

New varieties of Oriental poppy (*Papaver orientale* L.) bred in the M. M. Gryshko National Botanical Garden of the National Academy of Sciences of Ukraine

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Purpose. Based on the analysis of scientific literature and information resources of botanical institutions, to investigate the state and main directions of Oriental poppy (*Papaver orientale* L.) breeding, as well as the world assortment of its varieties. Based on the collection and breeding stock of the M.M. Gryshko National Botanical Garden of the National Academy of Sciences of Ukraine (hereinafter – NBG), to create domestic varieties that meet the requirements for modern ones and are adapted to the growing conditions in Ukraine. **Methods.** Analytical selection methods were used, based on individual selection and evaluation of the best samples from the available breeding base. **Results.** Eight new varieties of Oriental poppy of the NBG breeding ('Lialechka', 'Rozett', 'Malika', 'Kabare', 'Miia', 'Halyna', 'Chaklunka', 'Toreador') are presented. They are characterised by considerable variability in morphological traits, including color, flower shape, habitus and plant height. The diameter of the flowers varies from 8 to 18 cm, the shape – from bowl to cup, the degree of ruffle of the petals varies from weak to strong. The strength of the flower peduncles correlates with the height of the plants, ensuring the stability and decorativeness of both tall and short varieties. **Conclusions.** The new varieties of Oriental poppy of the NBG breeding are characterised by high decorative value, resistance to abiotic and biotic factors and adaptability to the soil and climatic conditions of the Ukrainian forest steppe. They also show considerable variability in habit, flower shape and color, and have different flowering times and durations. These characteristics make the newly developed varieties promising for multiple uses in landscaping and for further use in breeding programmes. Eight new varieties have been included in the "State Register of Plant Varieties Suitable for Dissemination in Ukraine".

Keywords: *Papaveraceae* Juss.; ornamental plants; hybridisation; assortment; phytodesign.

Introduction

The breeding of ornamental plants is an important area of modern botanical science and horticulture, closely related to the development of plant design and landscape architecture. With the intensive development of these industries, there is a need to create new plant varieties that meet the high requirements of ornamental value, disease resistance and adaptability to local conditions. One of the most promising crops for achieving this goal are the members of the genus *Papaver* L. of the family *Papaveraceae* Juss., which are characterized not only by their decorative value, but also by their ecological plasticity and significant breeding potential [1].

The genus *Papaver* L. comprises about 100 species, 80 of which are used in ornamental hor-

ticulture in Western Europe and North America [2, 3], and two species (*P. somniferum* L., *P. bracteatum* Lindl.) are a source of valuable alkaloids for the pharmaceutical industry [4–7]. One of the most widely used ornamental members of the poppy family is the Oriental poppy (*P. orientale* L.). Most varieties of Oriental poppy used in modern world floriculture are the result of complex interspecific hybridisation between *P. bracteatum*, *P. setiferum* Goldblatt (syn. *P. pseudo-orientale* (Fedde) Medw. [8]) and *P. orientale* L. [9]. These three closely related species belong to the section *Oxytona* Bernh. (= *Macraha* Elk.) [10, 11]. The range of this section is limited and includes part of Turkey and Iran, the South Caucasus and some regions of the North Caucasus [10, 11]. The genetic differences between these species are manifested in the number of chromosomes: *P. bracteatum* is a diploid species (with a chromosome set of $2n = 14$), *P. orientale* is hexaploid ($2n = 28$) and *P. pseu-*

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do-orientale is tetraploid ($2n = 42$). Despite the different ploidy, *P. bracteatum*, *P. setiferum* and *P. orientale* are relatively easy to cross [12, 13]. Morphologically, the three species are similar, but differ in the presence or absence of a dark spot at the base of the petals, the position of the peduncles, the presence or absence of bracts, the shape of the seed-box, and the height of the plants [10]. Cultivated plants are so different from the original parental forms that it is difficult to establish their species identity without genetic research. Hybridisation has occurred both under natural conditions and under conditions of introduction or cultivation [8, 14].

P. orientale and *P. setiferum* were introduced to botanical institutions in Europe at the beginning of the 18th century (specimens of *P. bracteatum* in 1800) [14], but breeding work with them began only 100 years later, in 1906, when the English breeder Amos Perry received a specimen with a pink flower (cultivar 'Mrs Perry'), and in 1913 – a white-flowered specimen ('Perry's White'). From 1906 to 1914, in addition to the two varieties mentioned above, Perry's Hard Plant Farm received 4 other varieties: 'E. A. Bowles' (pale apricot with ruffled petals), 'May Queen' (orange-red semi-double without the characteristic black spot on the petals), 'Indian Chief' (dark red) and 'Mrs Stobart' (light cherry) [8].

In the first half of the 20th century, oriental poppies enjoyed considerable popularity among flower growers, but later other ornamental crops became fashionable and the demand for oriental poppies declined significantly. In addition, most of the varieties created at that time were lost or distributed under the wrong names [8]. The interest in the breeding of this species was revived in the 90's of the XX century. As an indicator of the growing interest of both specialists and general consumers throughout the world, the prestigious Award of Garden Merit (AGM), established by the Royal Horticultural Society (RHS) in the UK, awarded five varieties of Oriental Poppy in 1993 ('Beauty of Livermere', 'Black and White', 'Cedric Morris', 'Mrs Perry', 'Turkish Delight') and a further eight varieties in 1997 ('Aglaja', 'Effendi', 'John III', 'Karine', 'Khedive', 'Leuchfeuer', 'Lighthouse', 'Showgirl'). The applicants were the nurseries Gräfin von Zeppelin (Laufen, Germany), Beth Chatto Gardens (Essex, UK), West of Scotland Agricultural College (Ayr, Scotland), Rijnbeek and Zoon (Boskoop, the Netherlands) [8, 15].

At the beginning of the XXI century, Dutch breeders Eleonore de Koning and Hubertus Gerardus Oudshoorn achieved significant suc-

cess in breeding this crop. Subsequently, Eleonore de Koning's nursery was moved to France because of the more favorable climatic conditions for poppy cultivation. As part of her breeding work, she created more than 20 new varieties, many of which were named after French cultural monuments, including 'Arc De Triomphe', 'Montmartre', 'Moulin Rouge', 'Louvre', 'Sorbonne' and others [16].

Hubertus Gerardus Oudshoorn, a Dutch horticulturist, is known for his outstanding achievements in the breeding of many ornamental and decorative plants. Between 2002 and 2008, his breeding work led to the creation of unique semi-double, ruffled (split-petal) varieties of Oriental Poppy, such as 'Fancy Feathers', 'Miss Piggy', 'Ruffled Patty', 'White Ruffles', 'Pink Ruffles', 'Pink Pearl', 'Ruffled Princess of Orange', which attracted great interest in the breeding world. Among his well-known and popular varieties are 'Baby Kiss', 'Papillon', 'Mandarin', 'Pagode', 'Double Pleasure', 'Scarlet O'Hara', 'King Kong' and others. Oudshoorn's breeding programme focused on creating compact, short plants with thick peduncles, large flowers and foliage that remains deep green throughout the flowering season [16, 17].

Two other Dutch breeders, Eleonore Peek and Chad Walters, who created such popular varieties as 'Casino' and 'Flamenco Dancer', should also be mentioned [17].

A real sensation in 2008 was the appearance on the website of the UK's leading nursery, Water Meadow Nursery (www.plantaholic.co.uk), of 17 new unique varieties from the Super Poppy group, bred by the American breeder James Peter DeWelt from California as a result of hybridisation of five species of the genus *Papaver*: *P. atlanticum*, *P. californicum*, *P. rupifragrum*, *P. somniferum*, *P. orientale*. It was noted that the varieties were characterised by strong generative shoots and a significant plant habitus. The flowers are large and resistant to fading of the petals, saturated with original colors; the flowering period of one flower can reach 14 days ('Medallion'), while in ordinary varieties the flower retains its decorativeness for 3–5 days. In addition, the Californian varieties have increased resistance to drought and high temperatures, as well as good hardiness. Examples of such varieties are 'Alpha Centauri', 'Bright Star', 'Heartbeat', 'Jacinth', 'Medallion', 'Phoenix Rising' (also known as 'Olympic Flame', 2008), 'Rhapsody in Red', 'Shasta', 'Serena', 'Tequila Sunrise' and others. However, the official website of the Meadow Nursery is currently down and the nursery does not sell poppies. The Royal Horticultural Society (RHS) website only

has information on one variety, 'Medallion', from the Super Poppy group [18].

In recent years, a significant reduction in the range of poppies has been observed in a number of foreign nurseries [19]. And the well-known Helene Countess von Stein-Zeppelin stopped selling them. The main reason was the considerable damage caused to the collections by the downy mildew pathogens – the fungi *Peronospora arborescens* de Bary [15, 20], which often affects other species of the genus *Papaver* [21, 22], resulting in the death of the plants. Under the conditions of the NBG, significant damage to *P. orientale* plants by the common spider mite (*Tetranychus urticae* Koch.) was found, which negatively affects their condition.

Studying the economic and biological characteristics of the varieties created in different periods, we can state the following facts: the first breeding direction in working with oriental poppies was to increase the color range of the flowers, to increase their size and to select plants with strong flower peduncles. This was followed by varieties with ruffled petals, semi-double forms and varieties with original flower colors, including bicolored varieties. Modern breeding achievements include the creation of compact plants with large flowers, a wide range of colors with thick peduncles and long-lasting decorative foliage. Particularly original are the varieties with fringed petals, created by Hubertus Gerardus Oudshoorn. Of great interest are works on cross-pollination of five species, which has resulted in varieties with intensive growth, long flowering time, large flowers with denser petals and original, saturated colors. Today, the world's diversity of oriental poppies includes more than 300 varieties [8]. At the same time, only six varieties of *P. orientale* are grown in botanical gardens in Ukraine [23], while plants of this species are widely used in ornamental horticulture due to their unpretentiousness.

Monitoring of private collections and analysis of catalogs of garden centers in Ukraine has revealed a significant reduction in the range of poppy varieties available to consumers. The analysis revealed that only approximately five varieties of Oriental poppy are currently available on the market, representing approximately 2% of the total global varietal range of this ornamental crop. This limited availability can be attributed to several factors. Primarily, there is a paucity of advanced agrotechnical methods for cultivating Oriental poppy in the context of our nation's specific conditions. Additionally, there is an absence of scientifically validated introductory research and varietal studies on this particular crop.

To solve this problem, the Department of Floriculture and Ornamental Plants of the M. M. Gryshko National Botanical Garden of the NAS of Ukraine initiated scientific work on the introduction of varieties and the formation of a collection fund of *P. orientale* for the first time in Ukraine. Although the species forms of the Oriental poppy were introduced to the NBG from Germany in 1984, there was no variety material according to the catalogue [24]. The formation of the *P. orientale* collection started in 2002. Planting material was obtained from horticultural companies in the form of rhizomes, as well as seeds provided according to the delectus. From 2002 to 2023, 34 varieties of Oriental poppy were subjected to introductory research and variety testing. Of these, only 12 varieties were suitable for cultivation in the agroclimatic conditions of the Ukrainian Forest-Steppe zone. These varieties not only met the declared varietal characteristics, but also showed resistance to the main pathogens, which is a key condition for their successful cultivation. The results obtained confirm the feasibility of expanding the range of Oriental poppy varieties by means of domestic breeding, and also open up prospects for the wider introduction of this ornamental crop in both landscaping and commercial floriculture.

Research objective. Based on the synthesis of information obtained from scientific literature and websites of botanical institutions, to determine current trends and prospects in the breeding of this species. To use the existing collection and hybrid resources of the National Botanical Garden to obtain native varieties of Oriental poppy that meet the requirements of modern breeding standards.

Materials and methods

The territory of the NBG of NAS of Ukraine is located in the southeastern part of Kyiv (coordinates: 50°22' N and 30°33' S) [25]. In terms of natural conditions, the Kyiv region is located on the border of two physical and geographical zones: the forested part of Polissia and Forest-Steppe. Forest and loess-like clays are the parent rocks on the basis of which the modern soil cover of the territory of the NBG NAS of Ukraine was formed [25]. Dark grey podzol is the main soil type of the garden. Due to the fact that podzolisation has reached different stages, a number of its varieties are observed here. The diversity of the soil cover has been significantly influenced by human economic activity. In the areas of the floriculture and ornamental horticulture department, artificial layers of imported topsoil (arable land), peat and sand predominate [26]. According to the agrochemical characteristics,

these are medium loamy, slightly acidic soils, characterized by a low content of nitrogen compounds and a low concentration of humus. The groundwater in the area of the Botanical Garden is located at a great depth and does not influence the soil formation processes. Of all the factors of the abiotic environment, climate has the greatest influence on phenological phenomena in general and biological processes in particular [27].

The region has a temperate continental climate. The average annual air temperature during the observation period (2002–2023) was 9.5°C. Its values varied between 8.2°C (2003) and 10.9°C (2020). The first autumn frosts usually occur in early October. The coldest month is January with an average temperature of –3.2°C. At the same time, a record low monthly average temperature of –10.0°C was recorded in February 2012. Warmer winters were observed in 2020 and 2007, when the average monthly temperature in January was +2.5°C and +2.1°C, respectively [28]. Winter is characterized by thaws, during which the temperature can rise to +11°C.

The beginning of spring (March) shows a significant temperature range from –6.4°C (2003) to 6.8°C (2014) [28]. The growing season in the central and eastern sub-zones of the Forest-Steppe begins in the first decade of April and lasts on average 200 days [29]. May is usually warmer with an average monthly temperature of 16.2°C, with a tendency to increase. The highest average monthly temperature in May was recorded in 2019 (23.6°C) [28].

Summer temperatures are consistently high. The warmest month is July with an average temperature of 21.8°C over the years of observation. The maximum temperature for July was 24.4°C in 2010. June and August have lower average temperatures of 20.1°C and 21.0°C respectively. However, in recent years (2019–2023) there is a trend towards warmer August, especially in 2020 (21.4°C). September is mostly warm (maximum average temperature of 18.4°C in 2020). November shows a significant change in weather conditions: from –5.0°C (2012) to 8.0°C (2010) [27].

The growing season in recent years has been characterized by an uneven distribution of precipitation. According to long-term observations, most of it falls in June (74 mm on average), while May, August and September have been characterized by significant rainfall deficits in recent years [27].

Breeding work with Oriental poppy was carried out at the NBG of the National Academy of Sciences of Ukraine, Kyiv, during 2002–2023. Taking into account the world trends in the

breeding process and the potential of the *P. orientale* gene pool created at the NBG, breeding work on the development of domestic varieties was carried out in the following areas

- original, fade-resistant flower color
- ruffled perianth petals
- strong flower peduncles (resistant to lodging)
- compactness of the plant during flowering
- resistance to pathogens.

The breeding work was carried out using analytical breeding methods based on individual selection and evaluation. The initial breeding material was the progeny (F_1 and F_2) obtained from free pollination of the varieties ‘Pizzicato’, ‘Tiffany’, ‘Rosett’ from the collection of the Department of Floral and Ornamental Plants of the NBG. The original parental forms are characterised by an intense color: ‘Pizzicato’ has a bright crimson color, ‘Tiffany’ – burgundy-purple, ‘Rosett’ – pink-crimson. The peculiarity of ‘Tiffany’ is the ruffled petals and compact habitus, while ‘Rosett’ is short. All varieties have strong peduncle. The mother forms produce a large number of seeds, with the exception of ‘Tiffany’ which has a very low seed production.

According to the planned breeding programme, seedlings were obtained on the basis of free pollination of the varieties ‘Tiffany’, ‘Pizzicato’ and ‘Rosett’, among which a number of forms with valuable decorative and economic characteristics were identified. Flowering of the seedlings was observed in the 2nd year. The main criteria for individual selection in the first stage were: strong peduncles, resistance to pathogens (higher than the parent variety), flower color different from the parent variety. In order to increase genetic diversity and improve the initial breeding material, the process of seed propagation was repeated with selected F_1 plants to obtain new material for individual selection. This resulted in F_2 seedlings that differed greatly in plant habitus, height, color, flower shape and color, and flowering time. In the further study of the seedlings we paid attention to plant habitus, winter and drought resistance, abundance of flowers, ruffling of petals, flower shape and size. The most promising F_1 and F_2 seedlings were vegetatively propagated using root cuttings to conserve valuable traits for further evaluation in the final selection of plants for new varieties.

The hybrid forms obtained were compared with the parental forms and evaluated according to the method of G. O. Goray [30]. The study took into account the morphometric and morphological characteristics of the plants and the degree of their manifestation. For the vegetative part, the pubescence, color, length and

width of the leaves and the characteristics of the leaf margins were evaluated. In the generative part, the length and diameter of the peduncles, the shape and pubescence of the buds, the presence of bracts, the diameter of the flowers, the ruffling and the color of the petals were assessed. These are varietal characteristics. We also took into account economically valuable traits: ornamentality, resistance to disease and pests, resistance to frost and drought, ability to rebloom and flowering duration.

Research results

The result of the breeding work was the creation of eight varieties of Oriental poppy.

'*Lialechka*' is a very short, compact variety. The leaves of this variety are lighter in color than other varieties. The peduncles are straight, medium strong and the plant height does not exceed 45 cm at flowering. The buds are oval, without bracts. The flower is raspberry-pink, cup-shaped, 8–9 cm in diameter, with moderately ruffled petals. The basal spot is present. Flowering begins on 21.05–25.05. In the first year of flowering it produces 1–3 flowers, in the second year 6–8, up to 10 flowers. Flowering lasts 8–12 days, depending on weather conditions. It tends to repeat flowering.

'*Rosett*' is a fragile, abundantly flowering cultivar. The peduncles are straight, of medium strength, and the plant is 50–55 cm tall during flowering. The buds are oval, without bracts. The flower is pinkish-raspberry, bowl-shaped, 12–13 cm in diameter, the petals are slightly ruffled, the basal spot is small or medium in size. Flowering 20.05–24.05. In the first year of flowering forms 1–3 flowers, in the second year of flowering 8–10, up to 16 flowers. Flowering lasts 8–12 days.

'*Malika*' is a compact variety, 55–60 cm tall. The leaves of this variety have a darker shade than other varieties. Stems are straight, medium strong. Buds are globular, bracts well developed. The flower is bright crimson, cup-shaped, 12–13 cm in diameter, the petals are slightly ruffled, with a small to medium sized black spot at the base of the petals. Flowering begins on 1.06–3.06. There are 1–3 flowers in the first year of flowering and 5–9 in the second year. The flowering period is 10–12 days. Full fruiting is absent.

'*Kabare*' is a compact plant, rosette leaves at the beginning of the growing season are with a slightly wavy edge, deep green, glossy upper side clearly visible. The peduncles are straight, strong, 58–60 cm, oval buds, without bracts. The flower is orange-salmon (with a thin, white, thread-like border along the edge of the petal),

bowl-shaped, 15–18 cm in diameter, with moderately ruffled petals, with a basal spot. Flowering begins in 23.05–25.05. In the first year of flowering there are 1–2 flowers, in the second year 5–7 flowers. Flowering period is 7–12 days.

'*Miia*' is a profusely flowering, medium-sized cultivar. The flower stems are straight and strong, the plant height during flowering is 75–80 cm. The buds are oval, with bracts. The flower is bowl-shaped, rich salmon-orange in color, 14–15 cm in diameter, the petals are slightly ruffled, the black spot at the base of the petals is large. The variety has a medium flowering period, the beginning of flowering is 25.05. In



Fig. 1. Oriental poppy variety 'Lialechka'

the first year of flowering there are 1–3 flowers, in the second year there are 8–10 flowers. Flowering lasts 8–14 days.

'*Halyna*' is a strong variety, 75–80 cm tall. The buds are oval, with bracts. The flower is salmon-orange, cup-shaped, 13 cm in diameter, the petals are slightly ruffled, with a basal spot. Flowering begins on 27.05–4.06. In the first year there are 1–3 flowers, in the second year there are 5–7 flowers. The flowering period is 8–12 days.

'*Chaklunka*' is a strong, tall variety, up to 80 cm tall, oval buds, bracts well developed. The rosette leaves are dark green, heavily pubescent. The flower is dark purple-red, cup-shaped, 13–15 cm in diameter, with strongly ruffled petals and a black spot at the base. Flowering begins on 22.05–27.05 May. In the first year there are 1–3 flowers, in the second year 6–12 flo-

wers. Flowering lasts 7–14 days. It tends to repeat flowering.

'*Toreador*' is a very strong and tall variety with a long flowering period. The stems are straight, very strong, 90–95 cm long, oval buds, bracts present. The flower is red, bowl-shaped, 14–18 cm in diameter, ruffled petals with a black spot at the base. Flowering period 25.05–30.05. In the first year there are 1–3 flowers, in the second year there are 10–16 flowers. Flowering lasts 10–20 days. It tends to repeat flowering.

The comparative characteristics of the varieties according to the identified variety-specific traits are given in Table 1.



Fig. 2. Oriental poppy variety 'Rosett'

Fig. 3. Oriental poppy variety 'Malika'

Table 1

Morphological traits of Oriental poppy (*P. orientale*) varieties of the breeding of the National Botanical Garden named after M. M. Gryshko of the National Academy of Sciences of Ukraine

Variety name, year of registration	Plant height during flowering, cm, plant height	Peduncle: diameter, cm, by strength	Flower: diameter cm, shape	Petals: color, ruffling	Time of start of flowering*
'Lyilechka', 2024	40–45, very low	0.6, medium	8–9, cup-shaped	52A Red Group, moderate	medium
'Rozett', 2019	52–55, low	0.6, medium	12–14, bowl-shaped	52B Red Group, weak	medium
'Malika', 2019	55–59, low	0.7, medium	12–13, cup-shaped	45D Red Group, weak	late
'Kabare', 2024	55–59, low	1.0, large	15–18, cup-shaped	54B Red Group, moderate	medium
'Miia', 2019	60–65 average	0.8, medium	14–15, bowl-shaped	41B Red Group, weak	late
'Halyna', 2019	75–80, high	1.0, large	12–14, cup-shaped	33A Red Group, moderate	medium
'Chaklunka', 2024	75–80, high	1.0, large	13–15, cup-shaped	46A Red Group, strong	medium
'Toreador', 2024	90–95, very high	1.0, large	16–18, bowl-shaped	44B Red Group, moderate	medium

*Indicative calendar dates for the Forest-Steppe. Early – 8.05–19.05, middle – 20.05–31.05, late – 1.06–12.06 [30].



Fig. 4. Oriental poppy variety 'Kabare'

Fig. 5. Oriental poppy variety 'Miia'

The resulting varieties of Oriental poppy differ not only in color and flower shape, but also in habitus and plant height (40–95 cm). Three varieties are pink, crimson and dark pink and crimson: 'Rosett', 'Lialechka' and 'Malika', while 'Chaklunka' is purple-red, 'Toreador' is bright red and 'Halyna', 'Miia' and 'Kabare' are orange-red. All these colors are resistant to fading.

Three varieties – 'Rosett', 'Miya' and 'Toreador' – have open, bowl-shaped flowers. The other varieties have cup-shaped flowers with the petals covering the pistil throughout the flowering period ('Halyna', 'Malika') or open slightly at the end of flowering.

The degree of ruffling varies from variety to variety: 'Chaklunka' has strongly ruffled petals, four varieties have moderately ruffled petals and three have weakly ruffled petals.

An important aspect in the breeding of most ornamentals is a strong flower stem, especially for large plants and large flowers. Taller varieties such as 'Halyna', 'Chaklunka' and 'Toreador' have strong, long flower stems. Low and medium varieties have medium-strong flower stems, which is sufficient to give a compact plant shape and resistance to lodging.

All the varieties developed are resistant to pests and diseases, winter and drought tole-



Fig. 6. Oriental poppy variety 'Halyna'

Fig. 7. Oriental poppy variety 'Chaklunka'



Fig. 8. Oriental poppy variety 'Toreador'

rant, and therefore adapted to the soil and climatic conditions of the Forest-Steppe zone of Ukraine, and are suitable for expanding the range of floricultural and ornamental plants in our growing area.

Conclusions

As a result of the breeding work carried out in the M. M. Gryshko National Botanical Garden of the National Academy of Sciences of Ukraine, eight new varieties of *P. orientale*, characterised by a number of valuable characteristics were created. These varieties have original flower color, strong stalks, compact

plant shape and high resistance to diseases and pests. They are well adapted to the conditions of the Ukrainian Forest-Steppe, which makes them promising for introduction into ornamental horticulture. The newly developed varieties have been included in the "State Register of Plant Varieties Suitable for Dissemination in Ukraine".

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Горай Г. О. Нові сорти маку східного (*Papaver orientale* L.) Національного ботанічного саду імені М. М. Гришка НАН України. *Plant Varieties Studying and Protection*. Т. 20, № 4. С. 192–201. <https://doi.org/10.21498/2518-1017.20.4.2024.320937>

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Мета. На підставі аналізу наукової літератури та інформаційних ресурсів ботанічних установ дослідити стан та основні напрями селекції маку східного (*Papaver orientale* L.), а також світовий сортимент його культурварів. На основі колекційного та селекційного фонду Національного ботанічного саду імені М. М. Гришка НАН України (далі – НБС) створити вітчизняні сорти, які відповідатимуть заданим вимогам щодо сучасних культурварів і будуть адаптовані до умов вирощування в Україні. **Методи.** Використовували методи аналітичної селекції, які ґрунтуються на індивідуальному доборі та оцінюванні найліпших зразків із наявної селекційної бази. **Результати.** Представлено вісім нових сортів маку східного селекції НБС ('Лялечка', 'Розетт', 'Маліка', 'Кабаре', 'Мія', 'Галина', 'Чаклунка', 'Тореадор'). Вони характеризуються значною варіабельністю за морфологічними ознаками, зокрема колірною гамою, формою квітки, габітусом і висотою рослин. Діаметр квіток варіює від 8

до 18 см, форма – від чаше- до бокалоподібної, ступінь гофрованості пелюсток змінюється від слабкого до сильного. Міцність квітконосів корелює з висотою рослин, забезпечуючи стійкість і декоративність як високорослих, так і низькорослих сортів. **Висновки.** Нові культурвари маку східного селекції НБС вирізняються високою декоративною цінністю, стійкістю проти абіотичних та біотичних факторів й адаптованістю до ґрунтового-кліматичних умов Лісостепу України. Також вони демонструють значну варіативність у габітусі, формі та забарвленні квіток, мають різні терміни та тривалість цвітіння. Ці властивості роблять новостворені сорти перспективними для різнопланового застосування в озелененні та подальшого використання у селекційних програмах. Вісім нових культурварів внесено до Державного реєстру сортів рослин, придатних для поширення в Україні.

Ключові слова: *Papaveraceae* Juss.; декоративні рослини; гібридизація; асортимент; фітодизайн.

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