

トルクメニスタン・ロシアにおける果樹遺伝資源の 探索収集

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Exploration for Fruit Tree Genetic Resources in Kopet Dag of Turkmenistan and North Caucasia of Russia

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Summary

Many kinds of fruit tree genetic resources grow in Caucasia region and Central Asia including Kopet Dag region, and these regions are considered to be gene centers for cultivated fruit trees (Zeven and Zhukovsky 1975, Vavilov 1980). Genetic diversity is observed in these regions, for many important characters such as resistance to disease. Useful breeding materials have been observed especially for the cultivated apple (Dayton *et al.* 1953, Vavilov 1980). The exploration mission of fruit trees was undertaken in Kopet Dag of Turkmenistan and North Caucasia of Russia, and was sponsored by International Plant Genetic Resources Institute (IPGRI). The exploration routes went through Kopet Dag near Kara Kala and, central and western regions of North Caucasia. The mission was organized by the N. I. Vavilov All-Russia Institute of Plant Industry (VIR), Maikop Experiment Station of VIR (MES-VIR) and Turkmenistan Experiment Station for Plant Genetic Resources (TESPGR).

The team travelled mainly to the east of Kara Kala in Turkmenistan, an area called Kopet Dag, between Sep. 2 to Sep. 11. The schedule, route and equipments for this exploration were first arranged in VIR, St. Petersburg. East of Kara Kala, along the upper parts of Sumba River,

hilly topography to an altitude of 1000-1500 m. The region is very dry. Our team climbed down steep slopes of several valleys cut into these uplands, we could collect many fruit tree genetic resources such as *Malus sieversii*, *Pyrus communis*, *Prunus cerasifera*, *Prunus amygdalus*, *Vitis sylvestris* and *Ficus carica*. After the collection in Turkmenistan, the team transferred to Mineral'nyye Vody in Russia. The team travelled in mountainous areas and forested plains in central and west regions of North Caucasia between Sep. 11 to Oct. 5. The annual precipitation is about 500mm in Nevinnomyssk in the central region of North Caucasia, and gradually increases towards the Black Sea from the central region. Fruit tree genetic resources in the region from Cherkessk to Teberda were very similar to ones in Central Asia (Sanada *et al.* 1994). Flat plains stretched far and wide among Maikop, Psebay, Apsheronk and Khadyzhensk. *Malus orientalis*, *Pyrus caucasica*, *Crataegus pentagyna* and *Cornus mas* were observed in forests covering the plains. *Castanea sativa*, *Ficus carica*, *Mespilus germanica* and *Corylus avellana* were observed along the coast of the Black Sea. In mountainous areas in south of Maikop, *Cornus mas*, *Malus orientalis* and *Pyrus caucasica* were predominant species. During this exploration 145 samples belonging to 13 genera were collected. In addition, 38 samples were provided by MES-VIR and TESPGR.

KEY WORDS : exploration, fruit trees, genetic resources, Turkmenistan, Russia, North Caucasia, Kopet Dag

1. 目的

中央アジアおよびロシアのコーカサス山脈は栽培リンゴ、オウトウ、ヨーロッパドウ等の主要果樹の発祥地であり、変異に富む野生果樹遺伝資源が豊富に分布する地域とされる (バビロフ1980, Zeven and Zhukovsky 1975). 国際植物遺伝資源研究所 (IPGRI) の探索計画により、1992年にウズベキスタン、カザフスタン、タジキスタンおよびキルギスタンにわたる中央アジアの果樹遺伝資源収集を行った (Sanada *et al.* 1994). しかし、トルクメニスタンのコペト・ダク地域は中央アジアの西のはずれに位置し、西はカスピ海、北はカラクム砂漠、南はイランの山岳地帯となっており、中央アジアの中でも果樹遺伝資源の分布が異なる地域とされる。また、コーカサス地域は果樹遺伝資源が最も多様に分布する地域とされる。これらコペト・ダクおよびコーカサス地域の野生果樹遺伝資源の探索収集は果樹遺伝資源研究および育種素材の確保にとって極めて重要であり、IPGRI 予算による探索収集が計画された。

2. 調査方法

探索は Table 1 に示したように1995年の8月29日より10月12日までの約45日間実施された。8月31日と9月1日にロシアのセント・ペテルスブルグにあるバビロフ植物生産研究所 (VIR) で、探索の打ち合わせを行い、モスクワ経由でトルクメニスタンの首都のアシハバードに到

Table 1 Itinerary of collection mission
探索日程表

Date	Route	Note
Aug. 29 Tue	Narita [Japan] --- Stockholm [Sweden]	Flight
30 Wed	Stockholm --- St.Petersburg [Russia]	Flight
31 Thu	St.Petersburg	Meeting
Sep. 1 Fri	St.Petersburg -- Moskva	By train
2 Sat	Moskva --- Ashkhabad [Turkmenistan]	Flight
3 Sun	Ashkhabad	
4 Mon	Ashkhabad -- Kara Kala	Meeting, by car
5 Tue	Kara Kala	Meeting
6 Wed	Kara Kala -- Patma Yurt (Uper Idare)	Collection
7 Thu	Patma Yult -- Koyno Kumbez -- Seutli Valley	Collection
8 Fri	Seutli Valley -- Kuruzhdei -- Lower Idare -- Kara Kala	Collection
9 Sat	Kara Kala -- Iolder Valley	Collection
10 Sun	Iolder Valley -- Kara Kala	Collection
11 Mon	Kara Kala -- Ashkhabad -- Mineral'nyye Vody [Russia]	By car, flight
12 Tue	Mineral'nyye Vody -- Nevinnomyssk -- Teberda	Collection
13 Wed	Teberda -- Sarytyuz -- Zellenchukskaya -- Psebay	Collection
14 Thu	Psebay -- Mostovskove -- Akhmetovskaya	Collection
15 Fri	Akhmetovskaya -- Mostovskaya -- Labinsk -- Maikop	Collection
16 Sat	Maikop	Meeting
17 Sun	Maikop	Field observation
18 Mon	Maikop -- Apsheronsk -- Khadyzhensk -- Tuapse	Collection
19 Tue	Tuapse -- Sochi	Collection
20 Wed	Sochi -- Adler -- Krasnaya Polyana -- Adler	Collection
21 Thu	Adler -- Tuapse	Collection
22 Fri	Tuapse -- Dzhubga -- Pshada -- Dzhubga -- Delanovka	Collection
23 Sat	Delanovka -- Goryachiy Klyuch -- Gatlukay -- Maikop	Collection
24 Sun	Maikop	Arranging materials
25 Mon	Maikop -- Apsheronsk -- Khadyzhensk -- Goryachiy Klyuch	Collection
26 Tue	Goryachiy Klyuch -- Chernomorskaya	Collection
27 Wed	Chernomorskaya -- Apsheronsk -- Maikop	Collection
28 Thu	Maikop	Arranging materials
29 Fri	Maikop -- Kamennomostskiy (Kame.) -- Dakhavskaya (Dakh.) -- Novorprokhladnaya -- Maikop	Collection
30 Sat	Maikop	Arranging materials
Oct. 1 Sun	Maikop	Arranging materials
2 Mon	Maikop -- Kame. -- Dakh. -- 45 km from Dakh. in SW	Collection
3 Tue	45 km from Dakh. in SW -- Dakh. -- Kame. -- Maikop	Collection
4 Wed	Maikop	Arranging materials
5 Thu	Maikop -- Krasnodar -- St.Petersburg	By car, flight
6 Fri	St.Petersburg	Meeting
7 Sat	St.Petersburg	Rest
8 Sun	St.Petersburg	Rest
9 Mon	St.Petersburg	Meeting
10 Tue	St.Petersburg	Meeting
11 Wed	St.Petersburg --- Copenhagen [Denmark] ---	Flight
12 Thu	--- Narita [Japan]	Flight

着した。9月5日にアシハバードの西約250kmに位置する野生果樹の豊富に分布する地域にあるカラカラのトルクメニスタン遺伝資源研究所を訪問した。この研究所でトルクメニスタンにおける果樹遺伝資源の分布の説明を受け、探索の打ち合わせを行った。トルクメニスタンでの探索チームは日本人3名の他、同研究所の研究者2名 (A. S. Saparmuradov and V. A. Nosulchak)、運転手とバビロフ植物生産研究所の通訳1名 (S. V. Shuvalov) の7名で構成され、Fig. 1に示したルートについて探索を行った。また、ロシアでの探索の日程の調整は既に行われており、この日程に従って探索は進められた (Fig. 2)。ロシアでの探索チームは日本人3名の他、VIRのマイコプ支場の研究者2名 (L. T. Gladkaya and I. A. Bandurko)、運転手とVIRの通訳1名 (S. V. Shuvalov) の7名で構成された。

調査・収集は各地点で、原則的に幹周の大きな古い樹を対象に行い、同一樹種については収集の間隔と標高を考慮して行った。調査は樹、葉、果実の特性の他に、周囲の環境条件を調査して調査野帳に、果実と葉は写真に撮り記録した他に、葉は押し葉として収集保存した。遺伝資源の収集は野生種が大半を占めるため、主に種子を収集した。果実調査に使用した種子をポリエチレン袋に収め、キャンプ地で良く水洗し、約2日間乾燥して、ポリエチレン袋に封入した。穂木は、ポリエチレン袋に包み、冷却剤を入れたクーラーボックスに収納した。

3. 調査地域の特徴

1) トルクメニスタン

9月5日にカラカラにあるトルクメニスタン遺伝資源研究所を訪問し、探索日程等の調整を行った。この研究所は旧ソビエト時代にはVIRの支場で、果樹遺伝資源の保存を行っており、リンゴ、ナシ、ザクロ、ブドウ、イチジク等が主要保存樹種であった。9月6日に、小型のマイクロバスを探索車とし、探索用品、食料、キャンプ用品等を調整して、カラカラの南東のスンバ川の上流域の高地に向かった。トルクメニスタンはカラクム砂漠の南に位置する極めて乾燥した地域 (カラカラでの降雨量は年約300mm) であるが、カラカラ南東部のイランとの国境に近い地域では、標高1,000~1,500 mの台地に沢が切れ込んでいる。この台地は乾燥しており、わずかに草が生えている程度で、果樹遺伝資源はほとんど認めることができなかったが、比較的湿気の保たれている沢ないしは水の流れている沢にそって果樹遺伝資源が分布していた。探索は、この台地から沢を下り、沢伝いに調査・収集を行い、再び台地に登り、次の探索地点に車で移動する行程で行われた。このカラカラ南東部のイラン国境に近い地域には、リンゴ、ナシ、アーモンド、ミロバランスモモ、ブドウ、サンザシ、イチジク、キイチゴ、クルミ、ベルベリス、スイカズラ等が主に分布しており、収集地の環境や特性を調査し、主に種子を収集した。この地域のリンゴは中央アジアのアルマ・アタ近くに分布していた *Malus sieversii* に比較的類似しているが、1992年に実施した中央アジア探索で見られた直径4 cmくらいの大きさから直径2 cm程度の小型の果実まで、果実の大きさは変異に富んでいた。ミロバランスモモ等の核果類の収集にはやや時期的に遅い様であったが、中央アジア探索で見られた物に比べて酸味の強い系統が多く分布していた。また、中央アジア探索で広範に分

布の認められたアンズは観察することが出来なかった。

トルクメニスタン探索の後半の9月9日～10日に、カラカラ北部山脈の探索を行ったが、この山脈の北側はカラクム砂漠となっており、カラカラの南東部よりも更に乾燥していた。この地域は、南東部で見られた標高の高い台地に沢が切れ込む風景とは異なり、1,000～1,500 mの山脈が連なり、その沢ぞいに果樹遺伝資源が観察された。この地域は自然の状態では遺伝資源が保護されているのが特徴であったが、リンゴ、ナシ、ブドウ、ミロバランスモモ、イチジク、キイチゴ、スイカズラ等遺伝資源の種類は南東部と大きな差異は認められなかった。ただし、この地域のナシは果実が直径2 cm程度の球形の小さな果実を付ける種類で、南部に分布していた比較的西洋ナシに近い種類のものとは明らかに異なっていた。また、ブドウについては、南部地域のものが *Vitis vinifera* ないしはこれと *V. sylvestris* との雑種の可能性が高いと思われたが、この地域のものは *V. sylvestris* のようであった。調査を行った沢には水が流れており、沢にそって標高約800 mまで果樹遺伝資源が豊富に分布していた。しかし、この他にも多くの沢が走っていたが、これらの沢には水は全く無く、枯草のみで果樹遺伝資源を含み樹は殆ど認めることは出来ず、砂漠に近い乾燥した風景であった。

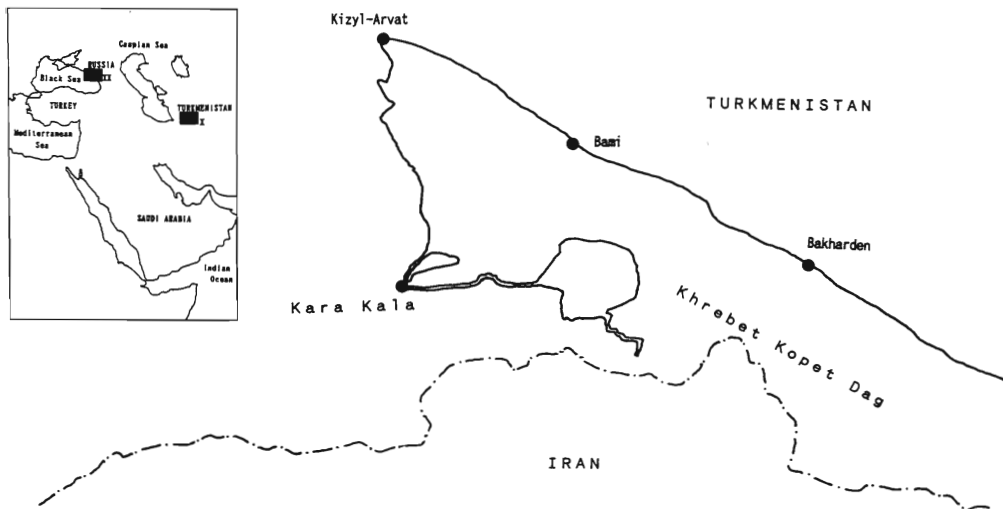


Fig. 1 Route of exploration in Turkmenistan (I).

トルクメニスタンにおける探索ルート

2) ロシア・北コーカサス

トルクメニスタンでの探索・収集を終え、9月11日に空路、アシハバードからロシアの北コーカサス中央部にあるミネラルニイ・ボディーに向かい、更にミネラルニイ・ボディーから南部山岳地帯のテベルダに向った。ここはVIRのマイコブ支場の南東部に位置し、後で述べるマイコブの西の地域とは果樹遺伝資源の種類が異なっており、リンゴ、ナシ、核果類等

の他、1992年に探索を行った中央アジアで見られたヒポファエ、コトネアスター、バルベリス等が観察された。

テベルダ近辺での収集後、探索・収集を行いながら西のマイコプに向かった。マイコプ東部は、このテベルダ地域を除くと、比較的平坦地での調査・収集となった。草地や麦、トウモロコシ等の農耕地と周囲に広大な自然林が広がっており、この自然林の調査を行ったが、リンゴ、ナシの古い樹が多く残っていた。この地域のリンゴやナシはトルクメニスタンの遺伝資源に比べて、果実は直径約2cmと小型であった。また、これらの地域に分布するリンゴの果実は一般に渋味があり、黒星病の病徴が観察されない系統も一部に認められた。核果類遺伝資源は比較的豊富であったが、果実は既に落果しているものが多く、その収集には2週間程度遅いようであった。探索収集を行いながら、東のVIRのマイコプ支場に向かった。

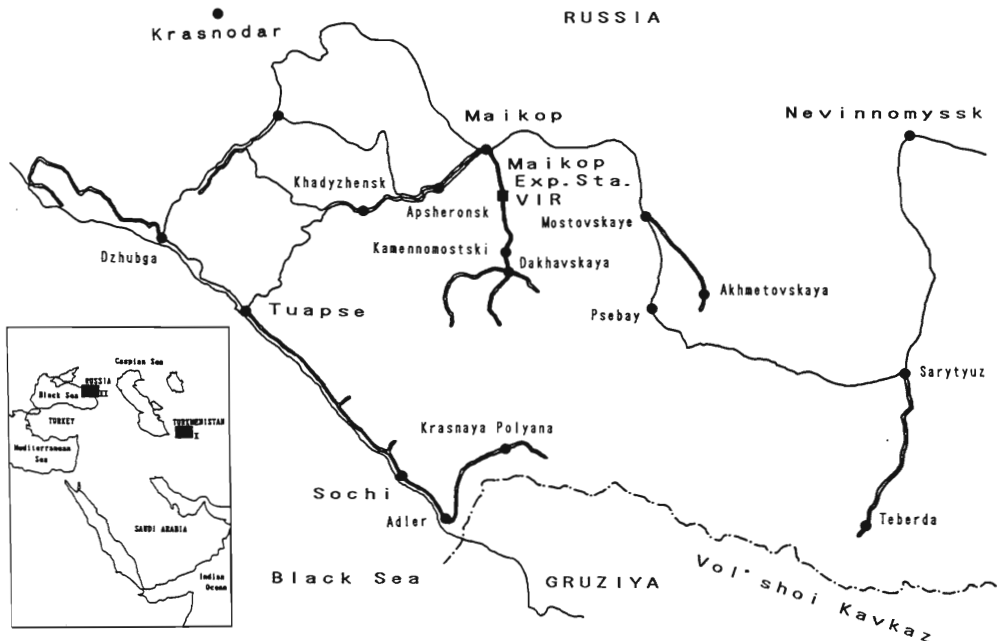


Fig. 2 Route of exploration in Russia (II).
ロシアにおける探索ルート

9月15日にVIRのマイコプ支場に到着した。マイコプ支場はマイコプの南約20kmにあり、1930年に設立され、果樹、牧草、トウモロコシ、野菜等の遺伝資源研究の他、品種育成研究も行われている総合試験場である。リンゴとナシの遺伝資源の保存園の見学を行ったが、トルクメニスタンの試験場に比べて、ほ場は比較的整備されており、今回の探索で行くことの出来ないコーカサスより更に南のトランスコーカサスに分布するナシの野生種も保存されており、一部分譲してもらった。また、コーカサスの野生リンゴは黒星病の耐病性遺伝子を持つ

ているとの情報もあり、病害研究者との情報交換も行った。

9月18日に、マイコブから西部の黒海沿岸の探索に向った。マイコブから黒海に向う地域は平坦地で、リンゴやナシの他に、西洋サンシュウ、西洋カリン等今までに収集できなかった遺伝資源の収集を行うことができた。北コーカサスは年間雨量が、黒海沿岸のトーアブセで約1,200mm、マイコブで約700mm、東のネビノモリスクで約500mmと黒海沿岸に向うにつれて雨量が多くなるようで、マイコブの東部地域に比べて林は樹高の高い樹で覆われ、こんもりとしており、下草やかん木も少ないようであった。この林にナシやリンゴが点在していたが、東の地域に比べてリンゴの分布は少なくなってきた。また、この高い木々の下に半陰性と思われる西洋サンシュウが分布していた。トーアブセからソチに向って黒海沿岸を南下したが、沿岸の海岸線近くは樹高の高い木は比較的少なく、ナシ、リンゴ、西洋サンシュウ、西洋ハシバミの他に、温暖な地域に分布するイチジク等が分布していた。また、沿岸からやや内陸に入った地点にはクリの分布が認められた。ソチの南約20kmのゲルジアの国境線近くの都市、アルダーから北東の山岳地帯に向って進み、調査・収集を行った。この地域は雨量(1,500mm)も多いためか、林はこんもりとしており、果樹遺伝資源としては、主にクリ、西洋ハシバミ、ビーチ等樹種は比較的少なかった。南の地域での探索を終え、9月21日にトーアブセまで戻り、更に黒海沿岸の北部へと足を伸ばした。この北部地域は、バビロフの報告では果樹遺伝資源が極めて豊富であるとされており、期待していたが、黒海沿岸の北部は自然があまり残っておらず、大規模果樹園として利用されていた。また、開発の進んでいない自然林の調査も行ったが、果樹遺伝資源は少なく、マイコブ支場の研究者の説明でもこの北部地域はあまり野生果樹は豊富でないとのことであった。バビロフ等が調査した時点では、リンゴ等の野生遺伝資源のうち、比較的品質の良い系統を栽培しており、バビロフはこの栽培園も野生果樹の分布として評価していた可能性も考えられた。トーアブセ以北の調査・収集は早々に切り上げ、マイコブからトーアブセに向かった道とは異なる北側のルートを通してマイコブに向かった。キャンプ中に雷を伴う大雨に遭遇し、キャンプ生活による探索が続行不能になり、このルートは再調査することとして、急遽マイコブ支場に戻ることになった。この北側ルートの再調査では、自然の植生は往きの南側ルートとほど同様であり、分布する遺伝資源も大きく変わっておらず、ナシ、リンゴ、西洋サンシュウ等が中心であったが、これらの他にスピノッサスモモを収集することができた。

9月29日よりマイコブの南部地域の山岳地帯の調査を行った。マイコブ支場から約30km南のカメノモツカヤまではほぼ平坦地で、カメノモツカヤを越えた地点から更に南のダッカスカヤの西部及び東部に向う地域の探索を行った。カメノモツカヤを越え、南に約3km進んだ地点にナシの他に西洋サンシュウの群生地があった。この地域の西洋サンシュウは、他の地域に比べて、果実を着けている樹が多く認められ、果実の形、色や味、葉の形態について変異に富んでいた。ダッカスカヤの東部や西部も遺伝資源が豊富で、短期間であったが、リンゴ、ナシ、西洋ハシバミ、西洋サンシュウ、ビーチ等多くの遺伝資源の収集ができた。

北コーカサスの東部地域は、紛争地帯が含まれるために、今回の探索では入ることができず、

北コーカサスの中央部から西部地域の探索を行い、リンゴ、ナシ、各種核果類、ハシバミ、クリ、西洋サンシュウ、西洋カリン、サンザシ、イチジク、ビーチ等多くの果樹遺伝資源が分布することを確認することができた。樹種によりその分布が異なるのは当然であるが、全般的に見ると、北部は開発が進み農耕地として利用されており、また、自然林が残っていても、林は比較的単純林で果樹遺伝資源の分布は薄かった。果樹遺伝資源の種類が豊富で、密度高く分布している地域はコーカサス山脈に近い南の地域のものであった。

4. 収集結果

トルクメニスタンの探索は10日程度と短い期間であったが、野生遺伝資源の収集はリンゴ、ナシ、核果類を中心に37点を収集することができた。また、カラカラにあるトルクメニスタン遺伝資源研究所から保存遺伝資源の中で特徴のあるブドウ、リンゴ、イチジクの品種・系統約24点の分譲を受けた (Table 2)。

Table 2 Collected fruit tree genetic resources
探索・収集された果樹遺伝資源

Fruit	Turkmenistan		Russia - North Caucasia		Total
	Collect.	Distribut. ¹⁾	Collect.	Distribut. ²⁾	
<i>Malus</i> (リンゴ)	9	5	14	7	35
<i>Pyrus</i> (ナシ)	4	0	22	7	33
<i>Prunus</i> (核果類)	11	0	8	0	19
<i>Crataegus</i> (サンザシ)	2	0	3	0	5
<i>Mespilus</i> (西洋カリン)	0	0	4	0	4
<i>Vitis</i> (ブドウ)	6	13	1	0	20
<i>Cornus</i> (西洋サンシュウ)	0	0	25	0	25
<i>Corylus</i> (ハシバミ)	0	0	10	0	10
<i>Lonicera</i> (スイカズラ)	2	0	0	0	2
<i>Castanea</i> (クリ)	0	0	8	0	8
<i>Ficus</i> (イチジク)	3	6	5	0	14
<i>Hippophae</i> (ヒポファエ)	0	0	1	0	1
<i>Fagus</i> (ビーチ)	0	0	7	0	7
(Total)	38	24	107	14	183

¹⁾ These materials were provided by TESPGR.

²⁾ These materials were provided by MES-VIR.

北コーカサスの探索は、トルクメニスタンの乾燥した条件とは異なり、特にマイコプの西部や南部の探索では、雨により探索日が制限されることになったが、ナシ、リンゴ、西洋サンシュウ、ハシバミ、ミロバランスモモ、ビーチ、クリ等107点の果樹遺伝資源を収集することができた。また、VIRのマイコプ支場で保存しているトランスコーカサスに分布するナシ、この地域に分布するリンゴで黒星病耐病性系統とされる遺伝資源を中心に14点の分譲を受けた (Table 2)。

今回の探索で、両地域で収集した遺伝資源を合計すると、リンゴが35点、ナシが33点、コルヌスが25点、ブドウが20点、核果類が19点、イチジクが14点、ヘーゼルナッツが10点等、合計183点(試験場での分譲38点を含む)の貴重な遺伝資源を収集することが出来た (Table 2)。

5. 収集品の今後の処理

収集した遺伝資源の内、穂木で収集したリンゴ、ナシ、ブドウ等については隔離検疫を行う必要があり、横浜植物防疫所の大和ほ場で隔離栽培され、ウイルスの検査が行われる。ウイルスの無毒が確認された後に、これらの遺伝資源を受領する。また、その他の樹種の穂木及び種子は果樹試験場で育苗し、リンゴについては果樹試験場・盛岡支場、ブドウについては果樹試験場・安芸津支場、その他の遺伝資源については果樹試験場・育種部で特性調査と保存が行われる。特徴のある遺伝資源については育種素材化研究として利用される。特に、この地域のリンゴは黒星病耐病性遺伝子を持っている可能性が高く (Dayton *et al.*1953)、黒星病耐病性研究と育種素材としての利用が期待される。また、収集された西洋サンシュウは、栽培果樹としてはあまり馴染みは無いが、新果樹としての可能性を秘めた遺伝資源であると思われる。

6. 所感

トルクメニスタン及び北コーカサス地域を含め、野生遺伝資源が分布する地域にも人の営みが序々に拡大し、自然の状態が維持されている地域は次第に狭まってきている。世界的に見ても遺伝資源の分布する地域は開発や環境の変化により遺伝資源が枯渇しつつあるとされ、野生遺伝資源の調査・収集は緊急を要する課題であると思われる。また、探索収集と現地との研究者との果樹遺伝資源の情報交換で、今回探索・収集を行った地域の他に、コーカサス南部に位置するトランスコーカサス地域は、野生遺伝資源の樹種及び変異性の多様性が認められる重要な地域であると思われる。これらトランスコーカサス地域の諸国の政情が安定し、近い将来これらの地域に探索が行える日が来ることを期待したい。

7. 謝辞

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List of materials collected in North Caucasia and Turkmenistan (1995)

Genus : *Malus*

Col. No.	Date/ Month	Genus & Species	Sample Se/Sc	Status	Locality (Altitude)	Site
013	7/Sep	<i>M. sieversii</i>	Seed	1	15 km from Koyno Kumbez in SE. (TM) (1550m)	3
014	7/Sep	<i>M. sieversii</i>	Seed	1	15 km from Koyno Kumbez in SE. (TM) (1550m)	3
015	7/Sep	<i>M. sieversii</i>	Seed	1	15 km from Koyno Kumbez in SE. (TM) (1550m)	3
016	7/Sep	<i>M. sieversii</i>	Seed	1	15 km from Koyno Kumbez in SE. (TM) (1760m)	3
018	7/Sep	<i>M. sieversii</i>	Seed	1	15 km from Koyno Kumbez in SE. (TM) (1740m)	3
019	7/Sep	<i>M. sieversii</i>	Seed	1	15 km from Koyno Kumbez in SE. (TM) (1650m)	2
022	7/Sep	<i>M. sieversii</i>	Seed	1	15 km from Koyno Kumbez in SE. (TM) (1620m)	1,5
023	7/Sep	<i>M. sieversii</i>	Seed	1	15 km from Koyno Kumbez in SE. (TM) (1580m)	2
037	9/Sep	<i>M. sieversii</i>	Seed	1	25 km from Kara Kala in NE. (TM) (1040m)	3
057	10/Sep	<i>M. sieversii</i>	Scion	1	Turkmenistan Exp. Sta. for Plant Genetic Resources in Kara Kala (TM) (300m)	1
058	10/Sep	<i>M. sieversii</i>	Scion	1	Turkmenistan Exp. Sta. for Plant Genetic Resources in Kara Kala (TM) (300m)	1
059	10/Sep	<i>M. sieversii</i>	Scion	1	Turkmenistan Exp. Sta. for Plant Genetic Resources in Kara Kala (TM) (300m)	1
060	10/Sep	<i>M. sieversii</i>	Scion	1	Turkmenistan Exp. Sta. for Plant Genetic Resources in Kara Kala (TM) (300m)	1
061	10/Sep	<i>M. sieversii</i>	Scion	1	Turkmenistan Exp. Sta. for Plant Genetic Resources in Kara Kala (TM) (300m)	1

Status: 1 wild; 2 weedy; 3 cultivar; 4 others.

Site: 1 plain; 2 valley bottom; 3 valley slope; 4 terrace; 5 summit; 6 others.

Habitat: 1 forest; 2 woodland; 3 bushland; 4 shrubland; 5 woody glassland; 6 desert;

Habit.	Disease & pests	Characteristics	Note
5	Sus. to scab disease	Plant: 5m tall; trunk girth 74cm. Leaf: size 76x38mm; oblong. Petiole: 18mm. Fruit: size 32x36mm; flate; yellow skin with red stripe; yellowish-white flesh; acidity. Peduncle: 13mm. Seed: 6.	Soil: pH 7.5.
5	Sus. to scab disease	Plant: 4m tall; trunk girth 47cm. Leaf: size 60x36mm; oblong. Petiole: 21mm. Fruit: size 26x35mm; oblate; yellow skin; yellowish-white flesh; acidity. Peduncle: 14mm. Seed: 9.	Soil: pH 7.5. High productive.
5	Sus. to scab disease	Plant: 4.5m tall; trunk girth 100cm. Leaf: size 80x34mm; oblong. Petiole: 18mm. Fruit: size 33x36mm; oblate; yellowish-green skin; white flesh. Peduncle: 21mm. Seed: 5.	Soil: pH 7.5. High productive.
5	Sus. to scab disease	Plant: 7m tall; trunk girth 116cm. Leaf: size 55x30mm; oblong. Petiole: 26mm. Fruit: size 40x43mm; oblate; yellow skin with slightly red; yellowish-white flesh; acidity. Peduncle: 14mm.	Soil: pH 7.5. High productive.
5	Sus. to scab disease	Plant: 5m tall; trunk girth 77cm. Leaf: size 44x33mm; oblong. Petiole: 12mm. Fruit: size 33x37mm; oblate; red skin; refracto.-index 11.4; acidity; bitter taste. Peduncle: 12mm. Seed: 4.	Soil: pH 7.5.
3	Sus. to scab disease	Plant: 8m tall; trunk girth 67cm. Leaf: size 65x35mm; oblong. Petiole: 26mm. Fruit: size 24x30mm; oblate; green skin with slightly red stripe; green flesh; refracto.-index 16.6; acidity; bitter taste. Peduncle: 18mm. Seed: 3.	Soil: pH 7.5.
5		Plant: 7m tall; trunk girth 146cm. Leaf: size 66x51mm; oblong. Petiole: 26mm. Fruit: size 30x36mm; round; yellowish-green skin; yellowish-white flesh; refracto.-index 16.6; pH 2.5; bitter taste. Peduncle: 13mm. Seed: 7.	Soil: pH 7.5.
5		Plant: 6m tall; trunk girth 93cm. Leaf: size 64x35mm; narrow oblong. Petiole: 24mm. Fruit: size 26x36mm; flate; red stripe skin; yellowish-white flesh; refracto.-index 12.0; pH 2.7. Peduncle: 25mm. Seed: 13.	Soil: pH 7.5. High productive.
4		Plant: 5m tall; trunk girth 43cm. Leaf: size 82x34mm; narrow oblong. Petiole: 27mm. Fruit: size 35x35mm; round; yellow skin; yellowish-white flesh; refracto.-index 17.0; pH 3.0; bitter taste. Peduncle: 16mm. Seed: 6.	Soil: pH 6.3. Babaraki type.
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7 wasteland; 8 swampland; 9 others.

Col. No.	Date/ Month	Genus & Species	Sample Se/Sc	Status	Locality (Altitude)	Site
068	13/Sep	<i>M. orientalis</i>	Seed	1	5 km from Zelenchukskaya in W. (RU) (1030m)	1
070	13/Sep	<i>M. orientalis</i>	Seed	1	10 km from Psebay in E. (RU) (560m)	1
072	14/Sep	<i>M. orientalis</i>	Seed & Scion	1	5 km from Psebay in SE. (RU) (550m)	1
079	14/Sep	<i>M. orientalis</i>	Seed	1	5 km from Psebay in SE. (RU) (550m)	1
095	19/Sep	<i>M. orientalis</i>	Seed	1	23 km from Tuapse in SE. (RU) (80m)	2
121	26/Sep	<i>M. orientalis</i>	Seed	1	46 km from Khadzensk in NE. (RU) (180m)	1
123	26/Sep	<i>M. orientalis</i>	Seed	1	14 km from Saratovskaya in E. (RU) (30m)	1
128	27/Sep	<i>M. orientalis</i>	Seed	1	71 km from Saratovskaya in E. (RU) (140m)	1
146	29/Sep	<i>M. orientalis</i>	Seed	1	19 km from Dakhavskaya in E. (RU) (650m)	3
157	2/Oct	<i>M. orientalis</i>	Seed	1	35 km from Dakhavskaya in S. (RU) (570m)	2
161	2/Oct	<i>M. orientalis</i>	Seed	1	19 km from Dakhavskaya in S. (RU) (500m)	2
165	3/Oct	<i>M. orientalis</i>	Seed	1	32 km from Dakhavskaya in SW. (RU) (710m)	1

Status: 1 wild; 2 weedy; 3 cultivar; 4 others.

Site: 1 plain; 2 valley bottom; 3 valley slope; 4 terrace; 5 summit; 6 others.

Habitat: 1 forest; 2 woodland; 3 bushland; 4 shrubland; 5 woody grassland; 6 desert;

Habit.	Disease & pests	Characteristics	Note
5	Sus. to scab disease	Plant: 5m tall; trunk girth 57cm. Leaf: size 147x56mm; oblong. Petiole: 50mm. Fruit: size 43x43mm; conical; red stripe skin; yellowish-white flesh; refracto.-index 13.2; pH 3.0; juicy. Peduncle: 7mm. Seed: 2.	Soil: pH 7.5.
3		Plant: 12m tall; trunk girth 179cm. Leaf: size 80x45mm; oblong. Petiole: 24mm. Fruit: size 28x35mm; flate; yellow skin; yellowish-white flesh; refracto.-index 13.0; pH 2.5; bitter taste. Peduncle: 2mm. Seed: 5.	Soil: pH 6.5.
1	Res. to scab disease ?	Plant: 10m tall; trunk girth 83cm. Leaf: size 60x45mm; nearly round. Petiole: 21mm. Fruit: size 18x25mm; oblate; yellowish-green skin; green flesh; refracto.-index 13.2; pH 2.5; bitter taste. Peduncle: 2mm. Seed: 8.	Soil: pH 6.0.
1	Res. to scab disease ?	Plant: 12m tall; trunk girth 164cm. Leaf: size 80x39mm; narrow oblong. Petiole: 29mm. Fruit: size 30x36mm; oblate; yellow skin yellowish-white flesh; refracto.-index 11.8; pH 2.5. Peduncle: 6mm. Seed: 8.	Soil: pH 6.0.
1	Res. to scab disease ?	Plant: 20m tall; trunk girth 104cm. Leaf: size 37x24mm; oblong. Petiole: 20mm. Fruit: size 18x26mm; flate; yellow skin; yellowish-green flesh; refracto.-index 13.4; pH 2.8; aromatic. Peduncle: 2mm. Seed: 3.	Soil: pH 6.0.
1		Plant: 7m tall; trunk girth 50cm and 50cm. Leaf: size 73x33mm; narrow oblong. Petiole: 29mm. Fruit: size 27x33mm; oblate; green skin; yellowish-green flesh; refracto.-index 15.2; pH 2.5; bitter taste. Peduncle: 2mm. Seed: 5.	Soil: pH 6.5.
1	Sus. to scab disease	Plant: 10m tall; trunk girth 85cm and 85cm. Leaf: size 47x26mm; oblong. Petiole: 18mm. Fruit: size 24x28mm; oblate; yellow skin; yellowish-white flesh; refracto.-index 10.8; pH 2.5; slightly bitter. Peduncle: 10mm. Seed: 5.	Soil: pH 6.0.
1	Res. to scab disease ?	Plant: 8m tall; trunk girth 60cm. Leaf: size 80x40mm; oblong-round. Petiole: 35mm. Fruit: size 26x30mm; oblong; yellow skin; yellowish-green skin; greenish-white flesh; refracto.-index 12.6; pH 2.6; slightly bitter. Peduncle: 4mm. Seed: 6.	Soil: pH 6.7. Fruit: immature.
1	Sus. to scab disease	Plant: 12m tall; trunk girth 68cm. Leaf: size 57x21mm; narrow oblong. Petiole: 26mm. Fruit: size 31x34mm; oblate; yellow skin; yellowish-white flesh; refracto.-index 14.8; pH 2.5; slightly bitter taste. Peduncle: 4mm. Seed: 9.	Soil: pH 6.5.
1	Res. to scab disease ?	Plant: 20m tall; trunk girth 255cm. Fruit: size 30x30mm; conical; yellowish-green skin; greenish-white flesh; refracto.-index 12.6; pH 2.7; bitter taste; aromatic. Peduncle: 8mm. Seed: 7.	
1	Res. to scab disease ?	Plant: 15m tall; trunk girth 124cm. Leaf: size 57x30mm; narrow oblong. Petiole: 24mm. Fruit: size 35x38mm; nearly round; yellow skin; yellowish-white flesh; refracto.-index 17.2; pH 2.5; bitter taste. Peduncle: 7mm. Seed: 5; round.	
2	Sus. to scab disease	Plant: 8m tall; trunk girth 39cm and 5 other trunks. Leaf: size 67x35mm; narrow oblong. Petiole: 21mm. Fruit: size 24x30mm; oblate; yellow skin; yellowish-white flesh; acidity. Peduncle: 1mm. Seed: 8.	

7 wasteland; 8 swampland; 9 others.

Col. No.	Date/ Month	Genus & Species	Sample Se/Sc	Status	Locality (Altitude)	Site
169	3/Oct	<i>M. orientalis</i>	Seed	1	— (1440m)	—
177	4/Oct	<i>M. sieversii</i> var. <i>nierdzwetzkjana</i>	Scion	1	Maikop Exp. Sta., VIR	1
178	4/Oct	<i>M. orientalis</i>	Scion	1	Maikop Exp. Sta., VIR	1
179	4/Oct	<i>M. sylvestris</i>	Scion	1	Maikop Exp. Sta., VIR	1
180	4/Oct	<i>M. orientalis</i>	Scion	1	Maikop Exp. Sta., VIR	1
181	4/Oct	<i>M. orientalis</i>	Scion	1	Maikop Exp. Sta., VIR	1
182	4/Oct	<i>M. denticulata</i>	Scion	1	Maikop Exp. Sta., VIR	1
183	4/Oct	<i>M. mandshurica</i> var. <i>sachalinensis</i>	Scion	1	Maikop Exp. Sta., VIR	1

Genus : *Pyrus*

Col. No.	Date/ Month	Genus & Species	Sample Se/Sc	Status	Locality (Altitude)	Site
026	8/Sep	<i>P. communis</i>	Seed	1	40 km from Kara Kala in E. (TM) (730m)	2
027	8/Sep	<i>P. communis</i>	Seed	1	35 km from Kara Kala in E. (TM) (530m)	2
036	9/Sep	<i>P. communis</i>	Seed	1	25 km from Kara Kala in NE. (TM) (1110m)	5
067	13/Sep	<i>P. caucasica</i>	Seed	1	30 km from Sarytyuz in W. (RU) (1030m)	1
071	13/Sep	<i>P. caucasica</i>	Seed	1	10 km from Rsebay in E. (RU) (560m)	1
077	14/Sep	<i>P. caucasica</i>	Seed	1	5 km from Psebay in SE. (RU) (550m)	2
084	15/Sep	<i>P. caucasica</i>	Seed	1	10 km from Maikop in SW. (RU) (390m)	1
085	18/Sep	<i>P. caucasica</i>	Seed	1	30 km from Maikop in SW. (RU) (390m)	1

Status: 1 wild; 2 weedy; 3 cultivar; 4 others.

Site: 1 plain; 2 valley bottom; 3 valley slope; 4 terrace; 5 summit; 6 others.

Habitat: 1 forest; 2 woodland; 3 bushland; 4 shrubland; 5 woody glassland; 6 desert;

Habit.	Disease & pests	Characteristics	Note
—	Sus. to scab disease	Leaf: size 70x26mm; narrow oblong. Fruit: size 25x28mm; round; yellow skin; yellow flesh; refracto.-index 16.4; pH 2.2; verry bitter taste; aromatic. Peduncle: 8mm. Seed: 5.	The apple was collected by USA Collection Mission for grasses in Russia.
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Habit.	Disease & pests	Characteristics	Note
4		Plant: 6m tall; trunk girth 47cm. Leaf: size 60x40mm; oval. Petiole: 43mm. Fruit: size 67x49mm; round pyriform; yellowish-green skin; white flesh; refracto.-index 16.6; pH 3.5; aromatic. Peduncle: 32mm. Seed: 1-2.	Soil: pH 6.8.
3		Plant: 5m tall. Leaf: size 56x38mm; nearly round. Petiole: 31mm. Fruit: size 30x37mm; oblate; yellowish-green skin; yellow flesh; refracto.-index 17.2; pH 4.4; bitter taste. Peduncle: 30mm. Seed: 3.	Soil: pH 6.3.
5		Plant: 3m tall; trunk girth 85cm. Leaf: size 40x29mm; nearly round. Petiole: 39mm. Fruit: size 21x22mm; round; yellowish-green skin; yellow flesh; refracto.-index 32.0; pH 3.0; bitter taste. Peduncle: 20mm. Seed: 2.	Soil: pH 6.5.
5		Plant: 8m tall; trunk girth 118cm. Leaf: size 60x41mm; oblong. Petiole: 45mm. Fruit: size 36x32mm; round; yellowish-green skin; yellowish-white flesh; refracto.-index 17.0; pH 2.5; bitter taste. Peduncle: 32mm. Seed: 2.	Soil: pH 6.3.
3		Plant: 12m tall. Leaf: size 72x47mm; nearly round. Petiole: 80mm. Fruit: size 28x28mm; round; yellowish-green skin; yellow flesh; refracto.-index 15.4; pH 2.5; bitter taste. Peduncle: 16mm. Seed: 8.	Soil: pH 6.5.
1		Plant: 15m tall; trunk girth 158cm. Leaf: size 45x39mm; nearly round. Petiole: 34mm. Fruit: size 22x24mm; round; green skin; brown flesh; refracto.-index 17.2; pH 2.5. Peduncle: 16mm. Seed: 3.	Soil: pH 6.0. Overripped fruit.
1		Plant: 15m tall; trunk girth 100cm. Leaf: size 37x30mm; nearly round. Petiole: 20mm. Fruit: size 20x23mm; nearly round; yellowish-green skin; brown flesh; refracto.-index 22.6; pH 2.8. Peduncle: 16mm. Seed: 5.	Soil: pH 6.0. Overripped fruit.
1		Plant: 15m tall; trunk girth 58cm. Leaf: size 48x35mm; nearly round. Petiole: 34mm. Fruit: size 23x26mm; oblate; yellowish-green skin; orange flesh; refracto.-index 22.4; pH 2.8. Peduncle: 25mm. Seed: 6.	Soil: pH 6.3. Overripped fruit.

7 wasteland; 8 swampland; 9 others.

Col. No.	Date/ Month	Genus & Species	Sample Se/Sc	Status	Locality (Altitude)	Site
086	18/Sep	<i>P. caucasica</i>	Seed	1	45 km from Tuapse in NE. (RU) (370m)	1
111	21/Sep	<i>P. caucasica</i>	Seed	1	75 km from Tuapse in SE. (RU) (20m)	3
115	25/Sep	<i>P. caucasica</i>	Seed	1	5 km from Maikop in SW. (RU) (350m)	3
118	25/Sep	<i>P. caucasica</i>	Seed	1	20 km from Khadyziensk in NW. (RU) (120m)	1
122	26/Sep	<i>P. caucasica</i>	Seed	1	14 km from Saratovskaya in E. (RU) (30m)	1
125	27/Sep	<i>P. caucasica</i>	Seed	1	54 km from Saratovskaya in E. (RU) (170m)	1
127	27/Sep	<i>P. caucasica</i>	Seed	1	54 km from Saratovskaya in E. (RU) (170m)	1
130	27/Sep	<i>P. caucasica</i>	Seed	1	5 km from Maikop in SW. (RU) (260m)	1
137	29/Sep	<i>P. caucasica</i>	Seed	1	12 km from Dakhavskaya in E. (RU) (690m)	1
147	29/Sep	<i>P. caucasica</i>	Seed	1	19 km from Dakhavskaya in E. (RU) (650m)	3
154	2/Oct	<i>P. caucasica</i>	Seed	1	35 km from Dakhavskaya in S. (RU) (570m)	1
158	2/Oct	<i>P. caucasica</i>	Seed	1	35 km from Dakhavskaya in S. (RU) (570m)	1
159	2/Oct	<i>P. caucasica</i>	Seed	1	25 km from Dakhavskaya in S. (RU) (500m)	1

Status: 1 wild; 2 weedy; 3 cultivar; 4 others.

Site: 1 plain; 2 valley bottom; 3 valley slope; 4 terrace; 5 summit; 6 others.

Habitat: 1 forest; 2 woodland; 3 bushland; 4 shrubland; 5 woody glassland; 6 desert;

Habit.	Disease & pests	Characteristics	Note
1		Plant: 15m tall; trunk girth 72cm. Leaf: size 49x32mm; oblong. Petiole: 36mm. Fruit: size 22x30mm; oblate; yellow skin; yellowish-white flesh; refracto.-index 17.4; pH 2.8bitter taste. Peduncle: 15mm. Seed: 5.	Soil: pH 6.3.
1		Plant: 10m tall; trunk girth 210cm. Leaf: size 58x36mm; oblong. Petiole: 46mm. Fruit: size 27x31mm; round; yellowish-green skin; yellowish-white flesh; juicy; bitter taste. Peduncle: 25mm. Seed: 1-4.	Soil: pH 6.5.
1		Plant: 20m tall; trunk girth 159cm. Fruit: size 23x28mm; oblate; yellow skin; yellowish-white flesh; juicy; bitter taste. Peduncle: 21mm. Seed: 6.	Soil: pH 6.5.
1		Plant: 15m tall; trunk girth 66cm and 2 other trunks. Leaf: size 51x41mm; oval. Petiole: 26mm. Fruit: size 28x28mm; oblate; yellowish-green skin; yellowish-white flesh; refracto.-index 17.4; pH 2.5bitter taste. Peduncle: 24mm. Seed: 6; large; round.	Soil: pH 6.0.
1		Plant: 10m tall; trunk girth 118cm. Leaf: size 49x37mm; nearly round. Petiole: 32mm. Fruit: size 20x30mm; flate; yellowish-green skin; yellowish-white flesh; refracto.-index 23.4; pH 2.5bitter taste. Peduncle: 19mm. Seed: 6.	Soil: pH 6.0.
1		Plant: 10m tall; trunk girth 74cm. Leaf: size 51x41mm; nearly round. Petiole: 39mm. Fruit: size 25x32mm; oblate; yellow skin; yellowish-white flesh; refracto.-index 21.4; pH 2.5bitter taste. Peduncle: 13mm. Seed: 7.	Soil: pH 6.3.
1		Plant: 10m tall; trunk girth 71cm. Leaf: size 50x39mm; nearly round. Petiole: 35mm. Fruit: size 26x29mm; round; yellow skin; yellowish-white flesh; refracto.-index 18.6; pH 2.8; bitter taste. Peduncle: 27mm. Seed: 6.	Soil: pH 6.3.
1		Plant: 20m tall; trunk girth 124cm. Leaf: size 49x36mm; oval-round. Petiole: 22mm. Fruit: size 25x28mm; yellow skin; yellowish-orange flesh; refracto.-index 18.6; pH 2.5; alcoholic smell; slightly bitter taste. Peduncle: 33mm. Seed: 7.	Soil: pH 6.7.
1		Plant: 15m tall; trunk girth 88cm. Leaf: size 57x40mm; nearly round. Fruit: size. 28x32mm; oblate; yellow skin; yellowish-white flesh; refracto.-index 25.0; pH 2.5; bitter taste; aromatic. Peduncle: 16mm. Seed: 4.	Soil: pH 6.2. Overripped fruit.
1		Plant: 15m tall; trunk girth 125cm. Leaf: size 43x26mm; oval. Fruit: size 20x27mm; flate; green skin; yellowish-white; refracto.-index 18.4; pH 2.5; bitter taste. Peduncle: 24mm. Seed: less than 1; parthenocarpy?	Soil: pH 6.5. Overripped fruit.
1		Plant: 20m tall; trunk girth 127cm. Leaf: size 45x22mm; oblong. Petiole: 13mm. Fruit: size 23x30mm; flate; yellowish-green skin; yellowish-white flesh. Peduncle: 15mm.	Overripped fruit.
1		Plant: 20m tall; trunk girth 265cm. Fruit: size 22x26mm; oblate. Peduncle: 20mm. Seed: 3.	Overripped fruit.
1		Plant: 5m tall; trunk girth 57cm. Leaf: size 45x38mm; nearly round. Petiole: 32mm. Fruit: size 22x23mm; yellow skin; yellowish-white flesh; refracto.-index 12.0; pH 3.3; juiceless; bitter taste. Peduncle: 21mm. Seed: 4.	

7 wasteland; 8 swampland; 9 others.

Col. No.	Date/ Month	Genus & Species	Sample Se/Sc	Status	Locality (Altitude)	Site
162	3/Oct	<i>P. caucasica</i>	Seed	1	40 km from Dakhavskaya in SW. (RU) (1320m)	1
163	3/Oct	<i>P. caucasica</i>	Seed	1	40 km from Dakhavskaya in SW. (RU) (1320m)	1
164	3/Oct	<i>P. caucasica</i>	Seed	1	35 km from Dakhavskaya in SW. (RU) (870m)	3
168	3/Oct	<i>P. caucasica</i>	Seed	1	32 km from Dakhavskaya in SW. (RU) (710m)	1
170	4/Oct	<i>P. nivalis</i> var. <i>canaliculata</i>	Scion	1	Maikop Exp. Sta., VIR (RU) (260m)	1
171	4/Oct	<i>P. salicifolia</i>	Scion	1	Maikop Exp. Sta., VIR (RU) (260m)	1
172	4/Oct	<i>P. caucasica</i> var. <i>schuntukensis</i>	Scion	1	Maikop Exp. Sta., VIR (RU) (260m)	1
173	4/Oct	<i>P. amygdaliformis</i>	Scion	1	Maikop Exp. Sta., VIR (RU) (260m)	1
174	4/Oct	<i>P. syriaca</i>	Scion	1	Maikop Exp. Sta., VIR (RU) (260m)	1
175	4/Oct	<i>P. elaeagnifolia</i>	Scion	1	Maikop Exp. Sta., VIR (RU) (260m)	1
176	4/Oct	<i>P. nivalis</i> var. <i>pallidifolia</i>	Scion	1	Maikop Exp. Sta., VIR (RU) (260m)	1

Genus : *Cornus*

Col. No.	Date/ Month	Genus & Species	Sample Se/Sc	Status	Locality (Altitude)	Site
083	15/Sep	<i>C. mas</i>	Seed	1	35 km from Maikop in E. (RU) (260m)	1
089	18/Sep	<i>C. mas</i>	Seed & Scion	1	40 km from Tuapse in NE. (RU) (210m)	2
092	19/Sep	<i>C. mas</i>	Seed & Scion	1	23 km from Tuapse in SE. (RU) (80m)	1
093	19/Sep	<i>C. mas</i>	Seed	1	23 km from Tuapse in SE. (RU) (80m)	3
096	19/Sep	<i>C. mas</i>	Seed	1	23 km from Tuapse in SE. (RU) (80m)	3

Status: 1 wild; 2 weedy; 3 cultivar; 4 others.

Site: 1 plain; 2 valley bottom; 3 valley slope; 4 terrace; 5 summit; 6 others.

Habitat: 1 forest; 2 woodland; 3 bushland; 4 shrubland; 5 woody grassland; 6 desert;

Habit.	Disease & pests	Characteristics	Note
1		Plant: 10m tall; trunk girth 90cm. Leaf: size 50x32mm; oval. Petiole: 46mm. Fruit: size 20x24mm; flate; green skin; yellowish-white; flesh; bitter taste. Peduncle: 19mm. Seed: less than 1; parthenocarpy?	
1		Plant: 10m tall; trunk girth 65cm. Leaf: size 70x38mm; narrow oblong. Petiole: 44mm. Fruit: size 30x27mm; round pyriform; yellowish-green skin; yellowish-white flesh; bitter taste; aromatic. Peduncle: 18mm. Seed: less than 1; parthenocarpy?	
1		Plant: 15m tall; trunk girth 90cm. Leaf: size 57x40mm; narrow oval. Petiole: 31mm. Fruit: size 18x22mm; flate; green skin; yellowish-white flesh. Peduncle: 11mm. Seed: less than 1; parthenocarpy?	
2		Plant: 12m tall; trunk girth 48cm. Leaf: size 41x34mm; round. Petiole: 25mm. Fruit: size 30x31mm; nearly round; yellow skin; yellowish-white flesh; bitter taste. Peduncle: 13mm. Seed 5.	
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Habit.	Disease & pests	Characteristics	Note
1		Plant: 4m tall; trunk girth 23cm. Leaf: size 83x39mm; narrow ovate. Peduncle: 5mm. Fruit: size 18x14mm; narrow oblong; red skin; white flesh; refracto.-index 18.6; pH 4.0; slightly bitter taste. Peduncle: 11mm. Seed: 1.	Soil: pH 6.0.
2		Plant: 6m tall; trunk girth 30cm. Leaf: size 74x51mm; ovate. Petiole: 7mm. Fruit: size 18x12mm; oblong; red skin; red flesh; refracto.-index 18.8; slightly bitter taste. Peduncle: 12mm. Seed: 1.	Soil: pH 6.0.
3		Plant: 3m tall; trunk girth 14cm many trunks. Leaf: size 62x26mm; narrow ovate. Petiole: 4mm. Fruit: size 17x12mm; red skin; yellowish-white flesh; refracto.-index 18.2; pH 2.8; bitter taste. Peduncle: 8mm. Seed: 1.	Soil: pH 6.0.
1		Plant: 6m tall; trunk girth 68cm. Leaf: size 67x35mm; ovate. Fruit: size 16x12mm; red skin; light red flesh; refracto.-index 20.8; acidity. Peduncle: 8mm. Seed: 1.	Soil: pH 6.0.
1		Plant: 3m tall; trunk girth 30cm. Leaf: size 70x35mm; ovate. Petiole: 7mm. Fruit: size 18x6mm; narrow oblong; red skin; red flesh; refracto.-index 14.2; acidity; slightly bitter taste. Peduncle: 10mm. Seed: 1.	Soil: pH 6.0.

7 wasteland; 8 swampland; 9 others.

Col. No.	Date/ Month	Genus & Species	Sample Se/Sc	Status	Locality (Altitude)	Site
097	19/Sep	<i>C. mas</i>	Seed	1	23 km from Tuapse in SE. (RU) (80m)	3
116	25/Sep	<i>C. mas</i>	Seed	1	5 km from Maikop in SW. (RU) (350m)	3
117	25/Sep	<i>C. mas</i>	Seed	1	5 km from Maikop in SW. (RU) (350m)	3
124	27/Sep	<i>C. mas</i>	Scion	1	40 km from Saratovskaya in E. (RU) (120m)	1
126	27/Sep	<i>C. mas</i>	Seed	1	54 km from Saratovskaya in E. (RU) (170m)	1
133	29/Sep	<i>C. mas</i>	Seed & Scion	1	3 km from Kamennomostskaya in S. (RU) (400m)	2
134	29/Sep	<i>C. mas</i>	Seed	1	3 km from Kamennomostskaya in S. (RU) (400m)	2
135	29/Sep	<i>C. mas</i>	Seed	1	3 km from Kamennomostskaya in S. (RU) (400m)	3
136	29/Sep	<i>C. mas</i>	Seed & Scion	1	3 km from Kamennomostskaya in S. (RU) (420m)	3
139	29/Sep	<i>C. mas</i>	Seed & Scion	1	18 km from Dakhavskaya in E. (RU) (670m)	3
141	29/Sep	<i>C. mas</i>	Seed	1	19 km from Dakhavskaya in E. (RU) (650m)	3
142	29/Sep	<i>C. mas</i>	Seed & Scion	1	19 km from Dakhavskaya in E. (RU) (650m)	3
142	29/Sep	<i>C. mas</i>	Seed	1	19 km from Dakhavskaya in E. (RU) (650m)	3
145	29/Sep	<i>C. mas</i>	Seed	1	19 km from Dakhavskaya in E. (RU) (650m)	3

Status: 1 wild; 2 weedy; 3 cultivar; 4 others.

Site: 1 plain; 2 valley bottom; 3 valley slope; 4 terrace; 5 summit; 6 others.

Habitat: 1 forest; 2 woodland; 3 bushland; 4 shrubland; 5 woody glassland; 6 desert;

Habit.	Disease & pests	Characteristics	Note
1		Plant: 5m tall; trunk girth 37cm. Leaf: size 70x35mm; ovate. Petiole: 4mm. Fruit: size 17x12mm; oblong; red skin; white flesh; refracto.-index 24.0; pH 2.5. Peduncle: 8mm. Seed: 1; narrow oblong.	Soil: pH 6.0. Immature fruit. High productive
1		Plant: 7m tall; trunk girth 34cm. Leaf: size 92x51mm; ovate. Petiole: 9mm.	Soil: pH 6.0. Overripened fruit.
1		Plant: 5m tall; trunk girth 54cm. Leaf: size 96x60mm; ovate. Petiole: 9mm.	Soil: pH 6.5. Overripened fruit.
1		Plant: 3.5m tall; trunk girth 39cm. Leaf: size 90x54mm; ovate. Petiole: 6mm.	Soil: pH 6.5. No fruit.
1		Plant: 3.5m tall; trunk girth 34cm. Leaf: size 85x45mm; ovate. Petiole: 7mm. Seed: 1.	Soil: pH 6.3. Fruit already dropped.
1		Plant: 3.5m tall; trunk girth 35cm. Leaf: size 72x41mm; ovate. Fruit: size 19x13mm; oblong; dark red skin; red flesh; refracto.-index 16.6; good quality. Peduncle: 11mm. Seed: 1.	Soil: pH 6.5.
1		Plant: 4m tall; trunk girth 45cm. Leaf: size 67x36mm; ovate. Fruit: size 11x11mm; oval; red skin; red flesh; refracto.-index 15.8; good quality. Peduncle: 12mm. Seed: 1.	Soil: pH 6.5.
1		Plant: 3.5m tall; trunk girth 31cm and other 5 trunks. Leaf: size 68x29mm; ovate. Petiole: 9mm. Fruit: size 15x13mm; narrow oblong; red skin; red flesh; good quality. Peduncle: 7mm. Seed: 1.	Soil: pH 6.5.
1		Plant: 4m tall; trunk girth 18cm. Leaf: size 79x38mm; narrow ovate. Petiole: 9mm. Fruit: size 16x11mm; narrow oblong; dark red skin; dark red flesh; refracto.-index 16.4; bitter taste. Peduncle: 9mm. Seed: 1.	Soil: pH 6.5. Immature fruit.
1		Plant: 4m tall; trunk girth 19cm. Leaf: size 65x36mm; ovate. Petiole: 6mm. Fruit: size 17x12mm; narrow oblong; yellowish-red skin; red flesh; refracto.-index 14.6. Peduncle: 13mm. Seed: 1.	Soil: pH 6.5. High productive.
3		Plant: 4m tall. Leaf: size 66x41mm; ovate. Petiole: 6mm. Fruit: size 18x13mm; narrow oblong; dark redish-purple skin; red flesh; refracto.-index 19.8; acidity; bitter taste. Peduncle: 13mm. Seed: 1.	
2		Plant: 3m tall; trunk girth 18cm. Leaf: size 66x44mm; ovate. Petiole: 7mm. Fruit: size 15x13mm; oval; dark red skin; red flesh; refracto.-index 20.8; good quality. Peduncle: 9mm. Seed: 1.	
2		Plant: 2.5m tall; trunk girth 13.5mm; upright. Leaf: size 70x33mm; narrow ovate. Petiole: 9mm. Fruit: size 16x14mm; narrow oblong; dark red skin; dark red flesh; refracto.-index 18.2; good quality. Peduncle: 10mm. Seed: 1.	
2		Plant: 3m tall; trunk girth 49cm. Leaf: size 73x37mm; ovate. Petiole: 10mm. Fruit: size 19x15mm; oblong; dark red skin; dark red flesh; good quality. Peduncle: 12mm. Seed: 1.	Soil: pH 6.5.

7 wasteland; 8 swampland; 9 others.

Col. No.	Date/ Month	Genus & Species	Sample Se/Sc	Status	Locality (Altitude)	Site
148	1/Oct	<i>C. mas</i>	Seed & Scion	1	10 km from Maikop in S. (RU) (260m)	—
150	2/Oct	<i>C. mas</i>	Seed	1	35 km from Dakhavskaya in S. (RU) (680m)	3
155	2/Oct	<i>C. mas</i>	Seed	1	35 km from Dakhavskaya in S. (RU) (570m)	1
156	2/Oct	<i>C. mas</i>	Seed	1	35 km from Dakhavskaya in S. (RU) (570m)	1
160	2/Oct	<i>C. mas</i>	Seed	1	25 km from Dakhavskaya in S. (RU) (500m)	2
166	2/Oct	<i>C. mas</i>	Seed	1	32 km from Dakhavskaya in SW. (RU) (710m)	3
167	3/Oct	<i>C. mas</i>	Seed	1	32 km from Dakhavskaya in SW. (RU) (710m)	3

Genus : *Vitis*

Col. No.	Date/ Month	Genus & Species	Sample Se/Sc	Status	Locality (Altitude)	Site
005	6/Sep	<i>V. vinifera</i>	Seed	1	2 km from Patoma Yult in SE. (TM) (1200m)	2
010	6/Sep	<i>V. vinifera</i>	Seed	1	2 km from Patoma Yult in SE. (TM) (1200m)	2
028	9/Sep	<i>V. sylvestris</i>	Seed	1	25 km from Kara Kala in NE. (TM) (700m)	2
030	9/Sep	<i>V. sylvestris</i>	Seed	1	25 km from Kara Kala in NE. (TM) (700m)	2
032	9/Sep	<i>V. sylvestris</i>	Seed	1	25 km from Kara Kala in NE. (TM) (700m)	2
034	9/Sep	<i>V. vinifera</i>	Seed	1	25 km from Kara Kala in NE. (TM) (800m)	2
038	10/Sep	<i>V. vinifera</i>	Scion	3	Turkmenistan Exp. Sta. for Plant Genetic Resources in Kara Kala (TM) (300m)	1

Status: 1 wild; 2 weedy; 3 cultivar; 4 others.

Site: 1 plain; 2 valley bottom; 3 valley slope; 4 terrace; 5 summit; 6 others.

Habitat: 1 forest; 2 woodland; 3 bushland; 4 shrubland; 5 woody glassland; 6 desert;

Habit.	Disease & pests	Characteristics	Note
—		Plant: 2m tall. Leaf: size 112x55mm; narrow ovate. Petiole: 6mm. Fruit: size 23x16mm; oblong; dark red skin; yellowish-red flesh; slightly bitter taste. Peduncle: 13mm. Seed: 1.	
1		Plant: 4.5m tall; trunk girth 41cm. Leaf: size 75x48mm; ovate. Petiole: 8mm. Fruit: size 20x15mm; narrow oblong; red skin; red flesh; refracto.-index 12.2. Peduncle: 18mm. Seed: 1.	Immature fruit.
1		Plant: 5m tall; trunk girth 17cm. Leaf: size 65x34mm; narrow ovate. Petiole: 7mm. Fruit: size 20x13mm; narrow oblong; red skin; red flesh; acidity; bitter taste. Peduncle: 8mm. Seed: 1.	
1		Plant: trunk girth 37cm. Leaf: size 93x50mm; ovate. Petiole: 5mm. Fruit: size 14x12mm; oblong; dark red skin; dark red flesh; refracto.-index 14.7. Peduncle: 9mm. Seed: 1.	High productive.
1		Plant: 7m tall; trunk girth 32cm. Leaf: size 80x44mm; ovate. Petiole: 8mm. Fruit: size 17x13mm; oblong; dark red skin; dark red flesh; refracto.-index 16.4; bitter taste. Peduncle: 9mm. Seed: 1.	
1		Plant: 6m tall; trunk girth 50cm. Leaf: size 74x36mm; narrow ovate. Petiole: 9mm.	Overripened fruit. Fruits already dropped.
1		Plant: 10m tall; trunk girth 30cm; upright. Leaf: size 72x40mm; ovate. Petiole: 5mm. Fruit: size 16x12mm; oblong; dark red skin; red flesh; refracto.-index 16.6; slightly bitter; good quality. Seed: 1.	

Habit.	Disease & pests	Characteristics	Note
3	Sus. to powdery mildew.	Plant: vigor., strong. Leaf: medium size; 5 lobes. Bunch: medium size; loose. Berry: medium size; oval; redish-purple skin; redish-purple flesh; acidity. Seed: 3.	Soil: pH 8.0. Immatured berry.
3		Leaf: medium size; 5 lobes. Bunch: medium size; loose. Berry: medium size; round; yellowish-green skin.	Soil: pH 8.0.
3		Leaf: medium size; 5 lobes. Bunch: medium size; loose. Berry: medium size; oblong; dark purple skin; refracto.-index 20.8. Seed: 3.	Soil: pH 6.5.
3	Sus. to powdery mildew.	Leaf: medium size; 3 lobes. Bunch: small size; loose. Berry: small size; oblong; dark purple skin; refracto.-index 24.9. Seed: 1.	Soil: pH 6.5.
3		Plant: medium vigorous. Leaf: medium size; 3 lobes. Bunch: medium size; loose. Berry: medium size; oblong; yellowish-green skin; refracto.-index 14.0. Seed: 2.	Soil: pH 6.5.
4	Sus. to powdery mildew.	Plant: medium vigorous. Leaf: small size; 5 lobes. Bunch: medium size; loose. Berry: medium size; oblong; yellowish-white skin; refracto.-index 20.4. Seed: 2.	Soil: pH 6.5.
9		—	

7 wasteland; 8 swampland; 9 others.

Col. No.	Date/ Month	Genus & Species	Sample Se/Sc	Status	Locality (Altitude)	Site
039	10/Sep	<i>V. vinifera</i>	Scion	3	Turkmenisitan Exp. Sta. for Plant Genetic Resources in Kara Kala (TM) (300m)	1
040	10/Sep	<i>V. vinifera</i>	Scion	3	Turkmenisitan Exp. Sta. for Plant Genetic Resources in Kara Kala (TM) (300m)	1
041	10/Sep	<i>V. vinifera</i>	Scion	3	Turkmenisitan Exp. Sta. for Plant Genetic Resources in Kara Kala (TM) (300m)	1
042	10/Sep	<i>V. vinifera</i>	Scion	3	Turkmenisitan Exp. Sta. for Plant Genetic Resources in Kara Kala (TM) (300m)	1
043	10/Sep	<i>V. vinifera</i>	Scion	3	Turkmenisitan Exp. Sta. for Plant Genetic Resources in Kara Kala (TM) (300m)	1
044	10/Sep	<i>V. vinifera</i>	Scion	3	Turkmenisitan Exp. Sta. for Plant Genetic Resources in Kara Kala (TM) (300m)	1
045	10/Sep	<i>V. vinifera</i>	Scion	3	Turkmenisitan Exp. Sta. for Plant Genetic Resources in Kara Kala (TM) (300m)	1
046	10/Sep	<i>V. vinifera</i>	Scion	3	Turkmenisitan Exp. Sta. for Plant Genetic Resources in Kara Kala (TM) (300m)	1
047	10/Sep	<i>V. vinifera</i>	Scion	3	Turkmenisitan Exp. Sta. for Plant Genetic Resources in Kara Kala (TM) (300m)	1
048	10/Sep	<i>V. vinifera</i>	Scion	3	Turkmenisitan Exp. Sta. for Plant Genetic Resources in Kara Kala (TM) (300m)	1
049	10/Sep	<i>V. sylvestris</i>	Scion	1	Turkmenisitan Exp. Sta. for Plant Genetic Resources in Kara Kala (TM) (300m)	1
050	10/Sep	<i>V. sylvestris</i>	Scion	1	Turkmenisitan Exp. Sta. for Plant Genetic Resources in Kara Kala (TM) (300m)	1
107	19/Sep	<i>V. sylvestris</i>	Seed	1	8 km from Adler in NE. (RU) (150m)	3

Genus : *Prunus*

Col. No.	Date/ Month	Genus & Species	Sample Se/Sc	Status	Locality (Altitude)	Site
001	6/Sep	<i>P. spinosa</i>	Seed	1	45 km from Kara Kala in a SE. (TM) (1100m)	5
003	6/Sep	<i>P. amygdalus</i> var. <i>communis</i>	Seed	1	2 km from Patoma Yult in SE. (TM) (1300m)	3
004	6/Sep	<i>P. cerasifera</i>	Seed	1	2 km from Patoma Yult in SE. (TM) (1300m)	2
006	6/Sep	<i>P. cerasifera</i>	Seed	1	2 km from Patoma Yult in SE. (TM) (1300m)	2
008	6/Sep	<i>P. amygdalus</i> var. <i>communis</i>	Seed	1	2 km from Patoma Yult in SE. (TM) (1300m)	2

Status: 1 wild; 2 weedy; 3 cultivar; 4 others.

Site: 1 plain; 2 valley bottom; 3 valley slope; 4 terrace; 5 summit; 6 others.

Habitat: 1 forest; 2 woodland; 3 bushland; 4 shrubland; 5 woody glassland; 6 desert;

Habit.	Disease & pests	Characteristics	Note
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1		Leaf: small size; 3 lobes. Bunch: small size; loose. Berry: small size; round; dark purple-black skin. Seed: 2.	Soil: pH 5.7.

Habit.	Disease & pests	Characteristics	Note
5		Plant: 3m tall; trunk girth 24cm. Leaf: size 36x16mm; oblong. Petiole: 10mm.	Soil: pH 8.0 . Fruits already dropped.
3		Plant: 3.5m tall; trunk girth 28cm. Leaf: size 16x14mm; narrow oblong. Petiole: 15 mm. Fruit: size 35x25mm; oblong; yellowish-green. Seed: 1, bitter taste.	Soil: pH 8.0.
3		Plant: 3m tall; trunk girth 18cm. Leaf: size 51x23mm; oblong. Petiole: 11 mm. Fruit: size 13x11mm; round; redish-purple skin; yellow flesh; acidity. Peduncle: 17mm. Seed: 1.	Soil: pH 8.0.
3		Plant: 5m tall; trunk girth 83cm. Leaf: size 162x24mm; narrow oblong. Petiole: 10 mm. Fruit: size 19x17mm; round; yellow skin; yellow flesh; acidity. Peduncle: 19mm. Seed: 1.	Soil: pH 8.0.
3		Plant: 4m tall; trunk girth 38cm. Leaf: size 56x12mm; narrow oval. Petiole: 12 mm. Fruit: size 35x21mm; oval; yellowish-green skin; brown flesh. Peduncle: 7mm. Seed: 1; bitter taste.	Soil: pH 8.0.

7 wasteland; 8 swampland; 9 others.

Col. No.	Date/ Month	Genus & Species	Sample Se/Sc	Status	Locality (Altitude)	Site
009	6/Sep	<i>P. amygdalus</i> var. <i>communis</i>	Seed	1	2 km from Patoma Yult in SE. (TM) (1300m)	2
017	7/Sep	<i>P. cerasus</i> var. <i>microcerasus</i>	Seed	1	23 km from Koyno Kumbez in SE. (TM) (1760m)	3
020	7/Sep	<i>P. cerasifera</i>	Seed	1	23 km from Koyno Kumbez in SE. (TM) (1600m)	2
021	7/Sep	<i>P. cerasifera</i>	Seed	1	23 km from Koyno Kumbez in SE. (TM) (1600m)	2
025	8/Sep	<i>P. amygdalus</i> var. <i>communis</i>	Seed	1	40 km from Kara Kala in E. (TM) (730m)	2
031	9/Sep	<i>P. cerasifera</i>	Seed	1	25 km from Kara Kala in NE. (TM) (730m)	2
062	12/Sep	<i>P. spinosa</i>	Seed	1	70 km from Cherkessk in S. (RU) (1020m)	3
064	13/Sep	<i>P. spinosa</i>	Seed	1	5 km from Teberda in N. (RU) (1110m)	3
069	13/Sep	<i>P. sp.</i> (Cherry)	Scion	1	30 km from Sarytyuz in W. (RU) (1030m)	1
078	14/Sep	<i>P. cerasifera</i>	Seed	1	5 km from Psebay in SE. (RU) (550m)	1
119	25/Sep	<i>P. spinosa</i>	Seed	1	20 km from Khadyziensk in NE. (RU) (120m)	1
131	28/Sep	<i>P. spinosa</i>	Seed	1	10 km from Maikop in S. (RU) (270m)	1
132	28/Sep	<i>P. spinosa</i>	Seed	1	10 km from Maikop in S. (RU) (270m)	1

Status: 1 wild; 2 weedy; 3 cultivar; 4 others.

Site: 1 plain; 2 valley bottom; 3 valley slope; 4 terrace; 5 summit; 6 others.

Habitat: 1 forest; 2 woodland; 3 bushland; 4 shrubland; 5 woody glassland; 6 desert;

Habit.	Disease & pests	Characteristics	Note
3		Plant: 8m tall; trunk girth 105cm. Leaf: size 72x28mm; oblong. Petiole: 35 mm. Fruit: size 33x20mm; yellowish-green skin; brown flesh. Peduncle: 8mm. Seed: 1; bitter taste.	Soil: pH 8.0.
5		Plant: 5m tall; trunk girth 34cm.	Soil: pH 7.5. Fruits already dropped.
3		Plant: 3m tall; trunk girth 44cm. Leaf: size 46x15mm; narrow oval. Petiole: 9 mm. Fruit: size 17x15mm; round; dark purple skin; yellow flesh; firm flesh; acidity. Peduncle: 11mm. Seed: 1.	Soil: pH 7.5.
3		Plant: 4m tall; trunk girth 56cm. Leaf: size 50x21mm; narrow oval. Petiole: 10 mm. Fruit: size 19x19mm; round; redish-orange skin; yellow flesh; refracto.-index 22.6. Peduncle: 16mm. Seed: 1.	Soil: pH 7.5.
4		Plant: 7m tall; trunk girth 63cm. Leaf: size 65x21mm; narrow oval. Petiole: 19 mm. Fruit: size 34x24mm; oblong; yellowish-green skin; brown flesh. Seed: 1; bitter taste.	Soil: pH 6.8.
3		Plant: 8m tall; trunk girth 45cm. Leaf: size 52x25mm; narrow oval. Petiole: 12 mm. Fruit: size 14x14mm; round; red skin; yellow flesh; refracto.-index 23.8; pH 3.0; Peduncle: 12mm. Seed: 1.	Soil: pH 6.5.
2		Plant: 2m tall; trunk girth 14cm. Leaf: size 47x32mm; oval. Petiole: 7 mm. Fruit: size 12x13mm; round; dark purple skin; green flesh; refracto.-index 25.0; pH 3.0; bitter taste. Peduncle: 5mm. Seed: 1.	Soil: pH 5.8.
3		Plant: 2m tall; trunk girth 6cm. Leaf: size 40x23mm; oval. Petiole: 6 mm. Fruit: size 14x14mm; round; dark purple skin; yellowish-green flesh; bitter taste. Peduncle: 5mm. Seed: 1.	Soil: pH 5.8.
5		Plant: 3m tall; trunk girth 23cm. Leaf: size 150x62mm; oblong. Petiole: 16 mm.	Soil: pH 6.3. No fruit.
1		Plant: 8m tall; trunk girth 38cm. Leaf: size 52x25mm; narrow oval. Petiole: 11 mm. Fruit: size 26x21mm; oval; orange skin; orange flesh. Seed: 1.	Soil: pH 6.0. Fruits already dropped.
1		Plant: 1m tall; trunk girth 8cm. Leaf: size 32x20mm; oval. Petiole: 8 mm. Fruit: size 13x12mm; round; dark purple skin; yellowish-green flesh; refracto.-index 29.6; pH 2.5; bitter taste. Seed: 1; round.	Soil: pH 6.0.
3		Plant: 2.5m tall; trunk girth 28cm and 28cm. Leaf: size 49x30mm; oval. Petiole: 9 mm. Fruit: size 17x15mm; oval; dark purple skin; green flesh; refracto.-index over 30.0; bitter taste. Seed: 1; round; flate.	Soil: pH 6.3.
3		Plant: 1.5m tall; trunk girth 8cm. Leaf: size 45x25mm; narrow oval. Petiole: 8 mm. Fruit: size 12x12mm; round; dark purple skin; green flesh; refracto.-index 30.8; pH 2.5; bitter taste. Peduncle: 4mm. Seed: 1; small.	Soil: pH 6.3.

7 wasteland; 8 swampland; 9 others.

Col. No.	Date/ Month	Genus & Species	Sample Se/Sc	Status	Locality (Altitude)	Site
149	1/Oct	<i>P. cerasifera</i>	Seed	1	10 km from Maikop in S. (RU) (280m)	1

Genus : *Ficus*

Col. No.	Date/ Month	Genus & Species	Sample Se/Sc	Status	Locality (Altitude)	Site
024	8/Sep	<i>F. carica</i>	Seed	1	40 km from Kara Kala in E. (TM) (730m)	2
029	9/Sep	<i>F. carica</i>	Seed	1	25 km from Kara Kala in NE. (TM) (700m)	2
035	9/Sep	<i>F. carica</i>	Seed	1	25 km from Kara Kala in NE. (TM) (1050m)	3
051	10/Sep	<i>F. carica</i>	Scion	3	10 km from Kara Kala in S. (TM) (300m)	1
052	10/Sep	<i>F. carica</i>	Scion	3	10 km from Kara Kala in S. (TM) (300m)	1
053	10/Sep	<i>F. carica</i>	Scion	3	10 km from Kara Kala in S. (TM) (300m)	1
054	10/Sep	<i>F. carica</i>	Scion	3	10 km from Kara Kala in S. (TM) (300m)	1
055	10/Sep	<i>F. carica</i>	Scion	3	10 km from Kara Kala in S. (TM) (300m)	1
056	10/Sep	<i>F. carica</i>	Scion	3	10 km from Kara Kala in S. (TM) (300m)	1
098	19/Sep	<i>F. carica</i>	Seed & Scion	1	35 km from Touapse in SE. (RU) (80m)	1
108	20/Sep	<i>F. carica</i>	Seed & Scion	1	8 km from Adler in NE. (RU) (150m)	3
109	21/Sep	<i>F. carica</i>	Seed	1	5 km from Sochi in NW. (RU) (10m)	1
112	21/Sep	<i>F. carica</i>	Seed & Scion	1	75 km from Tuapse in SE. (RU) (20m)	3
113	21/Sep	<i>F. carica</i>	Seed	3	0 km from Adler. (RU) (20m)	—

Genus : *Corylus*

Col. No.	Date/ Month	Genus & Species	Sample Se/Sc	Status	Locality (Altitude)	Site
065	13/Sep	<i>C. avellana</i>	Seed	1	20 km from Teberda in N. (RU) (910m)	3
074	14/Sep	<i>C. avellana</i>	Seed	1	5 km from Psebay in SE. (RU) (550m)	1

Status: 1 wild; 2 weedy; 3 cultivar; 4 others.

Site: 1 plain; 2 valley bottom; 3 valley slope; 4 terrace; 5 summit; 6 others.

Habitat: 1 forest; 2 woodland; 3 bushland; 4 shrubland; 5 woody grassland; 6 desert;

Habit.	Disease & pests	Characteristics	Note
10		Plant: 4m tall; trunk girth 48cm. Leaf: size 51x26mm; oval. Petiole: 14 mm. Fruit: size 28x23mm; round; orange skin; orange flesh; refracto.-index 16.3. Peduncle: 7mm. Seed: 1.	

Habit.	Disease & pests	Characteristics	Note
5		Plant: 5m tall; trunk girth 20cm. Leaf: size 139x150mm; 5 lobes. Petiole: 700 mm. Fruit: size 18x22mm; oblate; redish-purple skin; yellowish-white flesh; juiceless; aromatic. Peduncle: 8mm.	Soil: pH 6.8.
3		Plant: 5m tall; trunk girth 21cm. Leaf: size 120x115mm; 5 lobes. Petiole: 48 mm. Fruit: size 18x20mm; cordale; green skin; red flesh; juiceless. Peduncle: 6mm.	Soil: pH 6.5. Immature fruit.
5		Plant: 4m tall. Leaf: size 115x125mm; 5 lobes. Petiole: 50 mm. Fruit: size 20x19mm; green skin; white with slightly red flesh; juiceless. Peduncle: 2mm.	Soil: pH 6.5. Immature fruit.
9		—	
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3		Plant: 10m tall; trunk girth 83cm. Leaf: size 220x250mm; 5 lobes and 3 lobes. Petiole: 72mm. Fruit: size 24x27mm; oblate cordale, green skin; white flesh; juiceless. Peduncle: 5mm.	Soil: pH 6.0.
1		Plant: 10m tall; trunk girth 40cm. Leaf: size 187x132mm; lobeless. Petiole: 58mm. Fruit: size 26x30mm; oblate cordale, black or dark purple skin; red flesh; juicy; good quarity. Peduncle: 5mm.	Soil: pH 5.7.
9		Plant: 7m tall; trunk girth 40cm. Leaf: size 230x230mm; 3 lobes and lobeless. Petiole: 120mm. Fruit: size 40x50mm; cordale, redish-purple skin; red flesh; juicy. Peduncle: 4mm.	Soil: pH 5.7.
1		Plant: 8m tall; trunk girth 45mm. Leaf: size 140x140mm; 3 lobes and lobeless. Petiole: 94mm. Fruit: size 23x27mm; oblate cordale, black or dark purple skin; redish-orange flesh; juicy; alcoholic smell. Peduncle: 7mm.	Soil: pH 6.5. Overripped fruit.
—		—	Obtained in market.

Habit.	Disease & pests	Characteristics	Note
2		Plant: 6m tall; trunk girth 15mm. Leaf: size 100x86mm. Petiole: 21mm. Fruit: nut size 19x13mm; Peduncle: 26mm.	Soil: pH 6.3.
1		Plant: 5m tall; trunk girth 24cm. Leaf: size 119x106mm. Petiole: 17mm. Fruit: nut size 13x13mm. Peduncle: 13mm.	Soil: pH 6.0.

7 wasteland; 8 swampland; 9 others.

Col. No.	Date/ Month	Genus & Species	Sample Se/Sc	Status	Locality (Altitude)	Site
075	14/Sep	<i>C. avellana</i>	Seed	1	5 km from Psebay in SE. (RU) (550m)	3
082	14/Sep	<i>C. avellana</i>	Seed	1	10 km from Akhmentovskaya in S. (RU) (670m)	2
094	19/Sep	<i>C. colurna</i>	Seed	1	23 km from Tuapse in SE. (RU) (80m)	3
105	20/Sep	<i>C. avellana</i>	Seed	1	45 km from Adler in NE. (RU) (640m)	3
110	21/Sep	<i>C. avellana</i>	Seed	1	75 km from Tuapse in SE. (RU) (20m)	3
140	29/Sep	<i>C. avellana</i>	Seed	1	18 km from Dakhavskaya in E. (RU) (670m)	3
144	29/Sep	<i>C. avellana</i>	Seed	1	19 km from Dakhavskaya in E. (RU) (650m)	3
152	2/Oct	<i>C. avellana</i>	Seed	1	42 km from Dakhavskaya in S. (RU) (670m)	3

Genus : *Castanea*

Col. No.	Date/ Month	Genus & Species	Sample Se/Sc	Status	Locality (Altitude)	Site
090	19/Sep	<i>C. sativa</i>	Seed	1	32 km from Tuapse in NE. (RU) (250m)	3
090	19/Sep	<i>C. sativa</i>	Seed	1	32 km from Tuapse in NE. (RU) (250m)	3
099	19/Sep	<i>C. sativa</i>	Seed	1	60 km from Sochi in NW. (RU) (90m)	1
100	20/Sep	<i>C. sativa</i>	Seed	1	7 km from Sochi in NW. (RU) (90m)	3
102	20/Sep	<i>C. sativa</i>	Seed	1	20 km from Adler in NW. (RU) (240m)	3
103	20/Sep	<i>C. sativa</i>	Seed	1	20 km from Adler in NW. (RU) (240m)	3
104	20/Sep	<i>C. sativa</i>	Seed	1	20 km from Adler in NW. (RU) (240m)	3
106	20/Sep	<i>C. sativa</i>	Seed	1	45 km from Adler in NE. (RU) (650m)	3

Genus : *Fagus*

Col. No.	Date/ Month	Genus & Species	Sample Se/Sc	Status	Locality (Altitude)	Site
066	13/Sep	<i>F. orientalis</i>	Seed	1	20 km from Teberda in N. (RU) (910m)	3
073	14/Sep	<i>F. orientalis</i>	Seed	1	5 km from Psebay in SE. (RU) (550m)	1
076	14/Sep	<i>F. orientalis</i>	Seed	1	5 km from Psebay in SE. (RU) (550m)	3
080	14/Sep	<i>F. orientalis</i>	Seed	1	10 km from Akhmenovskaya in S. (RU) (670m)	1
081	14/Sep	<i>F. orientalis</i>	Seed	1	10 km from Akhmenovskaya in S. (RU) (670m)	3

Status: 1 wild; 2 weedy; 3 cultivar; 4 others.

Site: 1 plain; 2 valley bottom; 3 valley slope; 4 terrace; 5 summit; 6 others.

Habitat: 1 forest; 2 woodland; 3 bushland; 4 shrubland; 5 woody glassland; 6 desert;

Habit.	Disease & pests	Characteristics	Note
1		Plant: 7m tall; trunk girth 33cm. Leaf: size 100x77mm. Petiole: 23mm. Fruit: nut size 17x17mm. Peduncle: 8mm.	Soil: pH 6.0.
1		Plant: 7m tall; trunk girth 30cm. Leaf: size 94x67mm. Petiole: 12mm. Fruit: nut size 17x17mm. Peduncle: 11mm.	Soil: pH 6.0.
1		Plant: 12m tall; trunk girth 89cm. Leaf: size 166x106mm. Petiole: 12mm. Fruit: nut size 16x16mm. Peduncle: 11mm.	Soil: pH 5.7.
1		Plant: 4m tall; trunk girth 33cm. Leaf: size 82x64mm. Petiole: 9mm. Fruit: nut size 20x16mm; Peduncle: 7mm.	Soil: pH 5.7.
1		Plant: 7m tall; trunk girth 16cm. Leaf: size 140x122mm. Petiole: 13mm. Fruit: nut size 24x16mm. Peduncle: 9mm; thick.	Soil: pH 6.5.
1		Plant: 5m tall; trunk girth 14cm. Leaf: 117x107mm. Petiole: 22mm. Fruit: nut size 17x16mm. Peduncle: 8mm.	Soil: pH 6.5.
1		Plant: 7m tall; trunk girth 14cm. Leaf: size 220x200mm. Petiole: 16mm. Fruit: nut size 18x16mm. Peduncle: 12mm.	Soil: pH 6.5.
1		Plant: 4m tall; trunk girth 49cm. Leaf: 130x101mm. Petiole: 24mm. Fruit: nut size 15x15mm. Peduncle: 6mm.	

Habit.	Disease & pests	Characteristics	Note
1		Plant: 12m tall; trunk girth 34cm. Leaf: size 147x60mm; narrow oblong. Petiole: 7mm. Seed: size 22x21mm; 1-2/bur.	Soil: pH 6.0.
1		Plant: 15m tall; trunk girth 83cm. Leaf: size 190x77mm; narrow oblong. Petiole: 12mm. Seed: size 20x18mm; 1-3/bur.	Soil: pH 6.0.
2		Plant: 20m tall; trunk girth 389cm. Leaf: size 240x60mm; narrow oblong. Petiole: 10mm. Seed: 2-3/bur.	Soil: pH 6.0. Immature nut.
2		Plant: 20m tall; trunk girth 102cm. Leaf: size 172x61mm; narrow oblong. Petiole: 8mm. Seed: size 22x21mm; 1-3/bur.	Soil: pH 6.0.
1		Plant: 20m tall; trunk girth 266cm. Leaf: size 152x61mm; narrow oblong. Petiole: 9mm. Seed: size 23x29mm; 2-3/bur.	Soil: pH 5.7.
1		Plant: 12m tall; trunk girth 124cm. Leaf: size 238x60mm; narrow oblong. Petiole: 20mm. Seed: size 25x22mm; 2-3/bur.	Soil: pH 5.7.
1		Plant: 20m tall; trunk girth 73cm. Leaf: size 193x60mm; narrow oblong. Petiole: 10mm. Seed: size 20x20mm; 2-3/bur.	Soil: pH 5.7.
1		Plant: 20m tall; trunk girth 204cm. Leaf: size 200x80mm; narrow oblong. Petiole: 12mm. Seed: small size; 2-3/bur.	Soil: pH 5.7.

Habit.	Disease & pests	Characteristics	Note
2		Plant: 20m tall; trunk girth 135cm. Leaf: size 130x70mm. Petiole: 10mm. Seed: nut size 21x17mm; 2/bur.	Soil: pH 6.3.
1		Plant: 15m tall; trunk girth 183cm. Leaf: size 94x53mm. Petiole: 12mm. Seed: nut size 35x20mm; 2/bur.	Soil: pH 6.0.
1		Plant: 15m tall; trunk girth 144cm. Leaf: size 113x55mm. Petiole: 6mm. Seed: nut size 28x20mm; 2/bur.	Soil: pH 6.0.
1		Plant: 20m tall; trunk girth 280cm. Leaf: size 100x50mm. Petiole: 3mm. Seed: nut size 22x15mm; 2/bur.	Soil: pH 6.0.
1		Plant: 20m tall; trunk girth 252cm. Leaf: size 136x63mm. Petiole: 12mm. Seed: size 22x16mm; 2/bur.	Soil: pH 6.0.

7 wasteland; 8 swampland; 9 others.

Col. No.	Date/ Month	Genus & Species	Sample Se/Sc	Status	Locality (Altitude)	Site
101	20/Sep	<i>F. orientalis</i>	Seed	1	10 km from Adler in NE. (RU) (200m)	3
138	29/Sep	<i>F. orientalis</i>	Seed	1	18 km from Dakhavskaya in E. (RU) (670m)	3

Genus : *Crataegus*

Col. No.	Date/ Month	Genus & Species	Sample Se/Sc	Status	Locality (Altitude)	Site
002	6/Sep	<i>C. pseudoazalolus</i>	Seed	1	50 km from Kara Kala in SE. (TM) (1070m)	3
011	7/Sep	<i>C. pontica</i>	Seed	1	5 km from Potoma Yult in S. (TM) (1130m)	1
114	24/Sep	<i>C. pentagina</i>	Seed	1	10 km from Maikop in S.S. (RU) (340m)	1
120	25/Sep	<i>C. pentagina</i>	Seed	1	46 km from Khadyziensk in NE. (RU) (180m)	1
129	27/Sep	<i>C. pentagina</i>	Seed	1	71 km from Saratovskaya in E. (RU) (140m)	1

Genus : *Mespilus*

Col. No.	Date/ Month	Genus & Species	Sample Se/Sc	Status	Locality (Altitude)	Site
087	18/Sep	<i>M. germanica</i>	Seed	1	45 km from Tuapse in NE. (RU) (370m)	3
088	18/Sep	<i>M. germanica</i>	Seed	1	45 km from Tuapse in NE. (RU) (370m)	3
151	2/Oct	<i>M. germanica</i>	Seed	1	42 km from Dakhavskaya in S. (RU) (670m)	3
153	2/Oct	<i>M. germanica</i>	Seed	1	41 km from Dakhavskaya in S. (RU) (670m)	3

Status: 1 wild; 2 weedy; 3 cultivar; 4 others.

Site: 1 plain; 2 valley bottom; 3 valley slope; 4 terrace; 5 summit; 6 others.

Habitat: 1 forest; 2 woodland; 3 bushland; 4 shrubland; 5 woody glassland; 6 desert;

Habit.	Disease & pests	Characteristics	Note
1		Plant: 10m tall; trunk girth 94cm. Leaf: size 95x58mm. Petiole: 9mm. Seed: nut size 18x19mm; 2/bur.	Soil: pH 5.7.
1		Plant: 15m tall; trunk girth 103cm. Leaf: size 94x56mm. Petiole: 8mm. Seed: size 30x23mm; 2/bur.	Soil: pH 6.5.

Habit.	Disease & pests	Characteristics	Note
5		Plant: 6m tall; trunk girth 99cm. Leaf: size 30x32mm; 3 lobes. Petiole: 11mm. Fruit: size 12x11mm; round; dark red skin; yellow flesh; bitter taste. Peduncle: 25mm.	Soil: pH 8.0.
5		Plant: 6m tall; trunk girth 125cm. Leaf: size 50x55mm; 5 lobes. Petiole: 16mm. Fruit: size 14x19mm; oblate; yellowish-green skin; yellow flesh. Peduncle: 12mm.	Soil: pH 8.0.
3		Plant: 8m tall; trunk girth 46cm. Leaf: size 53x67mm; 3 lobes. Petiole: 23mm. Fruit: size 9x11mm; nearly round; dark red skin; orange flesh; tender flesh. Peduncle: 13mm. Seed: 5.	Soil: pH 6.3.
1		Plant: 7m tall; trunk girth 39cm. Leaf: size 32x35mm; 3 lobes. Petiole: 16mm. Fruit: size 13x12mm; round; dark red-black skin; red flesh; tender flesh. Peduncle: 20mm. Seed: 5.	Soil: pH 6.5.
1		Plant: 10m tall; trunk girth 49cm. Leaf: size 46x32mm; 3 lobes. Petiole: 20mm. Fruit: size 11x11mm; round; dark purple skin; redish-orange flesh; tender flesh. Peduncle: 23mm. Seed: 5.	Soil: pH 6.7.

Habit.	Disease & pests	Characteristics	Note
1		Plant: 2.5m tall; trunk girth 16cm. Leaf: size 92x47mm; narrow oblong. Petiole: 7mm. Fruit: size 21x20mm; round; yellowish-brown skin; yellowish-white flesh; acidity; bitter taste; juiceless. Peduncle: 2mm. Seed: 5.	Soil: pH 6.3.
1		Plant: 2.5m tall; trunk girth 21cm. Leaf: size 83x49mm; narrow oblong. Petiole: 5mm. Fruit: size 17x20mm; nearly round; brown skin; yellowish-green flesh; bitter taste; juiceless. Peduncle: 4mm. Seed: 5.	Soil: pH 6.3.
1		Plant: 3m tall; trunk girth 18cm. Leaf: size 65x23mm; narrow oblong. Petiole: 5mm. Fruit: size 18x20mm; nearly round; orange skin; yellowish-white flesh; acidity; bitter taste; juiceless. Peduncle: 3mm. Seed: 5.	
1		Plant: 3m tall; trunk girth 16cm. Leaf: size 55x23mm; narrow oblong. Petiole: 6mm. Fruit: size 23x21mm; nearly round; orange skin; yellowish-white flesh; acidity; bitter taste; juiceless. Peduncle: 2mm. Seed: 5.	

7 wasteland; 8 swampland; 9 others.

Genus : *Lonicera*

Col. No.	Date/ Month	Genus & Species	Sample Se/Sc	Status	Locality (Altitude)	Site
012	7/Sep	<i>L. sp.</i> (unknown sp.)	Seed	1	15 km from Koyno Kumbez in SE. (TM) (1580m)	5
033	9/Sep	<i>L. floribunda</i>	Seed	1	25 km from Kara Kala in NE. (TM) (750m)	2

Genus : *Hippophae*

Col. No.	Date/ Month	Genus & Species	Sample Se/Sc	Status	Locality (Altitude)	Site
063	12/Sep	<i>H. rhamnoides</i>	Seed	1	5 km from Teberda in N. (RU) (1040m)	1

Status: 1 wild; 2 weedy; 3 cultivar; 4 others.

Site: 1 plain; 2 valley bottom; 3 valley slope; 4 terrace; 5 summit; 6 others.

Habitat: 1 forest; 2 woodland; 3 bushland; 4 shrubland; 5 woody grassland; 6 desert;

Habit.	Disease & pests	Characteristics	Note
5		Plant: 2m tall; trunk girth 23cm. Leaf: size 25x13mm; narrow oblong. Peduncle: 4mm. Fruit: size 6x7mm; oblate; translucent skin with white stripe; translucent flesh; bitter taste. Peduncle: 1mm. Seed: 1.	Soil: pH 7.5.
3		Plant: 1m tall; trunk girth 13cm. Leaf: size 29x19mm; oval. Petiole: 9mm. Fruit: size 6x6mm; round; redish-orange skin; orange flesh; verry bitter taste. Peduncle: less than 1mm.	Soil: pH 6.5.

Habit.	Disease & pests	Characteristics	Note
3		Plant: 4m tall; trunk girth 32cm. Leaf: size 54x6mm; slender. Petiole: 4mm. Fruit: size 6x5mm; oblong; yellowish-green skin; yellowish-green flesh; acidity. Peduncle: 4mm. Seed: 1; narrow oblong.	Soil: pH 5.8.

7 wasteland; 8 swampland; 9 others.