.	35-21-13 N 74-08-23 E	
111	3854 (2)	13	<i>Zea mays</i>	Makai	Jal 30 Km SE of Chilas	1885	3	3	6	2	4	3	3			June Oct.	35-18-34 N 74-07-31 E	
113	3855 (2)	14	<i>Zea mays</i>	Makai	Jagir Basem 8 Km W of Gilgit	1650	3	3	6	2						June Sept.	35-55-44 N 74-15-01 E	
115	3856 (2)	14	<i>Zea mays</i>	Makai	Shekyot 33 Km W of Gilgit	1845	3	3	6	2	3					June Oct.	36-02-27 N 74-06-37 E	
117	3857 (2)	14	<i>Zea mays</i>	Makai	Single 54 Km W of Gilgit	1965	3	3	6	2						June Oct.	36-05-50 N 73-56-36 E	
120	3858 (3)	14	<i>Zea mays</i>	Makai	Gakuch 80 Km W of Gilgit	2065	3	3	6	2						June Oct.	36-11-18 N 73-45-01 E	
121	3859 (1)	14	<i>Zea mays</i>	Makai	Yangal 98 Km W of Gilgit	2215	3	3	6	2						June Oct.	36-15-15 N 73-36-23 E	
127	3862 (2)	15	<i>Zea mays</i>	Makai	Gupis 0 Km - of Gupis	2275	4	3	6	1	4	3	3	6		June Oct.	36-14-06 N 73-25-39 E	

1) Source: 1 wild, 2 farmland, 3 farmstore, 4 backyard, 5 village market, 6 commercial market 2) Status: 1 wild, 2 weedy, 3 landrace, 4 pure line, 5 cultivar 6 other

3) Topography: 1 swamp, 2 flood plain, 3 plain, 4 undulating, 5 hilly, 6 mountainous, 6 other

4) Site: 1 level, 2 slope, 3 summit, 4 depression

5) Stoniness: 1 none, 2 low, 3 medium, 4 rocky

6) Soil texture: 1 sand, 2 loam, 3 clay, 4 silt 5 highly organic

7) Drainage: 1 poor, 2 moderate, 3 good, 4 excess

Genus: *Zea* (continued)

List of collected materials (Collaborative exploration of wheat, barley and their wild relatives in Pakistan, 1996)

No	Collection No.	Date July 96	Genus & Species	Cultivar local name	Locality (Country, City, km)	Alt. m	Source ¹⁾	Status ²⁾	Topography ³⁾	Site ⁴⁾	Stoniness ⁵⁾	Soil ⁶⁾ texture	Drainage ⁷⁾	Length (cm) Culm Spike	Disease & pest	time		latitude longitude	Notes
																sowing	harvest		
128	3863(1)	15	<i>Zea mays</i>	Makai	Kharti 11 Km W of Gupis	2345	3	3	6	1	4	3	3			May	Sept.	36-13-56 N 73-21-39 E	food
133	3865(2)	15	<i>Zea mays</i>	Makai	Pingal 42 Km W of Gupis	2615	3	3	6	1	4	3	3			May	Sept.	36-09-48 N 73-06-43 E	
136	3866(2)	15	<i>Zea mays</i>	Makai	Chashi 56 Km W of Gupis	2795	3	3	6	2						May	Oct.	36-10-54 N 72-57-52 E	
142	3867(5)	16	<i>Zea mays</i>	Makai	Phadar 3 Km W of Phandar	3000	3	3	6	1	3	3	3			May	Oct.	36-10-11 N 72-55-04 E	
147	3868(4)	17	<i>Zea mays</i>	Makai	Rahim abad 42 km N of Gilgit	1865	3	3	6	2						June	Oct.	36-06-12 N 74-18-20 E	
150	3869(2)	17	<i>Zea mays</i>	Makai	Jafar abad 80 km N of Gilgit	2095	3	3	6	1	3	3	3			July	Oct.	36-14-03 N 74-23-31 E	
155	3870(5)	17	<i>Zea mays</i>	Makai	Martaza abad 96 Km N of Gilgit	2245	3	3	6	2						July	Oct.	36-16-58 N 74-35-26 E	
165	3873(2)	19	<i>Zea mays</i>	Makai	Kuru 8 Km E of Skardu	2390	3	3	2	1	2	3	3			March	Aug.	35-17-10 N 75-40-22 E	

1) Source: 1 wild, 2 farmland, 3 farmstore, 4 backyard, 5 village market, 6 commercial market 2) Status: 1 wild, 2 weedy, 3 landrace, 4 pure line, 5 cultivar 6 other

3) Topography: 1 swamp, 2 Flood plain, 3 plain, 4 undulating, 5 hilly, 6 mountaineous, 6 other 4) Site: 1 level, 2 slope, 3 summit, 4 depression

5) Stoniness: 1 none, 2 low, 3 medium, 4 rocky

6) Soil texture: 1 sand, 2 loam, 3 clay, 4 silt 5 highly organic

7) Drainage: 1 poor, 2 moderate, 3 good, 4 excess

Genus: *Oryza*

List of collected materials (Collaborative exploration of wheat, barley and their wild relatives in Pakistan, 1996)

No	Collection No.	Date July96	Genus & Species	Cultivar local name	Locality (Country, City, km)	Alt. m	Source ¹⁾	Status ²⁾	Topography ³⁾	Site ⁴⁾	Stoniness ⁵⁾	Soil ⁶⁾ texture	Drainage ⁷⁾	Length(cm) Culm Spike	Disease & pest	time		latitude longitude	Notes	
																sowing	harvest			
43	3830(8)	4	<i>Oryza sativa</i>	Shali	Seenlasht 11 Km N of Chitral	1700	3	3										35-54-45 N 71-48-47 E	CADP Agric. Res stn. Chitral	
65	3837(5)	5	<i>Oryza sativa</i>	Karanali	Maroi 33 Km N of Chitral	1995	4	3	6	2							July	Dec.	36-00-43 N 72-00-19 E	
89	3845(4)	8	<i>Oryza sativa</i>	Shali	Ruji 29 Km N of Chitral	1990	3	3	6	2		3					June	Oct.	36-00-27 N 71-43-70 E	

Genus: *Secale*

List of collected materials (Collaborative exploration of wheat, barley and their wild relatives in Pakistan, 1996)

No	Collection No.	Date July96	Genus & Species	Cultivar local name	Locality (Country, City, km)	Alt. m	Source ¹⁾	Status ²⁾	Topography ³⁾	Site ⁴⁾	Stoniness ⁵⁾	Soil ⁶⁾ texture	Drainage ⁷⁾	Length(cm) Culm Spike	Disease & pest	time		latitude longitude	Notes	
																sowing	harvest			
15	3820	2	<i>Secale sereale</i>	Kabale	Shirumai 26Km E of Dir	1415	3	3	6	2				10			Oct.	June		
28	3826(3)	3	<i>Secale sereale</i>		Kusangal(Chitral) 50 Km N of Dir	1845	4	3	6	2		2		8			Oct.	June	35-25-07 N 71-45-17 E	
69	3838(3)	5	<i>Secale sereale</i>	Lach gondum	Reshun 56 Km N of Chitral	2055	4	3	6	2							Nov.	July		

Genus: *Brassica*

List of collected materials (Collaborative exploration of wheat, barley and their wild relatives in Pakistan, 1996)

No	Collection No.	Date July96	Genus & Species	Cultivar local name	Locality (Country, City, km)	Alt. m	Source ¹⁾	Status ²⁾	Topography ³⁾	Site ⁴⁾	Stoniness ⁵⁾	Soil ⁶⁾ texture	Drainage ⁷⁾	Length(cm) Culm Spike	Disease & pest	time		latitude longitude	Notes	
																sowing	harvest			
13	3818	2	<i>Brassica naps</i>	Sharshu	Dodbar 7Km E of Dir	1255	4	3	6	2		2	4				Oct.	May		for oil

Genus: *Eleusine*

List of collected materials (Collaborative exploration of wheat, barley and their wild relatives in Pakistan, 1996)

No	Collection No.	Date July96	Genus & Species	Cultivar local name	Locality (Country, City, km)	Alt. m	Source ¹⁾	Status ²⁾	Topography ³⁾	Site ⁴⁾	Stoniness ⁵⁾	Soil ⁶⁾ texture	Drainage ⁷⁾	Length(cm) Culm Spike	Disease & pest	time		latitude longitude	Notes	
																sowing	harvest			
172	3874(5)	19	<i>Eleusine coracana</i>	Chah	Kothang pine 28 Km N of Skardu	2405	3	3	6	1							June	Sept.	35-27-20 N 75-40-47 E	food and feed make paste

1)Source:1 wild, 2 farmland, 3 farmstore, 4 backyard, 5 village market, 6 commercial market 2)Status:1 wild, 2 weedy, 3 landrace, 4 pure line, 5 cultivar 6 other

3)Topography:1 swamp, 2 Flood plain, 3 plain, 4 undulating, 5 hilly, 6 mountainous, 6 other

4)Site:1 level, 2 slope, 3 summit, 4 depression

5)Stoniness:1 none, 2 low, 3 medium, 4 rocky

6)Soil texture:1 sand, 2 loam, 3 clay, 4 silt 5 highly organic

7)Drainage:1 poor, 2 moderate, 3 good, 4 excess

Genus: *Fagopyrum*

List of collected materials (Collaborative exploration of wheat, barley and their wild relatives in Pakistan, 1996)

No	Collection No.	Date July96	Genus & Species	Cultivar local name	Locality (Country, City, km)	Alt. m	Source ¹⁾	Status ²⁾	Topography ³⁾	Site ⁴⁾	Stoniness ⁵⁾	Soil ⁶⁾ texture	Drainage ⁷⁾	Length (cm) Culm Spike	Disease & pest	time		latitude longitude	Notes
																sowing	harvest		
154	3870(4)	17	<i>Fagopyrum esculentum</i>	Baru	Martaza abad 96 Km N of Gilgit	2245	3	3	6	2							July Oct.	36-16-58 N 74-35-26 E	drug for stomach problem
171	3874(3)	19	<i>Fagopyrum esculentum</i>	Bru	Kothang pine 28 Km N of Skardu	2405	3	3	6	1							Aug. Oct.	35-27-20 N 75-40-47 E	good for high blood pressure
206	3887(4)	20	<i>Fagopyrum esculentum</i>	Gavas	Lunkha 26 Km SE of Khaplu	2705	3	3	6	1	1	3	2				Aug. Nov..	35-05-11 N 76-27-38 E	make paste
151	3870(1)	17	<i>Fagopyrum tataricum</i>	Baru	Martaza abad 96 Km N of Gilgit	2245	3	3	6	2							July Oct.	36-16-58 N 74-35-26 E	drug reduce blood pressure
175	3875(3)	19	<i>Fagopyron tataricum</i>	Bru	Piaz pur 37 Km N of Skardu	2405	3	3	6	1	2	3					Aug. Oct	35-27-48 N 75-42-07 E	make paste
206	3887(3)	20	<i>Fagopyrum tataricum</i>	Bru	Lunkha 26 Km SE of Khaplu	2705	3	3	6	1	1	3	2				Aug. Nov..	35-05-11 N 76-27-38 E	make paste

Genus: *Linum*

List of collected materials (Collaborative exploration of wheat, barley and their wild relatives in Pakistan, 1996)

No	Collection No.	Date July96	Genus & Species	Cultivar local name	Locality (Country, City, km)	Alt. m	Source ¹⁾	Status ²⁾	Topography ³⁾	Site ⁴⁾	Stoniness ⁵⁾	Soil ⁶⁾ texture	Drainage ⁷⁾	Length (cm) Culm Spike	Disease & pest	time		latitude longitude	Notes
																sowing	harvest		
139	3867(2)	16	<i>Linum usitatissimum</i>	Shentiki	Phadar 3 Km W of Phandar	3000	3	3	6	1	3	3	3				May Oct.	36-10-11 N 72-55-04 E	make some sweet dishes
152	3870(2)	17	<i>Linum usitatissimum</i>	Human	Martaza abad 96 Km N of Gilgit	2245	3	3	6	2							March Aug.	36-16-58 N 74-35-26 E	

Genus: *Panicum*

List of collected materials (Collaborative exploration of wheat, barley and their wild relatives in Pakistan, 1996)

No	Collection No.	Date July96	Genus & Species	Cultivar local name	Locality (Country, City, km)	Alt. m	Source ¹⁾	Status ²⁾	Topography ³⁾	Site ⁴⁾	Stoniness ⁵⁾	Soil ⁶⁾ texture	Drainage ⁷⁾	Length (cm) Culm Spike	Disease & pest	time		latitude longitude	Notes
																sowing	harvest		
66	3837(6)	5	<i>Panicum</i> spp.	Grass	Maroi 33 Km N of Chitral	1935	4	3	6	2							July Dec.	36-00-43 N 72-00-19 E	feed

1) Source: 1 wild, 2 farmland, 3 farmstore, 4 backyard, 5 village market, 6 commercial market 2) Status: 1 wild, 2 weedy, 3 landrace, 4 pure line, 5 cultivar 6 other

3) Topography: 1 swamp, 2 Flood plain, 3 plain, 4 undulating, 5 hilly, 6 mountainous, 6 other

4) Site: 1 level, 2 slope, 3 summit, 4 depression

5) Stoniness: 1 none, 2 low, 3 medium, 4 rocky

6) Soil texture: 1 sand, 2 loam, 3 clay, 4 silt 5 highly organic

7) Drainage: 1 poor, 2 moderate, 3 good, 4 excess

Genus: *Setaria*

List of collected materials (Collaborative exploration of wheat, barley and their wild relatives in Pakistan, 1986)

No	Collection No.	Date July 96	Genus & Species	Cultivar local name	Locality (Country, City, km)	Alt. m	Source ¹⁾	Status ²⁾	Topography ³⁾	Site ⁴⁾	Stoniness ⁵⁾	Soil ⁶⁾ texture	Drainage ⁷⁾	Length (cm) Culm Spike	Disease & pest	time		latitude longitude	Notes
																sowing	harvest		
134	3865 (3)	15	<i>Setaria</i> spp.	Oline	Pingal 42 Km W of Gupis	2615	3	3	6	1	4	3	3			March	Sept.	36-09-48 N 73-06-43 E	food (mix with barley)
138	3867 (1)	16	<i>Setaria</i> spp.	Oline	Phadar 3 Km W of Phandar	3000	3	3	6	1	3	3	3			May	Oct.	36-10-11 N 72-55-04 E	food (mix with wheat)
153	3870 (3)	17	<i>Setaria</i> spp.	Bai	Martaza abad 96 Km N of Gilgit	2245	3	3	6	2						July	Oct.	36-16-58 N 74-35-26 E	
167	3873 (4)	19	<i>Setaria</i> spp.	Chah	Kuru 8 Km E of Skardu	2390	3	3	2	1	2	3	3			June	Oct.	35-17-10 N 75-40-22 E	after dehusk and boil
170	3874 (3)	19	<i>Setaria</i> spp.	Chackey	Kothang pine 28 Km N of Skardu	2405	3	3	6	1						June	Sept.	35-27-20 N 75-40-47 E	make paste
193	3882 (3)	20	<i>Setaria</i> spp.	Chah	Gulokhor Ghowari 61 Km E of Skardu	2505	3	3	6	1	2	3				June	Sept.	35-10-04 N 76-01-51 E	make bread and paste
198	3884 (3)	20	<i>Setaria</i> spp.	Chah (Kangni)	Bara pine 10 Km W of Khaplu	2640	3	3	6	1	1	3	2			June	Sept.	35-11-15 N 76-16-29 E	make paste
207	3887 (5)	20	<i>Setaria</i> spp.	Chah	Lunkha 26 Km SE of Khaplu	2705	3	3	6	1	1	3	2			July	Oct.	35-05-11 N 76-27-38 E	cook like legumes

1) Source: 1 wild, 2 farmland, 3 farmstore, 4 backyard, 5 village market, 6 commercial market 2) Status: 1 wild, 2 weedy, 3 landrace, 4 pure line, 5 cultivar 6 other

3) Topography: 1 swamp, 2 flood plain, 3 plain, 4 undulating, 5 hilly, 6 mountainous, 6 other 4) Site: 1 level, 2 slope, 3 summit, 4 depression

5) Stoniness: 1 none, 2 low, 3 medium, 4 rocky

6) Soil texture: 1 sand, 2 loam, 3 clay, 4 silt 5 highly organic

7) Drainage: 1 poor, 2 moderate, 3 good, 4 excess

Genus: *Lens*

List of collected materials (Collaborative exploration of wheat, barley and their wild relatives in Pakistan, 1996)

No	Collection No.	Date July96	Genus & Species	Cultivar local name	Locality (Country, City, km)	Alt. m	Source ¹⁾	Status ²⁾	Topography ³⁾	Site ⁴⁾	Stoniness ⁵⁾	Soil ⁶⁾ texture	Drainage ⁷⁾	Length (cm) Culm Spike	Disease & pest	time sowing harvest	latitude longitude	Notes
3	3808	1	<i>Lens</i> spp.	Naskan	Bebiwala 26Km S of Dir	1225	4	3	6	2						Nov. June		
9	3814	2	<i>Lens</i> Spp.	Naskan	Dodbar 7Km E of Dir	1255	4	3	6	2		2	4					
18	3822 (2)	2	<i>Lens</i> Spp.	Naskan	Sawani Sharif 41Km E of Dir	1415	5											

Genus: *Phaseolus*

List of collected materials (Collaborative exploration of wheat, barley and their wild relatives in Pakistan, 1996)

No	Collection No.	Date July96	Genus & Species	Cultivar local name	Locality (Country, City, km)	Alt. m	Source ¹⁾	Status ²⁾	Topography ³⁾	Site ⁴⁾	Stoniness ⁵⁾	Soil ⁶⁾ texture	Drainage ⁷⁾	Length (cm) Culm Spike	Disease & pest	time sowing harvest	latitude longitude	Notes
5	3810	1	<i>Phaseolus vulgaris</i>	Lobia	Bebiwala 26Km S of Dir	1225	4	3	6	2						June Nov.		
31	3828 (2)	3	<i>Phaseolus vulgaris</i>	Rumboh	Darosh (Chitral) 73 Km N of Dir	1540	6	3									35-30-37 N 71-44-22 E	
56	3835 (3)	5	<i>Phaseolus vulgaris</i>	Rumboh	Ragh 14 Km N of Chitral	1750	3	3	6	2						May Oct.	35-55-53 N 71-52-23 E	food
60	3836 (2)	5	<i>Phaseolus vulgaris</i>	Rumboh	Kujo 20 Km N of Chitral	1815	4	3	6	2						July Oct.	35-56-26 N 71-55-55 E	
107	3852 (4)	9	<i>Phaseolus vulgaris</i>	Dahu	Jolivial 8 Km NW of Karash bridge	2060	4	3	6	2						May Sept.	35-46-39 N 71-41-44 E	

1) Source: 1 wild, 2 farmland, 3 farmstore, 4 backyard, 5 village market, 6 commercial market 2) Status: 1 wild, 2 weedy, 3 landrace, 4 pure line, 5 cultivar 6 other

3) Topography: 1 swamp, 2 Flood plain, 3 plain, 4 undulating, 5 hilly, 6 mountainous, 6 other

4) Site: 1 level, 2 slope, 3 summit, 4 depression

5) Stoniness: 1 none, 2 low, 3 medium, 4 rocky

6) Soil texture: 1 sand, 2 loam, 3 clay, 4 silt 5 highly organic

7) Drainage: 1 poor, 2 moderate, 3 good, 4 excess

Genus: *Pisum*

List of collected materials (Collaborative exploration of wheat, barley and their wild relatives in Pakistan, 1996)

No	Collection No.	Date July96	Genus & Species	Cultivar local name	Locality (Country, City, km)	Alt. m	Source ¹⁾	Status ²⁾	Topog-raphy ³⁾	Site ⁴⁾	Stoni-ness ⁵⁾	Soil ⁶⁾ texture	Drain- age ⁷⁾	Length(cm) Culm Spike	Disease & pest	time		latitude longitude	Notes
																sowing	harvest		
148	3868(5)	17	<i>Pisum sativum</i>	Matar	Rahim abad 42 km N of Gilgit	1865	3	3	6	2						Jan.	May	36-06-12 N 74-18-20 E	
163	3872(4)	18	<i>Pisum sativum</i>	Shukh	Gercha 5 Km S of Sost	2835	3	3	6	1	3	3	3			March	Aug.	36-39-38 N 74-51-25 E	
4	3809	1	<i>Pisum</i> spp.	Masan	Bebiwala 26km S of Dir	1225	4	3	6	2						Nov.	May-June		
180	3877(3)	19	<i>Pisum</i> spp.	Pogstran	Kashumal 60 Km N of Skardu	2495	3	3	6	2						March	June	35-35-29 N 75-35-15 E	
215	3891(2)	21	<i>Pisum</i> spp.	Shanma	Kande 33 Km N of Khaplu	3040	3	3	6	1						May	Aug.	35-21-35 N 76-22-22 E	cook as legums make paste
217	3892(2)	21	<i>Pisum</i> spp.	Stranma	Hushe valley 44 Km N of Khaplu	3280	3	3	6	1	1	3	3			April	Aug.	35-27-44 N 76-21-23 E	cook as legums make bread

Genus: *Vicia*

List of collected materials (Collaborative exploration of wheat, barley and their wild relatives in Pakistan, 1996)

No	Collection No.	Date July96	Genus & Species	Cultivar local name	Locality (Country, City, km)	Alt. m	Source ¹⁾	Status ²⁾	Topog-raphy ³⁾	Site ⁴⁾	Stoni-ness ⁵⁾	Soil ⁶⁾ texture	Drain- age ⁷⁾	Length(cm) Culm Spike	Disease & pest	time		latitude longitude	Notes
																sowing	harvest		
140	3867(3)	16	<i>Vicia faba</i>	Bukak	Phadar 3 Km W of Phandar	3000	3	3	6	1	3	3	3			April	Sept.	36-10-11 N 72-55-04 E	bread(mix with wheat)
159	3871(3)	17	<i>Vicia faba</i>	Backla	Gulmit 146 Km N of Gilgit	2575	3	3	6	1						March	Aug.	36-19-13 N 74-53-08 E	
162	3872(3)	18	<i>Vicia faba</i>	Backla	Gercha 5 Km S of Sost	2835	3	3	6	1	3	3	3			March	Sept.	36-39-38 N 74-51-25 E	
179	3877(2)	19	<i>Vicia faba</i>	Nagstran	Kashumal 60 Km N of Skardu	2495	3	3	6	2						March	July	35-35-29 N 75-35-15 E	

1)Source:1 wild, 2 farmland, 3 farmstore, 4 backyard, 5 village market, 6 commercial market 2)Status:1 wild, 2 weedy, 3 landrace, 4 pure line, 5 cultivar 6 other

3)Topography:1 swamp, 2 Flood plain, 3 plain, 4 undulating, 5 hilly, 6 mountaineous, 6 other 4)Site:1 level, 2 slope, 3 summit, 4 depression

5)Stoniness:1 none, 2 low, 3 medium, 4 rocky

6)Soil texture:1 sand, 2 loam, 3 clay, 4 silt 5 highly organic

7)Drainage:1 poor, 2 moderate, 3 good, 4 excess

Genus: *Vigna*

List of collected materials (Collaborative exploration of wheat, barley and their wild relatives in Pakistan, 1996)

No	Collection No.	Date July96	Genus & Species	Cultivar local name	Locality (Country, City, km)	Alt. m	Source ¹⁾	Status ²⁾	Topography ³⁾	Site ⁴⁾	Stoniness ⁵⁾	Soil ⁶⁾ texture	Drainage ⁷⁾	Length (cm) Culm Spike	Disease & pest	time		latitude longitude	Notes	
																sowing	harvest			
57	3835 (4)	5	<i>Vigna radiata</i>	Kanees	Ragh 14 Km N of Chitral	1750	3	3	6	2							May	Nov.	35-55-53 N 71-52-23 E	food
88	3845 (3)	8	<i>Vigna radiata</i>	Khanis	Ruji 29 Km N of Chitral	1990	3	3	6	2		3					July	Sept.	36-00-27 N 71-43-70 E	
97	3848 (3)	8	<i>Vigna radiata</i>	Khanis	Gram Chashma 46Km NW of Chitral	2355	6	3											35-58-04 N 71-34-07 E	
144	3868 (1)	17	<i>Vigna radiata</i>	Balai	Rahim abad 42 km N of Gilgit	1865	3	3	6	2							June	Oct.	36-06-12 N 74-18-20 E	
10	3815	2	<i>Vigna unguiculata</i>	Robia	Dodbar 7Km E of Dir	1255	4	3	6	2		2	4				June	Oct.		
59	3836 (1)	5	<i>Vigna unguiculata</i>	Ramboh	Kujo 20 Km N of Chitral	1815	4	3	6	2							July	Oct.	35-56-26 N 71-55-55 E	
63	3837 (3)	5	<i>Vigna unguiculata</i>	Ramboh	Maroi 33 Km N of Chitral	1995	4	3	6	2							July	Oct.	36-00-43 N 72-00-19 E	

Genus: *Cucurbita*

List of collected materials (Collaborative exploration of wheat, barley and their wild relatives in Pakistan, 1996)

No	Collection No.	Date July96	Genus & Species	Cultivar local name	Locality (Country, City, km)	Alt. m	Source ¹⁾	Status ²⁾	Topography ³⁾	Site ⁴⁾	Stoniness ⁵⁾	Soil ⁶⁾ texture	Drainage ⁷⁾	Length (cm) Culm Spike	Disease & pest	time		latitude longitude	Notes	
																sowing	harvest			
34	3828 (5)	3	<i>Cucurbita</i> spp.	Ugnai arok	Darosh (Chitral) 73 Km N of Dir	1540	6	3											35-30-37 N 71-44-22 E	

Genus: *Spinach*

List of collected materials (Collaborative exploration of wheat, barley and their wild relatives in Pakistan, 1996)

No	Collection No.	Date July96	Genus & Species	Cultivar local name	Locality (Country, City, km)	Alt. m	Source ¹⁾	Status ²⁾	Topography ³⁾	Site ⁴⁾	Stoniness ⁵⁾	Soil ⁶⁾ texture	Drainage ⁷⁾	Length (cm) Culm Spike	Disease & pest	time		latitude longitude	Notes	
																sowing	harvest			
32	3828 (3)	3	<i>Spinach orelasia</i>	Parechshkh	Darosh (Chitral) 73 Km N of Dir	1540	6	3											35-30-37 N 71-44-22 E	
33	3828 (4)	3	<i>Spinach orelasia</i>	Parechshkh	Darosh (Chitral) 73 Km N of Dir	1540	6	3											35-30-37 N 71-44-22 E	

1) Source: 1 wild, 2 farmland, 3 farmstore, 4 backyard, 5 village market, 6 commercial market 2) Status: 1 wild, 2 weedy, 3 landrace, 4 pure line, 5 cultivar 6 other

3) Topography: 1 swamp, 2 Flood plain, 3 plain, 4 undulating, 5 hilly, 6 mountainous, 6 other

4) Site: 1 level, 2 slope, 3 summit, 4 depression

5) Stoniness: 1 none, 2 low, 3 medium, 4 rocky

6) Soil texture: 1 sand, 2 loam, 3 clay, 4 silt 5 highly organic

7) Drainage: 1 poor, 2 moderate, 3 good, 4 excess