

Odessa National Medical University

Department of General and Clinical Pharmacology and Pharmacognosy

methodological developments  
workshops  
for full-time students

Discipline: "Resursovedenie medicinal plants"  
Lesson number 3, "The raw material base of medicinal plants in Ukraine.  
**Geographical and Phytocenological Attachment LR Ukraine, which are  
included in herbal domestic production"**

Course 3 Faculty medico-pharmaceutical

approved by  
in the methodical meeting of the  
Department  
August 28, 2025  
Protocol № 1  
Head. Department of



\_\_\_\_\_ prof. Rozhkovsky YV

## ACTIVITY № 1

### 1. Subject: The raw material base of medicinal plants in Ukraine. Geographical and Phytocenological Attachment LR Ukraine, which are included in herbal domestic production - 2 h

2. Relevance of the topic. Implementation of the definition of HR resources tasks to a large extent depends on the preparatory stage, part of which is to identify and define the areas of natural array with the possible participation of medicinal plants, a preliminary study of the confinement of the Republic of Lithuania in certain plant communities. This requires knowledge of the laws of propagation of medicinal plants, life forms, confined to certain phytocenoses and the like.

### 3. The purpose of the activity:

- to find out the prevalence and patterns of geographic phytocenotic confinement of wild medicinal plants, harvested and used in Ukraine;

#### 3.1. Learning Objectives:

**-know** (The level of assimilation of Bespal'ko -II):

- identification of key geo-botanical concepts used in resursovedenii LR;  
- eco-cenotic and geographical characteristics of the Republic of Lithuania, members of the domestic production of drugs;

**- to be able** (Mastering level -III):

identify using topographic maps and other natural vegetation arrays with possible thickets of Latvia in a particular region;  
- to determine the area of the identified areas;  
- by giving the name of the main features phytocenoses with the participation of Latvia;

#### 3.2. Educational goals:

-sposobstvovat formation of ecological outlook and liability for future pharmacists the use of natural resources, the RL.

#### 4. Interdisciplinary integration:

number pp	discipline	Know	be able to
one.	<b>previous</b> Medical botany	Phase of development, the environmental conditions of growth of medicinal plants;	To assess the current conditions of growth of specific types of LR

2.	pharmacognosy	The effect of various factors on the contents of the main storage and a bar RL	Choosing optimum blank areas and periods native RL
3.	Intra integration (the topic of this discipline, which integrates that which is studied) ...	Resursovedenie as science and academic discipline. The raw material base of medicinal plants in Ukraine. The use of herbal medicines in the Republic of Lithuania and the modern world medical practice. Accounting for medicinal plant resources, the principles of their management and protection. Cultivation of Latvia in Ukraine and the world.	develop: on the harvesting instructions, drying and storage of raw wild higher plants, algae, lichens and fungi, newsletters; make reports for doctors and advise the public on matters related to the harvesting and use of raw materials and products of natural origin.

## 5. The content of lessons

The theoretical material topics outlined in the text of the lecture number 1, and the following sources of information:

1. Heinrich M., Barnes J., Prieto-Garcia J., Gibbons S., Williamson E. M. Fundamentals of Pharmacognosy and Phytotherapy. 3rd ed. Elsevier, 2023. 282 p.
2. Medicinal Plant Resources : textbook / V. M. Minarchenko et al. Kyiv : Palyvoda A. V., 2019. 128 p.
3. Bioprospecting of Ethnomedicinal Plant Resources: Sustainable Utilization and Restoration / ed. by G. Shukla et al. CRC Press, 2024. 466 p.
4. Medicinal Plants: Bioprospecting and Pharmacognosy / ed. by A. B. Sharangi, K. V. Peter. Apple Academic Press, 2022. 602 p.
5. Van Wyk B. E., Wink M. Medicinal Plants of the World. 2nd ed. CABI, 2017.

## 6. Materials for methodological support classes

### 6.1. control materials for the preparatory phase of exercises

**Test questions:**

1. What natural zone is characterized by the territory of Ukraine? In what area - Odessa region?
2. Give the definition of "phytocoenosis" and call it signs
3. Ocharakterizuyte diversity of life forms LR
4. Describe the diversity of plant communities with medicinal plants in Ukraine.
5. What are the criteria set phytocoenosis name?
6. Name HR, no clear cenotic confinement.

**tests:**

1. According to the zoning of climatic conditions, Odessa region is located in the zone

**A steppe and steppe**

B. Steppe

B. steppe

G. Forest

D. Forest and forest-steppe

2. In what area is Ovidiopol district of Odessa region?

**A. Steppe**

B. steppe and steppe

B. Forest-Steppe

G. Forest

D. Forest and forest-steppe

3. In which area is Savran Raion Odessa region ..?

**A forest-steppe**

B. steppe and steppe

V. Steppe

G. Forest

D. Forest and forest-steppe

4. Large forested areas in the Odessa region. You can only be found on the

**A. North**

B. South

B. southeast

G. South-west

D. East

5. Same habit of life form and forms a plurality of plants

**A. Tier**

B. phytocenosis

B. Fitotsenokompleks

G. Wood

D. An array of natural vegetation

6. The area of the projection of the aerial part of the plant to the ground is called

**A. The projected coverage**

B. Yield

B. Tier

G. Performance

The abundance of D.

7. Association - is

**A. The smallest unit phytocenosis**

B. The highest unit phytocenosis

B. The name of any phytocenosis

G. The name of forest communities

D. Name grassy phytocenosis

8. interzonal phytocenoses include

**A land meadows**

B. Deciduous forests

B. fescue steppes

Mr. Pine forests

D. forb steppes

9. How many tiers are usually determined in the steppe plant communities?

**3 A.**

B. 2

IN 1

4 G.

D. 1 grasses and bushes 1 tier

10. How many tiers are usually determined in forest plant communities?

**A. 2-3 layers of trees and shrubs and 1-3 -trava**

B. 1 tier trees and 1 -trava

B. 1 and tier 2 trees -trava

G. 2 -3 tier trees and shrubs

D. Stage 4

11. Select from the provided list of medicinal plant, the area of which in Ukraine is limited to a strip of forest and meadows of the Carpathians:

A. flax

B. Highlander snake

**B. Rhodiola rosea**

Mr. Harrow Field

D. driopteris men

12. Preparation "Kratal" is used as a cardioprotective agent. Plant sources of its production are:

- A. Grass peony
- B. Hawthorn berries**
- B. The leaves of Digitalis
- G. leaves lily of the valley
- D. mint leaves

13. Select drugs, raw materials for the manufacture of which digitalis lanata:

- A. digitoxin
- B. Korglikon

**In Lantosidum**

- G. adonizid
- D. Erizimin

14. What morphological valerian part it is a raw material which is released in packaged form pharmacy:

- A. Grass
- B. Rhizomes with roots**
- B. roots
- G. Seeds
- D. inflorescence

15. Menthol has antispasmodic, analgesic effect. Select LSR - source of menthol.

- A. Folia Betulae
- B. Folia Salviae
- V. Folia Eucalypti
- G. Folia Menthae piperitae**
- D. Folia Absinthii

**6.2. The information necessary for the formation of knowledge, skills can be found in textbooks:**

### **6. Basic literature**

7. Фармакогностичне ресурсознавство з основами інтродукції лікарських рослин / Навчальний посібник. – Полтава: ПДМУ, 2021.
8. Державна Фармакопея України : в 3 т. / ДП «Український науковий фармакопейний центр якості лікарських засобів». 2-е вид. Харків : Науковий фармакопейний центр, 2015. Т. 1. 1128 с.
9. Ресурсознавство лікарських рослин: Практикум / Тржецинський С. Д. та ін. – Запоріжжя: ЗДМУ, 2021.
10. Фармакогнозія: підручник для студентів фармацевтичних факультетів / Посилкіна О. В. та ін. – Харків: НФаУ, 2015–2018 (розділи, присвячені сировинній базі).
11. Тржецинський С. Д., Доля В. С., Денисенко О. М. Ресурсознавство лікарських рослин : навч.-метод. посіб. Запоріжжя : ЗДМУ, 2015. 115 с.

12. Грицик А. Р., Водославський В. М., Мельник М. В. Фармакогнозія. Ресурсознавство лікарських рослин : навч. посіб. Івано-Франківськ : ПП Голіней О. М., 2019. 248 с.
13. Зузук Б. М. Ресурсознавство лікарських рослин : навч. посіб. для студ. вищ. фармац. навч. закл. Вінниця : Нова Книга, 2015. 232 с.
14. Heinrich M., Barnes J., Prieto-Garcia J., Gibbons S., Williamson E. M. *Fundamentals of Pharmacognosy and Phytotherapy*. 3rd ed. Elsevier, 2023. 282 p.
15. *Medicinal Plant Resources : textbook* / V. M. Minarchenko et al. Kyiv : Palyvoda A. V., 2019. 128 p.
16. *Bioprospecting of Ethnomedicinal Plant Resources: Sustainable Utilization and Restoration* / ed. by G. Shukla et al. CRC Press, 2024. 466 p.
17. *Medicinal Plants: Bioprospecting and Pharmacognosy* / ed. by A. B. Sharangi, K. V. Peter. Apple Academic Press, 2022. 602 p.
18. Van Wyk B. E., Wink M. *Medicinal Plants of the World*. 2nd ed. CABI, 2017.

#### **Additional literature:**

19. Лікарські рослини: Рекомендаційний список літератури (актуальні видання 2024 року) / Уманський НУС.
20. Малопоширені ароматичні види лікарських рослин / Наукове видання. – Берегове: ЗУІ ім. Ф. Ракоці II, 2025.
21. Лабораторний журнал з ресурсознавства лікарських рослин : [посібник] / В. М. Мінарченко та ін. Київ : Паливода А. В., 2018. 94 с.
22. Фармакогнозія : підручник для студ. вищ. навч. закл. / В. С. Кисличенко та ін. ; за ред. В. С. Кисличенко. Харків : НФаУ : Золоті сторінки, 2015. 736 с.
23. Державна Фармакопея України : в 3 т. / ДП «Український науковий фармакопейний центр якості лікарських засобів». 2-е вид. Харків : Науковий фармакопейний центр, 2015. Т. 1. 1128 с. 520 p.

#### **electronic resources**

24. Medicinal Plant Names Services (MPNS) Resource. Kew Royal Botanic Gardens. URL: [kew.org](http://kew.org) (дата звернення: 22.03.2026).
25. Ресурсознавство лікарських рослин : презентація лекції. Нац. фармац. ун-т. URL: [https://cnc.nuph.edu.ua/wp-content/uploads/2023/09/prezentatsiia\\_resursoznnavstvo-lr.pdf](https://cnc.nuph.edu.ua/wp-content/uploads/2023/09/prezentatsiia_resursoznnavstvo-lr.pdf) (дата звернення: 22.03.2026).

### **6.3. Indicative map for independent work with literature**

The term (concept), the question	Definition (content) response
Association	

dominants	
edificator	
projective cover	
vegetation	
profusion of	
vegetation type	
phytocenosis	
tserenoareal	
Tier layering	

## 7. Materials for self-control of quality of training

### Questions for self-control:

1. What areas of the Odessa region. located within the forest-steppe natural zone?
2. What areas of the Odessa region. located within the steppe natural zone?
3. What method can obtain preliminary data on the area of the array of natural vegetation?
4. To what life form plants belong to the first tier of the steppe phytocenosis?
5. Which form of life belong to plant the first tier of forest communities?
6. To what life form plants belong to the last tier of forest communities?
7. How to set the projective cover of plant?

### Tasks

1. What are the natural groupings involving medicinal plants can be found in the suburban areas of Odessa: ruderal; steppe; ruderal steppe; forestry; forest-meadow; upland; marsh; forest-bog?

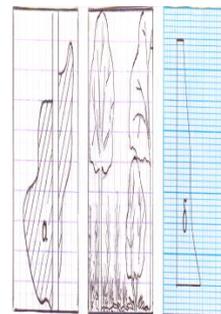
2. summer medicinal plants were identified among the three-tiered plant steppe

**four.** On graph paper with a topographic map contours moved forest (b).

Define an area, if the scale of the map

1: 1,000,000 (1 mm = 1 km).

Solution: After counting the cells, each of which corresponds 1km<sup>2</sup>, we have the following result: 398.5 cells or 398.5 km<sup>2</sup>



phytocenosis: A - Adonis spring, b - immortelle sand in - *Fragaria viridis* (strawberry) r - dvuvidovoy thyme, d - *Filipendula vulgaris*, e - St. John's wort; zhe feather hairs.

Spread of tiers, each of these types of HR.

Answer: I - Well; II - b, d, e; III- c, d

3. Name the natural phytocenoses, which included a fixed part of plants: birch-dominant; Pine-rare; bent - the background; violet scented - plentifully; spring primroses -rasseyano; White bloodroot -izredko.

Answer: herb-mitlitsevy birch.

## **8.Materialy for classroom self-study:**

### **8.1. List of educational practical tasks which must be completed during the practical (laboratory) classes:**

**Exercise 1.** Based on previous knowledge and recommended and available sources of information, highlight the range LR and RL included in the preparations of domestic production, and to characterize the distribution (geographical spread) in Ukraine and ecology-Phytocenological Attachment of each type (fill in column 5, Table. 5)

**Task 2.** Select a route for identifying RL stocks among growing shrub-steppe vegetation on slopes estuaries in one area of Odessa obl., Mark the relevant map-based natural vegetation array and determine its area.

Use the map base Belaiev, Ovidiopol, Kominternovsky, Belgorod-Dniester area (see. Ris.2- in the workbook) and, respectively, 4 different jobs.

To transfer the contours array of vegetation and determine their area students receive a special (transparent) graph paper.

**Activity 3.** Choose a route to identify HR reserves, growing in oak forests and gully Savranskogo district of Odessa region., Mark the appropriate map-based array of natural vegetation and to determine its area.

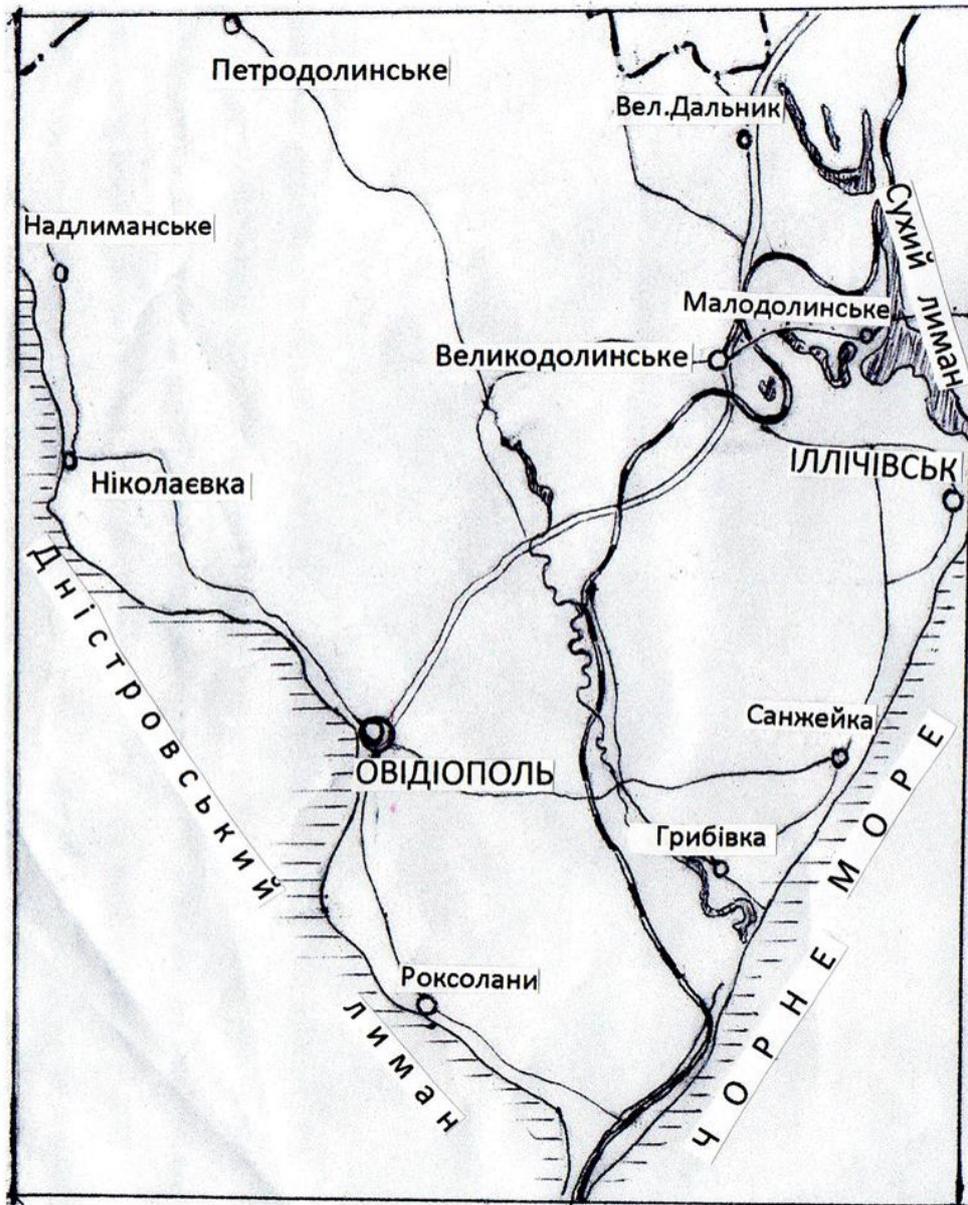


Fig. 1. The base map of the Ovidiopol district.  
Scale 1: 200 000.

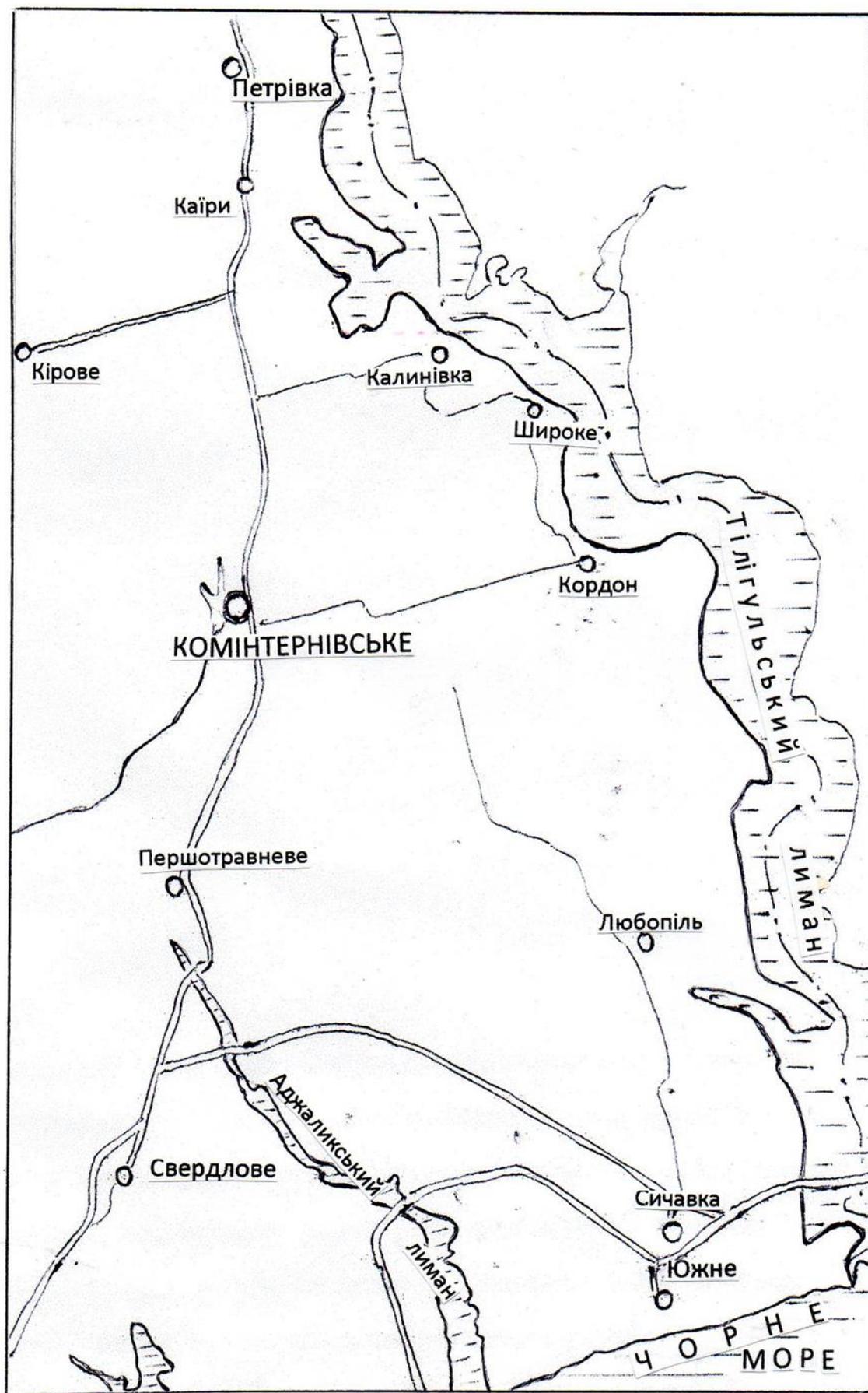


Fig. 3. The base map of the Comintern District.  
Scale 1: 200 000

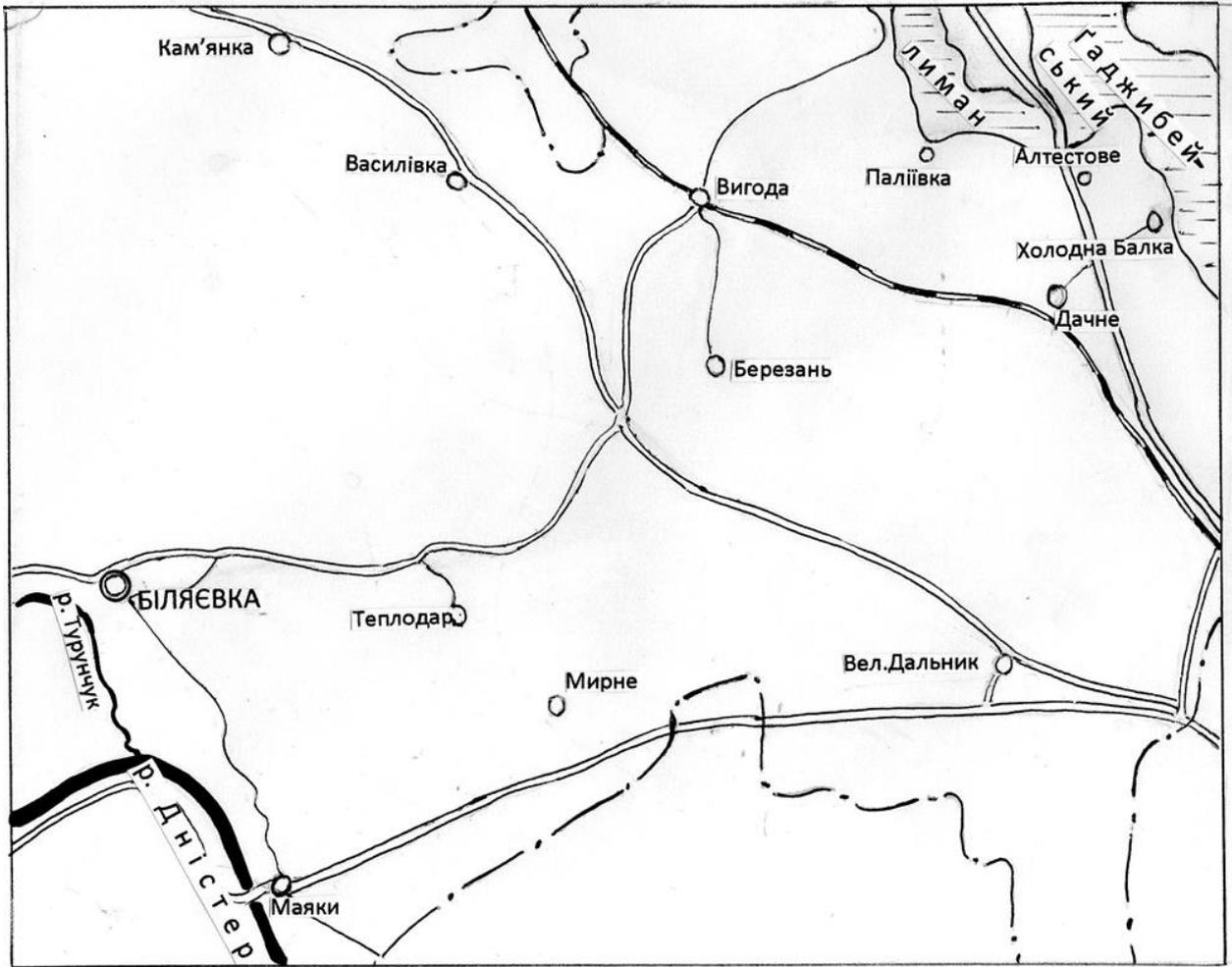


Fig. 4. The base map of the area Bilyaevskogo. Scale 1: 200 000.



Fig. 5. The base map of the area Savranskogo. Scale 1: 200 000.

## **9. instructional materials for learning professional skills, skills:**

### **9.1 Method of implementation of the work, stages of implementation:**

A) Specification of the concepts and terms geobotanic for example medicinal plants growing and harvested in Ukraine (updating own dictionaries terms students);

B) Study of the range LR and RL that is used in Ukraine, on the principle of geographical distribution (natural spread) and belonging to the natural zones and plant communities (phytocenoses) (processing of educational, scientific and reference books, electronic resources)

B) Identify array of natural vegetation (processing of topographic maps and maps the geobotanical zoning of Ukraine, the Odessa region).

- steppe (there was only the top of the slopes of the estuaries: the Dniester, Gadzhibeyskogo, Kuyal'nitskogo, Tiligul)

- Forest (natural broadleaf forest is only in the forest-steppe part of the region, in the north, Savranskaya, Kodyma and Kotovsky districts).

D) With the special paper, the application (transfer) on the map base identified arrays and determination of their squares (1 mm<sup>2</sup> on paper corresponds 0,2h0,2 = 0.04 km<sup>2</sup> topographic map Odessa region and 0.4 × 0.4 = 0.16 km<sup>2</sup> - on the bases of the map).

## **10. Materials for self-mastery of knowledge and skills provided by this work.**

### **tests:**

1. Determine the scope of the topographic map, which uses resursoznavets - 1: 200 000. This means that 1 cm on the map is in a location in the distance

**A 2 km**

B. 2 m

V. 20 km

G. 200 m

D. 200 km

2. Which of the following areas of the Odessa region. soon find natural forests:

**A Savransky**

B. Ovidiopolsky

Vladimir Belyaev

G. Ivanovo

D. There is no forest in the area.

3. Which of the following plants can be found in the composition of the steppe

phytocenosis:

**A male driopteris**

B. Rosa Canina

- V. Salvia nemorosa
- G. Thyme dvoividny
- D. Feather grass hairy

4. For some species in the forest group will need to determine: 1) the density of coverage; 2) - zimknenist CZK

- A. Lipa serdtselista - 2
- B. Hedgehog common - 1
- B. lily of the valley - 1
- G. Rhamnus cathartica - 2
- E. Primrose spring - 1

5. Flowers Helichrysum sand collected in the beginning of flowering. Specify phytocoenosis blank RL:

- A. Wetlands
- B. Wood
- B. Meadow
- G. weeds
- J. Steppe**

6. What kind of medicinal herbs is a source of drug laxative "Senadeksin"?

- A. Herba Meliloti
- B. Folia Sennae**
- V. Fructus Ammi majoris
- G. Fructus Pastinacae sativae
- D. Herba Hyperici

7. Representatives of the Solanaceae family are widely used in medical practice as alkaloidovmisni plants. Some of the representatives of the family is the source for obtaining semi-synthetic corticosteroids hormonal drugs?

- A. Hyoscyamus niger
- B. Atropa belladonna
- B. Datura Stramonium
- G. Solanum laciniatum
- D. Solanum tuberosum

**11. The theme of the next session:**The raw material base of medicinal plants in Ukraine. LR various kinds of plant communities (forests, grasslands, grasslands, marshes, etc.). Effect of human populations load species RL-sources (4 hrs.)

**12. Reference for UDRS and NDRS on the next class**

- 1) To learn the theoretical material on the next topic.
- 2) Fill in the workbook for the next topic. Fill in all terms

3) To learn the test base Krok scheme

*Methodical recommendations were made by*

A handwritten signature in black ink, appearing to be 'A. Boyko', written in a cursive style.

*associate professor Boyko IA*