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Зайцева И.А. Анализ феноритмики и адаптивных свойств кленов в условиях интродукции в Степном Приднепровье / **И.А. Зайцева** // Вісник Дніпропетровського державного аграрно-економічного університету. – 2015. – № 2(36). – С. 6–12.

Установлены общий характер сезонного развития аборигенных и интродуцированных видов рода *Acer* L. в ботаническом саду ДНУ и особенности протекания фенофаз в зависимости от ботанико-географического происхождения и систематического положения вида, а также температурного режима периода вегетации. У наиболее приспособленных видов в ходе длительной акклиматизации происходит стабилизация феноритмики и приближение ее к годичному циклу аборигенных видов. Менее приспособившиеся виды *A. ginnala*, *A. semenovii* і *A. monspessulanum* адаптивный потенциал реализуют в экологической пластичности феноритмики, сдвигах сроков и длительности фенофаз в соответствии с температурными условиями вегетационного периода.

Ключевые слова: интродукция, феноритмика, сезонное развитие, виды кленов, температурный режим, адаптация.

Удод Л.В. Участие украинских заповедных территорий в создании трансграничных охранных объектов / **Л.В. Удод** // Вісник Дніпропетровського державного аграрно-економічного університету. – 2015. – № 2(36). – С. 13–15.

Изложены особенности создания и функционирования транснациональных природоохранных территорий в Европе. Изучено роль украинских заповедных объектов в создании единственной экосети на поприщах европейских государств.

Ключевые слова: интеграция, национальный парк, транснациональные природоохранные территории, заповедник, резерват.

Трач И.А. Координированное управление экологической безопасностью группировок диких млекопитающих Западной Лесостепи Украины / **И.А. Трач, В.Г. Петрук** // Вісник Дніпропетровського державного аграрно-економічного університету. – 2015. – № 2(36). – С. 16–19.

Определено влияние человеческой деятельности на динамику численности популяций диких млекопитающих. Предложено внедрить ряд мероприятий по сохранению биологических разновидностей и защите популяций животных координированным управлением териофауной для обеспечения стабильности и экологического равновесия дикой фауны.

Ключевые слова: экологическая безопасность, координированное управление, дикие млекопитающие, динамика популяций, териофауна.

Федюшко М.П. Агробиоразнообразие как составляющая природопользования Северного Приазовья Украины / **М.П. Федюшко** // Вісник Дніпропетровського державного аграрно-економічного університету. – 2015. – № 2(36). – С. 20–23.

Приведены результаты исследований состояния биоразнообразия агроэкосистем Северного Приазовья Украины на основе индекса MSA обобщенного биоразнообразия ненарушенной естественной среды. Установлено, что по этому индексу обобщенное биоразнообразие этой территории составляет от 8 до 20 % биоразнообразия ненарушенной естественной территории. Впервые доказано, что индекс MSA хорошо отражает состояние территории по уровню экологической опасности и может служить основой для определения реакций видов агробиоразнообразия на антропогенные влияния.

Ключевые слова: агробиоразнообразие, индекс MSA, территория, распределение.

Ткачук А.П. Анализ экологического состояния лесов Винницкой области / **А.П. Ткачук, О.В. Костенюк** // Вісник Дніпропетровського державного аграрно-економічного університету. – 2015. – № 2(36). – С. 24–26.

Обсуждаются вопросы фактического и экологического состояния лесов в Винницкой области. Определено, что леса занимают 14,3 % от общей площади области, при оптимальной для региона лесистости 18–25 %. Установлено ряд экологических факторов, уменьшающих фактическую площадь лесов: незаконные рубки, пожары, развитие вредителей и болезней. Доказано, что наибольшее значение имеют неблагоприятные погодные условия, которые уничтожают около 10 % лесных насаждений Винницкой области.

Ключевые слова: лес, экологическое состояние, площадь, пожар, вредители, болезни, погодные условия, лесовосстановление.

Активность супероксиддисмутазы вегетативных органов гибридной кукурузы за действия грунтовых гербицидов и засухи / **Г.С. Россихина-Галича, Ю.В. Лихолат, Г.А. Заико, А.Ю. Железняк** // Вісник Дніпропетровського державного аграрно-економічного університету. – 2015. – № 2(36). – С. 27–30.

Исследована ответная реакция ключевого фермента антиоксидантной защиты листьев и корней проростков растений кукурузы гибридов Днепровский 310МВ, Белозерский 295СВ на комбинированное

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воздействие почвенных гербицидов (Фронтьер, Мерлин) и почвенной засухи. Установлено, что адаптивная способность более устойчивых организмов к стресс-факторам реализуется за счет повышения активности супероксиддисмутазы.

Ключевые слова: кукуруза, гербициды, засуха, супероксиддисмутаза, антиоксидантная система, стресс-факторы.

Клименко О.Е. Влияние химической мелиорации на свойства почвы и продуктивности деревьев персика / **О.Е. Клименко** // Вісник Дніпропетровського державного аграрно-економічного університету. – 2015. – № 2(36). – С. 31–35.

Приведены данные полевого стационарного опыта по влиянию мелиорации почв, подверженных ощелачиванию, в плодоносящем саду персика. Показано, что в результате мелиорации произошло снижение величины рН. Мелиоранты характеризовались значительным последствием. Установленная индивидуальная реакция сортов персика на мелиорацию почвы.

Ключевые слова: ощелачивание, мелиорация, садовый агроценоз, свойства почвы.

Голобородько К.К. Анализ охраны чешуекрылых (Lepidoptera) в современных объектах природно-заповедного фонда Днепропетровской области / **К.К. Голобородько, А.Е. Пахомов** // Вісник Дніпропетровського державного аграрно-економічного університету. – 2015. – № 2(36). – С. 36–39.

Рассмотрены особенности охраны комплекса редких и исчезающих видов чешуекрылых (Lepidoptera) в объектах природно-заповедного фонда (ПЗФ) Днепропетровской области.

Ключевые слова: редкие и исчезающие чешуекрылые (Lepidoptera), охрана природы, Днепропетровская обл.

Анализ аллелопатической активности листового опада, почвы и копролитов в парках г. Днепропетровск / **А.И. Крючкова, О.А. Дидур, Ю.Л. Кульбачко, А.Е. Пахомов** // Вісник Дніпропетровського державного аграрно-економічного університету. – 2015. – № 2(36). – С. 40–42.

Рассматривается влияние аллелопатических свойств опада древесных растений и трофо-метаболической деятельности дождевых червей (Lumbricidae) на аллелопатические свойства почвы под *Ulmus minor* Mill. в парках г. Днепропетровск. Показано, что листовая опад *U. minor* в парковых зонах является одним из основных поставщиков аллелопатически активных веществ биологического происхождения, которые форми-

руют особенный экологический фактор – аллелопатический.

Ключевые слова: аллелопатия, дождевые черви, почва, парковая зона.

Корж А.П. Технологические особенности инкубационного процесса яиц охотничьего фазана / **А.П. Корж, Д.А. Фролов** // Вісник Дніпропетровського державного аграрно-економічного університету. – 2015. – № 2(36). – С. 43–47.

Изучено влияние технологических особенностей инкубации яиц охотничьего фазана на ее результативность. Исследования проводили в фазанарии охотничьего хозяйства “Холодная гора” в 1993–1994 гг. и в хозяйстве Охотничьего клуба “Скиф” Каланчакской районной общественной организации в 2010–2012 гг. Наилучшие результаты выведения яиц охотничьего фазана получены в инкубаторе “Универсал-55”. На современных фазанариях для качественной инкубации фазаньих яиц наиболее приемлемыми являются инкубаторы фирмы “Nest”. В то же время эти инкубаторы требуют некоторых конструктивных доработок, касающихся улучшения системы расположения яиц в лотках, и других.

Ключевые слова: фазан, яйцо, инкубация, вывод яиц, лоток.

Мудрак А.В. Биоразнообразие луговых экосистем агроландшафтов Подолии как структурных элементов региональной экосети / **А.В. Мудрак, Г.В. Мудрак** // Вісник Дніпропетровського державного аграрно-економічного університету. – 2015. – № 2(36). – С. 48–54.

Показано, что важнейшим аспектом сохранения биотического разнообразия лугов агроландшафтов является формирование экологической сети, в состав которой они входят как ключевые (буферные, восстановительные) территории. Учитывая литературные и картографические данные, результаты проведенных полевых исследований, представлена характеристика луговой растительности Подолии с использованием общепринятой фитотипологической классификации. Предложен комплекс мероприятий по охране и рациональному использованию луговых экосистем региональной экосети.

Ключевые слова: биоразнообразие, луговые экосистемы, агроландшафт, региональная экологическая сеть, Подолье.

Фокин А.В. Использование анализа линейных выборок значений климатических предикторов для оценки зон возможной акклиматизации инвазивных фитофагов / **А.В. Фокин** // Вісник Дніпропетровського державного аграрно-економічного університету. – 2015. – № 2(36). – С. 55–57.

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Проанализированы линейные выборки значений климатических предикторов вдоль Северо-Крымского канала в зоне возможной акклиматизации кукурузной листовой совки на территории Крыма. Определено, что наибольший уровень гомогенности характерен для средней температуры за влажный период и осадков за влажный и сухой периоды (по 79,8 %), на основе чего сделано предположение о лимитирующем влиянии стабильных значений этих показателей для возможного распространения вида.

Ключевые слова: кукурузная листовая совка, климатические предикторы, гомогенность.

Мезофауна поверхности почвы садов с различной степенью пестицидной нагрузки Черновицкой области / **М.М. Федоряк, М.Ю. Марко, Р.М. Білусяк, Т.Г. Турун** // Вісник Дніпропетровського державного аграрно-економічного університету. – 2015. – № 2(36). – С. 58–62.

Проведен анализ структуры мезофауны поверхности грунта исследуемых садов Черновицкой области. Мезофауна представлена четырьмя типами, десятью классами и двадцатью одним отрядом. Показано качественное и количественное обеднение герпетобия садов со значительной пестицидной нагрузкой. Установлено уменьшение в 5,6 раза динамической плотности герпетобия садов при интенсивной обработке пестицидами.

Ключевые слова: герпетобионты, пестициды, сады, динамическая плотность, почвенные ловушки.

Тимошенко О.П. Развитие фузариозной корневой гнили люпина узколистого при различных системах удобрения / **О.П. Тимошенко** // Вісник Дніпропетровського державного аграрно-економічного університету. – 2015. – № 2(36). – С. 63–68.

В условиях стационарного полевого опыта на дерново-подзолистой среднекультурной супесчаной почве изучено влияние органической, минеральной, сидеральной и органо-минеральной систем удобрения и использование микробного препарата Ризогумин на распространение и развитие фузариозной корневой гнили люпина узколистого сорта Кристалл. Исследовано внесение минерального удобрения, которое способствовало улучшению фитосанитарного состояния растений люпина, особенно при средних дозах питания на начальном этапе развития растений (в фазу полных всходов).

Ключевые слова: люпин узколистый, фузариозная корневая гниль, микробный препарат Ризогумин, система удобрения.

Ганжа Д.С. Флора осокоревых лесов в условиях формирования островных экосистем в пределах природного заповедника “Днепровско-Орельский” / **Д.С. Ганжа** // Вісник Дніпропетровського державного аграрно-економічного університету. – 2015. – № 2(36). – С. 69–73.

Рассмотрены основные вопросы формирования и типологизации островных тополиных лесов в условиях среднего течения Днепра на охраняемой территории природного заповедника “Днепровско-Орельский”. Приведен аннотированный список флоры тополиных лесов с последующими экоморфической, ареалогической и систематической характеристиками видов.

Ключевые слова: заповедные леса, флора, типология, экоморфы, ареалы.

Герасько Т.В. Эффективность различных систем органической защиты персика в условиях южной Степи Украины / **Т.В. Герасько** // Вісник Дніпропетровського державного аграрно-економічного університету. – 2015. – № 2(36). – С. 74–76.

Отсутствие обработок приводило к увеличению поражения деревьев клостероспориозом и курчавостью, но уменьшало поражение мониллиозом и повреждение вредителями, существенно улучшало качество плодов. Растительная защита была неэффективной против клостероспориоза, но показала самую высокую урожайность и дала самые сладкие плоды. Обработка яблочным уксусом существенно снижала поражение клостероспориозом и курчавостью, что может в перспективе положительно сказаться на продуктивности и долговечности деревьев персика.

Ключевые слова: органическое садоводство, персик, болезни и вредители персика.

Дудка И.А. Пероноспоромицеты Приднпровья в пределах Правобережной и Левобережной злаково-луговых Степей / **И.А. Дудка** // Вісник Дніпропетровського державного аграрно-економічного університету. – 2015. – № 2(36). – С. 77–81.

Микологическими обследованиями фитоценозов злаково-луговой Степи Приднпровья выявлено 18 видов пероноспоромицетов – возбудителей ложной мучнистой росы подсолнечника, винограда и огурцов. Проанализировано распространение пероноспоромицетов по разным типам растительности в исследуемом ботанико-географическом регионе. Проведена критическая ревизия систематического положения *Peroospora parasitica*, *P. tribulina* и *P. lepidii*.

Ключевые слова: видовое разнообразие, пероноспоромицеты, *Peroosporaceae*, злаково-луговая Степь, ложная мучнистая роса.

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Махлинец С.С. Стратегия развития природоохранных территорий Закарпатской области / **С.С. Махлинец, Н.С. Кампов, К.А. Лани** // Вісник Дніпропетровського державного аграрно-економічного університету. – 2015. – № 2(36). – С. 82–85.

Показано, что составной частью стратегии развития природоохранных территорий Закарпатской области являются их охрана, развитие, а также формирование экологической сети Карпатского региона в целом. Предложены мероприятия организационного и образовательно-экологического характера, которые направлены на усовершенствование природоохранной деятельности в районах области.

Ключевые слова: устойчивое развитие, природоохранные территории, природно-заповедный фонд, экологическая сеть.

Василюк Е.М. Влияние ионов свинца на активность аспартаминотрансферазы в листочках *Glechoma hederacea* в условиях ривной функции *Mammalia* / **О.М. Василюк, А.Е. Пахомов** // Вісник Дніпропетровського державного аграрно-економічного університету. – 2015. – № 2(36). – С. 86–89.

Определена общая активность фермента аспартаминотрансферазы (класс трансфераз) и содержание альбуминов в листочках *Glechoma hederacea* L., которая доминирует на исследуемой территории. Оценена средообразующая роль роющей активности крота (*Talpa europaea* L.) в условиях загрязнения на Pb. Выявлено достоверное повышение активности АСТ на 96 и 12 % в вариантах опыта с Pb 5 ГДК и Pb 10 ГДК, содержания альбуминовой фракции на 141 % в опыте с Pb 1 ГДК и на 10 % в опыте Pb 5 ГДК, что доказало нивелирующее действие животных (роющих) на экзогенное загрязнение Pb.

Ключевые слова: аспартаминотрансфераза, гранично допустимая концентрация, альбумины, роющая активность.

Гассо В.Я. Значение новых созданных природоохранных территорий для сохранения биоразнообразия пресмыкающихся Днепропетровской области / **В.Я. Гассо, С.С. Пышнева** // Вісник Дніпропетровського державного аграрно-економічного університету. – 2015. – № 2(36). – С. 90–92.

Исследована герпетофауна трех созданных заказников в Павлоградском районе Днепропетровской области – Малотерновский, Троицко-Вишневецкий и Вязовоцкий. Выявлено восемь видов пресмыкающихся: по одному виду черепах, ящериц и шесть видов змей. Все виды включены в Европейский Красный список, пять видов занесены в Красный список Днепропетровской области, три – в Крас-

ную книгу Украины. Создание природоохранных территорий позволит сохранить редкие виды герпетофауны региона.

Ключевые слова: пресмыкающиеся, охранный статус, заказники, природоохранные территории, герпетофауна.

Соловьева Е.А. Птицы сосновых лесов Восточного Предкармья / **Е.А. Соловьева** // Вісник Дніпропетровського державного аграрно-економічного університету. – 2015. – № 2(36). – С. 93–97.

Приведены результаты круглогодичных учетов птиц в сосновых лесах Восточного Предкармья, в пределах г. Елабуга, в период с 16.10.2010 по 15.10.2012 год. Учеты проводили на постоянных, не строго фиксированных маршрутах без ограничения ширины трансекты. Показана сезонная динамика населения птиц. Межгодовые отличия представлены флуктуацией суммарного среднего обилия, степенью выраженности кочевков разных видов, изменениями их сроков, а также временем прилета перелетных птиц.

Ключевые слова: население птиц, временная динамика, сезонный аспект.

Назимов С.С. Экологические особенности распространения *Opatrum sabulosum* (L.) на территории степного Приднепровья / **С.С. Назимов, А.Е. Пахомов** // Вісник Дніпропетровського державного аграрно-економічного університету. – 2015. – № 2(36). – С. 98–101.

Исследовано 49 различных типов экосистем, в том числе ксерофитные целинные степные участки, где преобладают *Festuca* и *Stipa*, лесные экосистемы (липово-ясеневые дубравы), загрязненные или эродированные промышленностью склоны и агроценозы. *Opatrum sabulosum* (L.) – вид семейства (Tenebrionidae) – отмечен только в 19 экосистемах. *O. sabulosum* (L.) – ксерофильный вредитель полевых культур – найден исключительно в степных районах, часто на участках с разреженным растительным покровом, реже в экосистемах с высоким проективным покрытием.

Ключевые слова: *Opatrum sabulosum* (Linnaeus, 1761), Tenebrionidae, распространение, популяция, агроценоз.

Скакальская О.И. Научная ценность водноболотного массива озера Белое // **О.И. Скакальская** // Вісник Дніпропетровського державного аграрно-економічного університету. – 2015. – № 2(36). – С. 102–104.

Проведены фитоценологические исследования экологии местопроизрастания популяций геотрофных гелофитов видов рода *Drosera*

АННОТАЦИИ

Л. на территории вокруг озера Белое, в пределах Глиниевского лесничества Рокитновского района Ровенской области. Изученные популяции являются весьма уникальными и требуют всяческой охраны. Предлагается исследуемому массиву дать статус заповедного и учредить урочище "Хмельские озера".

Ключевые слова: *Drosera rotundifolia*, *Drosera intermedia*, *Drosera longifolia* (anglica), *Drosera* × *obovata*, ценопопуляция, экомониторинг, формация, ассоциация, фитоценотические исследования.

Жуков А.В. Оценка варьирования в пространстве и во времени растительного покрова средствами дистанционного зондирования Земли / **П.В. Писаренко, О.М. Кунах, О.Ю. Дыченко** // Вісник Дніпропетровського державного аграрно-економічного університету. – 2015. – № 2(36). – С. 105–112.

Разработаны методические подходы для применения данных дистанционного зондирования Земли, полученных с помощью спектрометра MODIS. Картографические сведения дают представление о возможностях подхода и основных трендах варьирования фитомассы растительного покрова, оцененного на основе индекса NDVI. Установлены закономерный тренд по увеличению фитомассы на протяжении весеннего периода, а также закономерности пространственного распределения фронта наращивания биомассы растений.

Ключевые слова: вегетационный индекс NDVI, растительный покров, пространственная агроэкология, динамика экосистем.

Сухорская О.П. Редкие и исчезающие виды животных на территории НПП "Сколевские Бескиды" / **О.П. Сухорская, Б.Н. Калын, Р.В. Миго** // Вісник Дніпропетровського державного аграрно-економічного університету. – 2015. – № 2(36). – С. 113–116.

Исследовано состояние редких и исчезающих видов животных на территории НПП "Сколевские Бескиды", обоснованы пути их сохранения и воссоздания. Предлагаются мероприятия по охране национального биоразнообразия природно-заповедного фонда.

Ключевые слова: биологическое разнообразие, парк, фауна, сохранение, заповедный режим.

Васильюк А.В. Состояние сети природно-заповедного фонда в условиях аграрной Херсонщины и перспективы его развития / **А.В. Васильюк, Д.В. Ширяева** // Вісник Дніпропетровського державного аграрно-економічного університету. – 2015. – № 2(36). – С. 117–120.

Показано, что развитие сети природно-заповедного фонда возможно только в комплексе со сбалансированным аграрным производством, поскольку значительная часть важных природных территорий для заповедания используется в аграрной сфере. При этом официальная доля заповедности существенно завышена и искажает представление о настоящем состоянии сети ПЗФ. Определена действительную долю заповедного фонда Херсонщины и указаны пути перспективного развития заповедного дела в области.

Ключевые слова: природно-заповедный фонд, Херсонская область, охрана природы, биосферные заповедники, национальные природные парки, охрана морских акваторий.

Бурковский А.П. Консервация земель как главный аспект восстановления ландшафтного и биологического разнообразия / **А.П. Бурковский** // Вісник Дніпропетровського державного аграрно-економічного університету. – 2015. – № 2(36). – С. 121–124.

Проанализирована ситуация, сложившаяся в Украине в связи с чрезвычайно опасным дефицитом природных экосистем, в первую очередь из-за непомерно высокого процента распаханности почв. Рассматривается практическое соответствие прописанной в нормативно-правовых актах процедуры консервации земель, как главного средства восстановления биологического и ландшафтного разнообразия, реальному положению, которое сегодня наблюдается в земельной и природоохранной сферах. Предложен ряд законодательных и институциональных изменений для консервации земель и создания полноценной экосети.

Ключевые слова: консервация земель, восстановление биологического разнообразия, опустынивание, земельное и природоохранное законодательство.

ABSTRACTS. REFERENCES. KEYWORDS

Analysis of Pheno-rhythmics and Adaptive Properties of Maples in the Conditions of Introduction in Steppe Pridneprovye (p. 6–12)

I. Zaytceva

The paper establishes the general nature of seasonal development of the ingenious and introduced species of *Acer* L. genus in the botanical garden of the Dnipropetrovsk National University and peculiarities of phenophase behavior depending on the botanical and geographic origin and systematic position of the specie, as well as temperature conditions of the vegetation period. In the most adapted species, during long-term acclimatization, pheno-rhythmics stabilizes and comes close to the circannual cycle of ingenious species. In less stable species – *A. ginnala*, *A. semenovii* and *A. monspessulanum* the adaptive potential is realized in the ecological plasticity of pheno-rhythmics, shifting of periods and duration of phenophases according to the temperature conditions of vegetation period.

Keywords: introduction, pheno-rhythmics, seasonal development, maple species, temperature conditions, adaptation.

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Participation Ukrainian protected areas in the creation of transboundary protected objects (p. 13–15)

L. Udod

More than a half of the century the European states combine their efforts for better functioning of the various constituents of the economy, politics, culture, and more. This process has also spread over the environment.

A conception of European environment network was adopted in 1992, and in 1995 it was approved by the Conference of Ministers of the Environment. However, it is a basis was laid in 30 years of the twentieth century. on the North American continent. Its main goal – the establishment of protected areas that would not be separated by boundaries. The European ecological network should include the following basic elements: natural nucleus (nucleus biodiversity, key natural areas), ecological corridors or transition zone, restoration areas, buffer zones and area of natural development designed to enhance the efficiency of the ecological network. Thus the term of transboundary protected objects (TBPA) evolves. TBPA – an area of land and/or sea that straddles one or more boundaries between states, sub-national units such as provinces and regions, autonomous areas and/or areas beyond the limits of national sovereignty or jurisdiction, whose constituent parts are especially dedicated to the protection and maintenance of biological diversity, and of natural and associated cultural resources, and managed co-operatively through legal or other effective means. In general, they comprise 4 626 601,85 km² or 3,1 % of the land. Such territories shall help to provide more rational conservation of the environment. Moreover, these territories are the method of experience exchanging between neighboring countries in the field of protection of nature. Today Europe by the number TBPA ranked first among regions of the world – 58. They include 239 protected areas at various levels. They include six Ukrainian protected territories: four national parks (Shatsky, Prypyat-Stokhid, Uzhanskyi and Desna-Starogutskiy), Biosphere Reserve (Danube) and Natural reserve (Roztochchya). Ukraine does not aloof of these processes. A number of objects of Nature Reserve Fund of the country have already been the components of international reserves, and some of them are still under the development.

This article is devoted to the general features of the European environmental network as a whole, and Ukraine participation in that particular concept.

Keywords: Integration, National Parks, transnational protected areas, reserve.

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Coordinated management of ecological security communities wild mammals in Western Ukrainian Steppe (p. 16–19)

I. Trach, V. Petruk

Nowadays the state of populations of wild mammals in western steppes of Ukraine and in Ukraine in general depends on anthropogenic factors. Direct exploitation of wild animals to humans, depending on various factors in the first place – the social situation can change in a very large range. This is especially true landscapes with a significant degree of transformation, caused by human activities. The result is high mortality of wild mammals poisoned by chemical fertilizers, pesticides, contaminated water and a decrease in feed, failure to recover sufficient strength of their populations and extinction in some areas where mammals have a significant impact on the ecosystem as a whole. The aim of the study is to determine the impact of human activities on the dynamics of populations of wild mammals in western steppes of Ukraine, which makes it possible to offer best practices for coordinated management of theriofauna and economic activity. Among the factors that affect on the whole range of wild mammals in western steppes of Ukraine should include forestry, agriculture and grazing cattle in the forests and grasslands near water, use of pesticides and drainage of wetlands, poaching, and the construction of roads and construction. They promote the growth of young mortality from various causes, the number of animals kept on a low level and prevent many types of residence at all. Almost all mammals greater danger is the traditional forest management. Logging of all types (from thinning to health) destroy the old trees, which are important habitats for bats, breeding calves in small kunyachyh, ermine and various rodents. Particularly significant impact on populations of wild

mammals agricultural production began to create after widespread introduction of chemical methods to protect crops from pests that are most adversely affected hare population in the western forest. Also poaching and hunting poor administration led populations of wild mammals in some regions of western forest to a dangerous situation.

Keywords: environmental safety, coordinated management, wild mammals, population dynamics, mammal fauna.

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Agrobiovariety constituent of using nature in North Priazov'i of Ukraine (p. 20–23)

M. Fediushko

The work is dedicated to solving of the problem of 'bioindicators' justification for anthropogenic pressure on the biodiversity of farmed lands.

An analysis shows that only two types of agrobiodiversity state monitoring are represented in Ukraine: the phytosanitary monitoring (towards the distribution of harmful organisms – insects, rodents, overgrew weeds and phytopathogenes on farmlands) and the wildlife population statistics.

It is known that violations of ecological balance influence on a specific variety and quantity of many types of birds which are the most sensible to the natural environment changes. Taking into account the specific of ecological status of harmful organisms with great difficulties of their determination, it is reasonably to try finding of indicatory spices into the fauna, namely among animals and birds, which are the subjects of hunting.

Some fundamentally new possibilities appear with development of information technologies

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in Ukraine for ecosystem formation and for decision of many other concomitant questions like town-planning, unification of a transport network, recreational arrangement of territories, etc.

The usage of the remote sensing of the Earth and geoinformational systems are theoretical and methodical background for modern methods of agrobiodiversity analysis as they give an opportunity to get information without interference with the object. It is expedient to apply MSA index for the estimation of natural and anthropogenic ecological influences on cultivated lands. This index is the base for spatial model creation and species saturation average trend expectation into natural setting determination and allows additionally to take into account the of long-standing factors of ecological influence, which can result in the crash of agrobiodiversity.

The results of researches testify that the MSA index not only reflects the state of the generalized biodiversity, but also has noticeable cross-correlation connection with the middle long-term quantity of aborigines species of animals and birds included into the associated agrobiodiversity like a grey partridge (*Perdix perdix* L.) and the European hare (*Lepus europaeus* L.). The generalized biodiversity at the North Azov region of Ukraine varies from 8 to 20 % for the undisturbed natural territory by the index of MSA. It sets by the first time that the MSA index well reflects the state of territory by the level of ecological danger and it could be used as the basis for the determination of agrobiodiversity type reactions to anthropogenic influences. It is set that the key anthropogenic factors for population quantity determination for the conditions of Northern Azov region of Ukraine are: for a partridge grey – the structure of cultivated lands (cross-correlation connection between the middle long-term quantity of partridge and MSA is noticeable – $r = 0,60$); for the European hare – structure of sowing areas ($r = 0,81$), quantity of predators ($r = -0,50$) and state of solar activity ($r = -0,38$).

Considerable cross-correlation connection between the quantity of indicator kinds' populations of and the pesticide loading on territory both for the regional and the local levels is set for the first time.

The modern systems of monitoring must be inculcated for farmed lands that are simultaneously placed of existence for wild animals and birds (wildlife population statistics), which are huntable species.

The short and long waves of quantity were uncovered – they are educed as short periods in 5 years long with vibrations up to 32 % of middle indexes for the population dynamics of the grey partridge; and, accordingly, 4–5 years and 11 % for European hare.

The ecological identification of potential indicative species allows offering the method of ecological violations' bioindication for the farmed lands on the basis of the revealed laws of the

dynamics for their populations for different levels of the spatial organization. Thus the informing index of anthropogenic pressure is a current quantity of population for the indicator type of a wild field game.

The harmonization can be attained in case of the proper economic-ecological evaluation, pesticidal loading on agroecosystems, and the ecological perfection of farmed lands by creation of shelter places for animals and birds during the fieldwork processes.

The set connection between the middle long-term quantity of populations of associated agrobiodiversity and MSA index allows the model making for optimal ecological measures for the improvement of farmed lands' ecological structures on the basis of the agrobiodiversity state index.

Keywords: agrobiotiversity, index of MSA, territory, distributing.

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Analysis of the ecological condition of forests of Vinnitsa (p. 24–26)

O. Tkachuk, O. Kosteniuk

The forests play an important ecological function. Forest cover is considered optimal when the forests have a positive effect on the climate, soil, erosion, and provide the required amount of economy wood.

In Vinnitsa region monitoring of biodiversity of the forest are conducted by department of forestry and hunting, which monitors the condition of forest vegetation (damage, biomass, biodiversity, radiological definition, content of pollutants) soils of land forest reserve (radiological determination residual amount of pesticides, agrochemicals, heavy metals), condition of hunting fauna (species, quantitative and spatial definition). In Ukraine environmental monitoring of forests is carried out within the international program of forest monitoring ICP Forest.

In Vinnitsa region forests cover about 14,3 % of the total area at the optimal forest cover of regions 18–25 %. There are a number of environ-

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mental factors which reduce the actual area of forest is illegal logging, fires, pests and diseases development and adverse weather conditions. Of these in fluencies are the most important the weather conditions which destroyed about 10% of forest plantations of Vinnitsa region.

As of 01.01.2013, the area of forest land in the Vinnitsa region was 364914,04 hectares, covered with forest vegetation – 348752,04 hectares. Woods first group – 117450 hectares of forest second group – 247,464 hectares.

The predominant species of coniferous forest are pine, spruce, larch, which grow in the area of 11,1 hectares and the total stock of forest stands is 2805,3 thousand m³. With hardwood dominated oak, hornbeam, ash, maple, acacia, covering 181,9 hectares, the total stock of forest stands is 41278,4 thousand m³. Soft tree species are birch, aspen, alder, linden, which is the growth area of 4,4 hectares with a total margin stands 883,6 thousand m³.

Comparing the studied parameters of 2012, found that the ecological condition of forests of Vinnitsa region improved. However, restoration of forests slowed by 19 %, artificially by 14 % and natural – by 43,1 %.

Newalla's with forest reproduction and no reduction of forest areas from adverse environmental factors through preventive and protective measures which necessary to 68 years recommended for optimal forest area in the region.

Keywords: forest, environmental condition, the area of fire, pests, disease, weather, condition forest reproductive.

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Superoxide dismutase activity of vegetative organs of hybrid corn under impact of soil herbicides and drought (p. 27–30)

G. Rossikhina-Galicha, Y. Lykholat

Reaction-answer of crucial enzyme of antioxidant defence of leaves and roots of plant seedlings of hybrid corn Dnepr 310MV, Bilozerskiy of 295SV, drought-resisting line of DK517 and undrought-resisting line of DK424 for the combined action of the ground herbicides (Front'er, Merlin) and ground drought was investigated.

Analysis of superoxide dismutase activity dynamics of seedlings of hybrid corn Bilozerskiy of 295SV and drought-resisting line of DK517 allowed to find out its increase at influence of both individual action of drought (in 1,4 and 1,3 time) and at imposition of it on herbicide influence in the roots in 1,3 time in comparison in control, and in leaves – in 1,4 and 1,6 time. In watering proceeding period this parameter of experimental plants approached to the control value.

The undrought-resisting line of DK424 reacted on the probed stress factors stronger than other test-objects. Thus, at the protracted action of drought superoxide dismutase activity level of seedling roots and leaves substantially (in 1,8 and 2,0 time) grew to a control level. At imposition of influence of the ground drought on the action of Front'er the SOD reaction was more expressed and its level was exceeded by control at 2,0 time (above-ground and underground parts of the seedlings). An analogical tendency was fixed on Merlin action background. At watering proceeding this index in the variants of separate action of drought and the xenobiotic background had a tendency to the decline and was certain reduced in relation to control. At influence of drought and ground herbicides comparison of SOD activity showed that the presented corn genotypes had differed on amplitude the enzyme activity dynamics in the conditions of drought, individual influence of herbicides and their combination. During an experiment in plants of hybrid Bilozerskiy of 295SV, drought-resisting line of DK517 superoxide dismutase activity was increased, and in a post stress period approached to the control level which testified to adaptation of these plants to stress terms.

Keywords: corn, herbicides, drought, superoxide dismutase, antioxidant system, stress factors.

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Impact of chemical melioration on soil properties and productivity of peach trees (p. 31–35)

O. Klymenko

The data of the stationary field experiment on the effect of soil improvement subject alkalization in the fruiting peach garden are shown. Garden located in the steppe zone of the Crimea on dark chestnut weakly alkaline soil. High content of sodium and magnesium hydrogen carbonates in the 60–100 cm layer of soil and the presence of soda at a depth of lower than 80 cm have been found. They caused depression of peach trees. A waste produced by CJSC “Titan”: phosphogypsum and iron sulfate were used for reclamation. pH value decreased as a result of reclamation. The green vitriol acted more intensely because of higher solubility. With its introduction there was a decrease of pH value in the 0–50 cm layer. Total alkalinity of the soil reduced. water-soluble calcium promoted accumulation two years after making both ameliorants. Data indicate that the content of sodium and magnesium bicarbonates, which are very toxic to the fruit plants, decreased to nontoxic quantities for peach with introduction of phosphogypsum. These salts and soda were completely neutralized in the application of iron sulphate. Soil formed gypsum under the influence of ameliorants, which also contributed to the neutralization of alkaline salts. Land reclamation has caused increase content of nutrients mobile forms, increased trees productivity. Ameliorants showed a strong aftereffect. Phospho-

gypsum acted slowly and significantly increased of peach yield, so it can be recommended for soil improvement in the fruit-bearing orchards. The green vitriol acted faster and more intense but reduced productivity of trees in the first years after the introduction. In this regard, it is best used for quick reclamation of soil before planting a garden or in young orchards. Peach varieties reaction for reclamation was different and determined genotype. Most responsive to the reclamation, as measured by productivity, were varieties: Mayflower, Early Fluffy, Mayakovsky, Sovietskiy and Kudesnik.

Keywords: alkalization, reclamation, garden agrocenosis, soil properties, peach.

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Analysis of protection of lepidoptera (Lepidoptera) in modern facilities of nature reserve fund in Dnipropetrovsk region (p. 36–39)

K. Holoborodko, O. Pakhomov

Structure of NRF in Dnipropetrovsk region was built according to the classification adopted in the Law "On Nature Reserve Fund of Ukraine". According to this classification, the objects can be of national (subordinated to the state through the Cabinet of Ministers of Ukraine) or local significance (created by local governments, such as regional councils). Both national and local objects are included into the common state registry. Both categories are equally covered by the existing environmental legislation.

Unfortunately, the dynamic for creation of NRF sites in Ukraine and in Dnipropetrovsk region is too slow. As of 2014 in Dnipropetrovsk region there were organized 172 protected areas at various levels, their area is 89718,55 hectares, including those of national significance – 30 sites in the area of 30347,7 hectares, local significance – 142 sites in the area of 59370,85 ha. It's only about 2 % of the total area (3192300 ha).

There are no specific measures of protection of butterflies in any of the mentioned NRF areas in the region. Typically, Lepidoptera are being protected along with other rare and endangered insects. This research examines the complex features of protection of rare and endangered species of butterflies (Lepidoptera) in the facilities of nature reserve fund of Dnipropetrovsk region. Researching Lepidoptera species complex for years in the Dnipropetrovsk region there were recorded 76 species of security conditions at various levels. Analysis of the findings revealed that most of the registrations were made in ecosystems that are located in the valley of the Dnieper river, Samara and Orel rivers, including objects of nature reserve fund. It turned out that there are no special measures to protect rare and endangered species of butterflies on this territory of the region.

Keywords: rare and endangered butterflies, Lepidoptera, environmental protection, Dnipropetrovsk region.

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Allelopathic activity analysis of leaf litter, soil and casts in the parks of Dnepropetrovsk (p. 40–42)

A. Kryuchkova, O. Didur, Yu. Kul'bachko, A. Pakhomov

At present the trophy and metabolic role of the burrowing soil invertebrates for natural allelopathic status maintenance of urban soil isn't al-

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most studied, despite importance the allelopathic of relationship for maintenance of soil fertility in the conditions of anthropo-technogenic pressure. Optimization of soil ecological properties in recreational zones has high social value since it is directly connected with biological effectiveness of tree species in park and protective forest strip. This study examines the influence of allelopathic properties of woody plants leaf litter and earthworms (*Lumbricidae*) trophic metabolic activity on the allelopathic properties of the soil under *Ulmus minor* Mill. in parks of Dnepropetrovsk. The research was carried out using a bioassay with the definition of air-dry samples water extracts allelopathic activity in specific coumarin units. Extraction was carried out in w/w ratio of soil (casts): water – 1:2, leaf litter: water – 1:20. As a test object was used seeds of *Raphanus sativus* L. var. *radicula* Pers. (garden radish, cultivar "Red with white tip").

Studies have shown that earthworms due to its trophic-metabolic activity reduce soil allelopathic tension in parks caused by both biogenic and abiotic factors. Studies have shown the need to maintain leaf litter to optimize the detoxification processes of biologically active substances into the soil that has a positive effect on the soil environmental status in anthropo-technogenic pressure conditions. It is shown that the leaf litter *U. minor* in parks is one of the main suppliers of biological origin allelopathic active substances, that forms a particular environmental factor is as allelopathically. Its manifestation depends on the tension allelopathic mode. It can be characterized by total content allelopathic active substances in the environment. While earthworms due to its trophic metabolic activities reduce allelopathic tension in the parks of the metropolis, which has a significant impact on the growth and development of plants. The above results demonstrate the positive ecological role of trophic-metabolic activity of earthworms in Park belt of large cities.

Keywords: allelopathy, earthworms, soil, park belt.

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Technological features of the incubation of hunting pheasant eggs (p. 43–47)

O. Korzh, D. Frolov

The incubation process acts as one of the main preconditions for obtaining high-quality young birds for further effective cultivation. Therefore, finding and improving both modes of incubation and incubation itself deserves the most special attention. Some factors that influence the incubation process (differences in temperature, humidity, air velocity) can lead to a reduction in young animals and their quality. So it is important to study the influence of structural features and modes of incubation of different incubation on effectiveness of incubation of wild bird's eggs. The study was conducted on pheasant farm of hunting economy "Cold Mountain" in 1993–1994 years and on the farm of Hunting club "Skif" in Kalanchak regional public organization in 2010–2012 years. During the research it was found that the highest percentage of chick's growing were obtained by incubating the eggs in the incubator "Universal-55". The worst results were obtained by incubation the eggs in the incubator "Inka-450", that can testify its fundamental unsuitability for incubating the eggs of hunting pheasant.

It should be noted the major structural differences of incubators "Nest-3000" and "Inka-450", which affect temperature, gas exchange and wet conditions. First of all it refers the availability of wooden trays that significantly violate gas exchange and reduce humidity near the eggs. As a result, it is often observed only the growing of eggs, which are in the central trays and which do not touch the wooden boards. Among the structural deficiencies of the incubator "Inka-450", it can also be indicated a low precision of temperature measurement (only one thermometer for the whole box) and imperfect mechanism for maintaining humidity.

Thus, the most successful structure for pheasant egg's incubation has the incubator "Univer-

sal-55". At the same time, a large amount of this incubator makes it unclaimed in the small pheasant farm, which today are the basis of pheasant breeding in Ukraine. Incubators of company "Inca" are completely structurally unsuitable for incubation of hunting pheasant's eggs and cannot be recommended for use in any pheasant farm. Incubators of company "Nest" can be considered quite acceptable to use, but the need some structural improvements.

Keywords: pheasant, egg, incubation, eggs output, tray.

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Biodiversity meadow ecosystems agrolandscapes Podolia as a structural element regional ecological networks (p. 48–54)

A. Mudrak, G. Mudrak

The most important aspect of the conservation of biotic diversity grassland agricultural landscapes is to create an ecological network in which they are included as a key (buffer, recovery) site. Flora Po-

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Podolia has 1962 species of vascular plants (aborigines, invasive), relating to 685 genera, 143 families and 5 departments. This represents 36,5% of the total flora of Ukraine. Given the literary and cartographic data, and conducted field research, filed archery characteristic vegetation of Podolia, according to the general classification. According to which grassland ecosystems share for the location of the relief elements, likeness conditions plant growth and composition of grass and crops technical condition of land. In accordance with this classification of herbaceous vegetation recovered Podolia: steppe and meadow land on the slopes of hills, lowland meadows, fens, meadows medium and large rivers, meadows of small rivers and ravines. Names vegetable cenoses respectively this classification is given for the dominant species (kostretsevye, tonkonogovy, feather grass, etc.) or their groups (legume-grass, grass-forb and the like). Provide a detailed description of the species diversity for these types of meadow phytocenoses: steppe, present, peaty, low-lying, flood-plain, which are formed on the sands. In the meadows of the region there are species that should be protected, they are listed in the Red Book of Ukraine. Commercial use of standards of riparian vegetation should only serve the purpose of their conservation. In this regard, it is necessary for a thief the developed evidence-based recommendations from the mode rational use and protection. For each object should be drawn botanical characterized, the main activities in support of the regime and environmental use with obligatory development of ecological passports. Implementation of measures to sustainable use, protection and reconstruction biotic diversity meadows that have scientific, landscape-, recreational-aesthetic, environmental (soil and water protection) and Business (grasslands), the value must be an integral part of the regional environmental policy. For the conservation of species diversity of grassland and cenoses Podolia need to create a meadow reserves, which will be 5 % of the total area of the region and will serve as the structural elements of the ecological network.

Keywords: biodiversity, grassland ecosystems, agrolandscape, regional environmental network, Podolia.

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Use of the analysis of the linear ranges of values of climatic predictors for an assessment of possible acclimatization zones of the invasive phytophagous (p. 55–57)

A. Fokin

In the course of research of making bioclimatic models and climatic parameters of territories on which expansion of the areas of invasive phytophagous is possible, it is possible to define their ecological priorities for acclimatization. On the basis of GIS-technologies by means of the DIVA GIS and BIOCLIM programs the cartographical model of probable distribution of Spodoptera frugiperda (J.E. Smith) is constructed.

Based on this model analysed the linear selections of values of climatic predictors (annual mean temperature, min temperature of coldest month, mean temperature of wettest quarter, mean temperature of driest quarter, annual precipitation, precipitation of wettest month, precipitation of driest month) along the North Crimean channel in a zone of possible acclimatization of corn sheet scoops in Crimea, with probability to 2,5 %. Linearity of selection was provided with division of the channel line in the zone of possible acclimatization of the pest in the Crimea on approximately equal pieces. Selection of values of indexes was focused from the North to the South. The analysis of climatic data pro-

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vided selection among a range of the "plateau" value. The "plateau" of range determined as set of bunched points with identical values. The their larger quantity, the less jumps. The plateau size corresponded to the size of homogeneity (%). The interval between "plateau" testified to jumps against sufficient homogeneity. It is defined that the highest level of homogeneity is characteristic for values of average temperature for the wet period, a precipitation for the wet period and a precipitation for the dry period (on 79.8 %). On the basis of it the assumption of limiting influence of stable values of these indexes for probable distribution of the species is made. This assumption is well agreed with data of cartographical model. In compliance with this model, the Kakhovsky reservoir, coasts of the Black (the Karakitskiy gulf) and Azov (gulf Sivash) seas, and also the North Crimean channel will influence on the forming of a zone of possible acclimatization of Spodoptera frugiperda. Thus, the species is defined as hygrophilous.

Keywords: Spodoptera frugiperda (J.E. Smith), climatic predictors, the linear ranges, homogeneity, acclimatization, invasions.

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Ground mesofauna of orchards with different levels of pesticide pollution of Chernivtsi region (p. 58–62)

M. Fedoriak, M. Marko, R. Bilusiak, T. Turun
We collected the material using pitfall traps in June-July 2013 in seven orchards containing apple trees on the territory of Chernivtsi region. The traps, with a diameter of 7 cm, were placed in a line, about 6 meters apart from each other and contained ethylene glycol as a preservative. Ground living mesofauna of study orchards with different levels of pesticide pollution of Chernivtsi region is represented by four phyla, ten classes and twenty one orders. More taxa of high rank are recorded on the territory of conditionally control orchards. Representatives of 20 orders were collected on the territory of conditionally control orchards. Representatives of 15 orders were collected on the territory of orchards with significant pesticide pollution. In the orchards with significant pesticide pollution representatives of Opiliones, Acariformes, Parasitiformes, Juliformia, Dermaptera were not collected although they are a part of ground mesofauna of the conditionally control orchards. Qualitative and quantitative impoverishment of ground mesofauna of orchards with significant pesticide pollution is

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shown. We observed the reduction of dynamic density of ground mesofauna of orchards with significant pesticide pollution in 5,6 times. The average total dynamic density of ground mesofauna of orchards with significant pesticide pollution was 21,4 ind./10 pitfall days, of conditional control orchards – 119,58 ind./10 pitfall days.

Keywords: ground mesofauna, pesticides, gardens, dynamic density, pitfall traps.

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The development of fuzarios root rot under different fertilizing systems (p. 63–68)

O. Tymoshenko

Lupin is a reliable source of high quality cheap feeding stuffs rich in digestible protein. This culture provides satisfactory yields without fertilizing, as it is able to absorb phosphorus from remote connections contained in soil. Despite of their valuable characteristics and high potential, lupines are not sufficiently used in manufacture. One of the reasons making the cultivation of lupines more difficult is their liability to affection by many plant pathogens. If lupine is affected by fusarirose root rot its yield can be fallen by 17–50 %.

The use of microbial agents improves root plant nutrition, increases resistance to biotic and abiotic environmental factors and as a result increases crop yields and improves the quality of grown products. However, to date no systematic studies of their impact on the phyto-sanitary status of crops under different fertilization systems have been conducted. This fact determines the relevance of our research.

In terms of the stationary field experiment the effect of mineral, organic and organo-mineral fertilizers on the distribution and extent of damage of plant by root rot was studied.

During the field experiment the lupine of Crystal kind demonstrated mass affection of plants by root rot. All systems of fertilization showed the tendency to increase plant resistance to root rot compared with control. Under medium doses of mineral nutrition at an early stage of plant development – a phase of complete young growth – the most significant effect on the pathogen was observed. Under intensive and minimal doses of mineral nutrition of lupine the similar picture was seen, but the reduction of spread and extent of fusarirose root rot development was slightly lower than under medium doses.

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The next block of studies has found that under all systems of fertilization combined with microbial inoculation with preparation Ryzohumin, a significant improvement of the phyto-sanitary condition of plants was observed – increase of plant resistance to fusariose root rot. Thus, microbial preparation Ryzohumin can play an important role in enhancing the immune status of lupine. Our studies revealed that the use of mineral, organic and organo-mineral fertilizers had positive effect on reducing of spread and development of lupine fusariose root rot on the plants of narrow-leaved kind Crystal. The most significant effect on the inhibition of root rot was observed under medium doses of mineral nutrients in the phase of complete young growth lupine plants. The use of different fertilizing systems combined with Ryzohumin can be considered an important factor of improving the immunological status of plants in lupine cultivation technologies.

Keywords: bacterial preparation, root rot, lupine, fertilizing system, fusariose.

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Flora of poplar forests in the formation of island ecosystems within the nature reserve "Dneprovsko-Orylskiy" (p. 69–73)

D. Ganzha

This article shows the problems of studying and formation of cottonwood forest flora of the island ecosystems in the middle reaches of the Dnieper River. The main attention is paid to the conduction of classification according to the dominant classification method. The annotated list of species of vascular plants includes some environmental parameters of these species, such as life form on Raunkier, attitude to the water regime – hydromorfs, cenosis adaptation – cenomorfs; the habitat of the species is denoted. The cenomorfs ratio and the habitat distribution of species are shown graphically. In the selection of the area the adventitious species are listed separately. The number of taxa of higher systematic order was counted: the list includes 48 species, 42 genus of 25 families. On newly formed islands of the middle reaches of the Dnieper succession after a series of changes as stable climax – group formed poplar and elm, poplar forest phytocoenoses of reciting pronounced dominance sylvantiv in floristic composition, prevalence Palearctic and Holarctic range and negligible presence of alien species.

Keywords: fluted forest, flora, typology, ekomorfes, areal.

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Efficiency of different systems organic protection of peach in the south steppes of Ukraine (p. 74–76)

T. Geras'ko

The aim of our study was to determine the effect of organic cultivation technology to defeat disease, pest damage and quality of peach fruit in a southern Steppe of Ukraine. Field experiment was laid in February 2010 on the lands of the Melitopol district of Zaporozhye region. Plant material for research was variety of Redheyven grafted on apricot. Repeated experience of 4-fold, 10 trees in each repetition. Variations: 1 – control (lacking any spraying); 2 – biological protection, spraying apple cider vinegar (200 ml per 10 liters of working solution); 3 – Chemical protection products: Bordeaux mixture, Horus, Delan, Aktellik (in accordance with the manufacturer's instructions); 4 – biosecurity, bacterial, viral and fungal preparations industrial production (Gaupsin, fitosporin, Lepidocide, Pentafag-C Trihodermin); 5 – biological protection, biologies (same as in embodiment 4) + vegetable preparations (same as in embodiment 6); 6 – protection of plant products (garlic tincture, tincture of horseradish, onion peel broth, broth of red hot pepper), made his own. The remaining processing methods were the same in all variations: the soil was kept under natural sod (10–15 cm), tree trunks were mulched with hay (thickness of the layer of mulch was 15–20 cm), beginning in April with an interval of 3 weeks was carried out irrigation 80–100 l for each tree. Lack of treatment led to an increase of defeat trees *Clasterosporium carpophilum* A and peach leaf curl (*Taphrina deformans* T), but reduced the loss and damage by pests *Monilia cinerea* (Bonord) Hon significantly improved the quality of the fruit. Protection of

plant products was ineffective against *Clasterosporium carpophilum* A, but showed the highest yield and the sweetest fruits. Chemical protection also does not eliminate the peach leaf curl. Treatment of apple cider vinegar significantly reduced lesion *Clasterosporium carpophilum* A and peach leaf curl, which could potentially have a positive impact on productivity and longevity peach tree. During the growing season peach main pests were striped moth and aphids.

During the growing season peach main pests were striped moth and aphids. Comprehensive protection for biological products and herbal supplements, as well as chemical protection did not reduce the number of pests.

This can be explained by the fact that the enhanced protection frightened beneficial insects. Indeed, in the absence of treatments striped moth damage was minimal. Settling aphids most observed on treatment options with apple cider vinegar and herbal preparations. But after the middle of June, we observed a sharp decrease in the number of aphids and on the beginning of august they have almost disappeared. Fruit weight was highest with no treatment and treatment options with apple cider vinegar and herbal preparations. Highest yield in our experiment showed a variant with plant protection. But striking a relatively good yield in the control variant in the absence of treatment. Low productivity showed a variant with treatments biologics.

Keywords: organic gardening, peach, peach diseases and pests.

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Peronosporomycetes of the Dnieper vicinity within the bounds of the Right-Bank and the Left-Bank gramineous-forbmeadow Steppes (p. 77–81)

I. Dudka

The subject of the present paper, based on results of analysis of literature data and original research, is the part of complex study of peronosporomycetes in Ukraine. This article is devoted to the species diversity of those fungi-like organisms (Chromista,

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class Peronosporomycetes, family Peronosporaceae) from the Right-Bank and the Left-Bank gramineous-forbmeadow Steppes in the Dnieper vicinity. The main field inventories were carried out in the native forest, steppe and meadow plant communities, fields and other cultural phytocoenoses, ruderal and segetal vegetation with the route-expedition method. 42 specimens of peronosporomycetes were collected. As a result 18 species of those fungi-like organisms were identified. Among them *Plasmopara helianthi*, *P. viticola*, *Pseudoperonospora cubensis* were the pathogenic agents of downy mildew of sunflower, vine grape and cucumbers. 12 species of peronosporomycetes were recorded at the territory of the Right-Bank and the Left-Bank gramineous-forbmeadow Steppes for the first time. The majority of species (11) belongs to the widespread ones: *Plasmopara chaerophylli*, *P. peucedani*, *P. umbelliferarum*, *Peronospora alta*, *P. brassicae*, *P. chenopodii*, *P. dentariae*, *P. lamii*, *P. mattiolariae*, *P. myosotidis*, *P. sisymbrii-officinalis*. Only *Peronospora crispula*, obligate parasite of *Reseda lutea*, is rare species, previously known from single location in Ukraine. Taking into account literature data the peronosporomycetes are presented with 21 species in the Right-Bank and the Left-Bank gramineous-forbmeadow Steppes. Analysis of the distribution patterns of peronosporomycetes in the gramineous-forbmeadow Steppes is demonstrated the increase of their species diversity in direction from south to north and from steppe vegetation to forest one. At the same time the species riches of peronosporomycetes in segetal vegetation is almost identical with special diversity of those fungi-like organisms in forest communities. According to the modern data of molecular studies in some species from genus *Peronospora* the changes in taxonomic position of *Peronospora parasitica*, *P. tribulina* and *P. lepidii* are proposed: the first two species are transferred to the new genus *Hyaloperonospora* as *H. parasitica* and *H. tribulina*, the last species takes place in another new genus *Perofascia* as *Perofascia lepidii*.

Keywords: species diversity, peronosporomycetes, Peronosporaceae, gramineous-forbmeadow Steppe, downy mildew.

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The strategy of protected areas development in the Transcarpathian region (p. 82–85)

S. Makhlynets, N. Kampov, Kh. Lani

The issue of conservation and rational use of nature now gained prominence. Therefore, special attention is given to the development and expansion of protected areas, which help to prevent or weaken the negative impact on the environment. The objectives of the study is to investigate the development of protected areas in the Carpathian region, to analyze their territorial changes, to determine perspectives of development. The main aim of the national environmental policy is a significant improvement of the environment in Ukraine, creating ecological and economic prerequisites for sustainable development. To implement the state policy of creating natural-reserved fund of Ukraine in the Transcarpathian region "Program for the development of nature reserve management and ecological network in the Carpathian region in 2006–2020"

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has been developed. The aim of the Program is to provide conditions for the preservation and development of territories and objects of nature reserve fund (hereinafter – PPF) as a national heritage, further development of science-based environmental network in the region by 2020 based on the recognition of its social, economic and environmental importance for sustainable development of the oblast'. The program provides for the expansion of existing and new environmental facilities both of national and local importance (NPP "Synevyr" – 3 thousand hectares, the Carpathian Biosphere Reserve on 10 thousand hectares; Uzhanskyi NPP on 10 thousand hectares), preparation of data for creating protected areas of national importance: Park "Enchanted edge" – 12,5 thousand hectares, preparation of data on reservation of protected areas of national importance: NPP "Zhdymyr" – to 21,6 thousand ha; Park "Zhdeniyevskyi" – to 10,0 thousand ha; Park "Transcarpathian Beskydy" – to 40,0 thousand hectares – to expand the network of facilities and territories of protected areas of local importance in regions.

According to survey we can see that during 2006–2011, the area of nature reserve fund of Transcarpathian region increased by 176749,0493 ha. However, some planned projects have not been implemented, because many of them had to be financed from local budgets and other investments.

Keywords: sustainable development, protected areas, nature-reserve fund, the ecological network.

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Effect of Pb on aspartataminotransferase activity in *Glechoma hederacea* leaves subject to diggin function by Mammals (p. 86–89)

E. Vasilyuk, A. Pakhomov

The experiment was carried out at the International Biosphere Prysamarsky Station by Alexander

Bel'gard (Andriivka village, Novomoskovs'k district, Dnipropetrovs'k region) in natural floodplain oak forest in a sward area with lime-ash oak and greater stitchwort (*Stellaria holostea* L.). We have detected an environment forming role played by one species of mammal, *Talpa europaea* L. (European mole), through its digging function, studied against the background of anthropogenic Pb pollution with concentrations of 0,2; 1,0 and 2,0 g/m², which was equivalent to the presence of Pb at 1, 5, 10 times the dose of maximum allowable concentration (MAC). The total enzyme activity class transferase and content of water-soluble protein fraction in *Glechoma hederacea* L. leaves subject which dominated in this research area have been determined. Thus, we discovered the fact of the significant ($t_{0,05} = 2,71; 1,34$) increasing in total activity of Aspartate Aminotransferase by 96–12 % ($P < 0,05$) in under the combined effect of the digging activity of *T. europaea* L. and Pb at doses of 5, 10 MAC and concentrations of water-soluble protein fraction by 141 % ($P < 0,05$) under the combined effect of the digging activity of *T. europaea* L. and Pb at doses 1 MAC and by 10 % ($t_{0,05} = 1,73$) in the experiment under the combined effect of the digging activity of *T. europaea* L. and Pb at doses 5 MPC (compared with the control in the corresponding concentration: control Pb 1 MAC, control Pb 5 MAC, control Pb 10 MAC), which proved leveling effect of animals on exogenous effect of Pb. The value of the negative impact of lead strongly depends on the concentration of this exogenous factor. The plant organisms capable of efficient mechanisms to conserve resources metabolic processes to maintain homeostasis condition in terms of unnatural existence. Thus, the use of this element of zoocoenosis in the system of conservation measures for natural and transformed ecosystems in the Steppe Dnieper region can produce positive results. So, the use of individual elements of zoocoenosis in the system of nature conservation and improvement of the transformed ecosystems in the Steppe Dnieper region had positive results.

Keywords: albumin, the maximum allowable concentration, the total activity of Aspartat aminotransferase.

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Significance of newly created nature protection territories for conservation of reptile biodiversity of the Dnipropetrovsk area (p. 90–92)

V. Gasso, S. Pyshneva

Nowadays, some ecosystems suitable for habitation of 12 reptile species remain in the region. Those are 54,5 % of reptile species composition of Ukraine. Primary factors which threaten existence of reptiles and cause reduction of number of their populations are excessive agricultural, technogenic and recreational loads as well as the destruction of dwelling places. Herpetofauna of three created wildlife reserves (Maloternivsky, Troitsko-Vyshnevetsky and Vjazivotsky) in Pavlograd district of the Dnipropetrovsk region was investigated. We use standard route inventory technique on "strip lines". It was found eight species of reptiles: one turtle, one lizard and six species of snakes. All found species are included in the European Red List; five species are in the Red List of the Dnipropetrovsk region, three ones – in the Red Data Book of Ukraine. The fact that the vulnerable smooth snake was found in all three preserved territories gives us hope on promising prospects for the conservation of that species in the region. Creation of nature protection territories will allow conserving rare species of reptiles in the region. The other two vulnerable species included in the national Red Data Book – steppe viper and rat snake – were found in two reserves. Environmental and protection conditions of the reserves make possible to conserve and restore the optimal number of vulnerable reptile species in six-eight years.

Keywords: reptiles, conservation status, wildlife reserves, nature protection territories, herpetofauna.

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The birds of the pine forest East Kama area (p. 93–97)

E. Solovyova

The article presents results of a year-round route registration of birds in the pine forests of East Kama area in the period from 16.10.2010 to 15.10.2012. Recreational zone includes researching habitat. Part of this land has been withdrawn from the economic circulation of the territory of the National Park "Lower Kama". The goal of the work was to identify features of the temporary movements of researching habitats of birds. The tabs were made on permanent, not strictly fixed routes without limiting the width transect. The discharge of boundaries seasonal aspects of bird population was conducted with using classification of ranked objects. It was the first time when the year-round tabs and regularities that determine the seasonal dynamics of the population were conducted and studied. The identification of fauna, the features of nesting population, the ways of prey in the national park were brought out earlier by ornithologists. As a result of two-years registration there were found out 72 species of birds from 24

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families of 8 units. Fluctuations of species composition were marked by rare species. The richness of forms and density of birds have similar dynamics and change with seasons due to phenological differences. Seasons periodization was stable during two years. Faunal composition of the birds population is siberian-european. Share of transpalearkty increase from autumn migration period of closure and departure to carting wintering birds. The abundance of representatives of the european type of fauna dominate in spring and summer time. Share of siberian type and transpalearkty increases in the following periods. The two-week periods of time characterize the shift timing of seasonal aspects. Common chaffinch leads from April till the end of August, great tit, willow tit and great spotted woodpecker predominate in the rest of the time. Increasing the share of Fieldfare, bullfinch and eurasian nuthatch are occurred briefly during the migrations. Interannual differences presented with changes of the total average abundance severity migrations of different species, changes in the timing and the time of arrival of migratory birds. Recent changes related with temperature conditions during the spring time.

Keywords: population of birds, the temporal dynamics, seasonal aspect.

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Ecological peculiarities of *Opatrum sabulosum* (L.) on the territory of steppe Pridniпровiya (p. 98–101)

S. Nazimov, A. Pahomov

Propagation *Opatrum sabulosum* (L.), mass xerophilous pest of cultivated field crops and rows of other crops such as grapes and tobacco in the territory of the steppe Dnieper. In our study examined 49 different types of ecosystems, from xerophytic virgin steppe regions dominated plant genera *Festuca* and *Stipa*, forest ecosystems such as oak Lypovo-Yassin to polluted industry eroded slopes and agrocenoses. Found that this type chornotilok (Tenebrionidae) for only 19 of the 49 ecosystems. *O. sabulosum* (L.) was found exclusively in the steppe regions, often in areas with sparse vegetation, at least in ecosystems with high projective surface. Thus we can say that *O. sabulosum* (L.) exists throughout

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the steppe Prydniprovyia preferring steppe, ecosystems and eroded slopes of hills. At the same time avoids this type of forest, due to the inability to exist in the litter which accumulates too much moisture, which in large quantities is lethal for this species xerophilous chornotilok.

Although the species name includes the word "sabulosum", this beetle is rare on sandy and sandy soils (with light granulometric composition), while the largest number of individuals of *O. sabulosum* (L.) per m² is characterized by frequent and heavy clay soils mechanical (particle size) composition. So the largest number of *O. sabulosum* (L.) up to ordinary black and Southern black, enjoying also inhabit steep clay slopes exposed by erosion gullies and ravines.

Despite the fact that *O. sabulosum* (L.) belongs to polifitofahiv, and thus it is a dangerous pest of cultivated plants, representatives of this species in the wild can be found in natural ecosystems in substantially the same quantities as in agroecosystems. These quantitative high number for this type of bugs are typical virgin steppe with sparse vegetation, such as in areas where growing *Salvia verticillata* (L.). Thus we can conclude that *O. sabulosum* (L.) is a common type of chornotilok the territory steppe Dnieper, which happens in almost all natural steppe ecosystems and agroecosystems (mainly cultivated fields where row kulutry).

Keywords: *Opatrum sabulosum* (Linnaeus, 1761), Tenebrionidae, distribution, population, agroecosystem.

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The scientific value of wetland wood lake White (p. 102–104)

O. Skakal's'ka

Conservation of rare and endangered species and their rational use today is the urgent problem of biodiversity. However, global climate change and human activities lead to irreversible changes in the environment and contribute to the reduction of habitat of many species.

A phytocoenotic research, habitat ecology of populations of heterotrophic helofitiv species of *Drosera* L., the area around White Lake within Hlynivskoho Forestry Rokytnivsky district, Rivne region. These populations are very unique and require health care. Save cenopopu-

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lations species of *Drosera* L. possible through constant ekomonitoring. Of systematic monitoring of cenopopulations, establishes a degree of adaptive capacity and resilience of species to determine the factors that influence population dynamics and population structure, for effective conservation. Learning and protection "insectivorous" plants in Ukraine is a key issue. These unusual species of plants have not been studied and can not only reduce the number of populations and gone on a global scale. In the study area revealed rare helofitnoi vegetation consisting of rare taxa which grow as sheyhtseriya wading *Scheuchzeria palustris* L., regionally rare species Rivne oblast rynhospora white *Rhynchospora alba* (L.) Vahl., Bahnova sedge *Carex limosa* L., crabgrass *Drosera rotundifolia* L. There are growing all members of the genus crabgrass that are known in Ukraine: *D. intermedia* Hayne. – Average crabgrass, *D. longifolia* L. – the english L., *D. longifolia* and *D. × obovata* Mert & W. P. J. Koch. – hybrid and *D. rotundifolia* was *D. longifolia*. Species grow in groups of 10 to 327 individuals per 1 m².

Keywords: *Drosera rotundifolia*, *Drosera intermedia*, *Drosera longifolia*(anglica), *Drosera × obovata*, cenopopulations, environmental monitoring, formation, association, phytocoenotic study.

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Assessment of spatial and temporal variation of the plant cover by means of Earth remote sensing (p. 105–112)

O. Zhukov, P. Pisarenko,
O. Kunah, O. Dichenko

Methodical approaches are developed for application of data of remote sounding of the Earth spectroradiometer MODIS the artificial satellite Terra.

On the basis of the primary information which is received at photographing of a surface of the Earth, within project MODIS there is a considerable list of derivative products. One of them is product MOD13Q1. It contains the information on spatial dynamics of vegetative index NDVI with periodicity of 16 days with separate ability of 250 Data about vegetative indexes are applied to modelling of biogeochemical and hydrological processes, and also a global and regional climate. These data also can be used for the characteristic of biophysical properties of a surface of the Earth and such processes, as primary production экосистем and transformation of a terrestrial cover. The cited cartographical data give representation about possibilities of the approach and the basic trends of a variation of phytomass of the vegetative cover, index NDVI estimated to a basis. It is visually possible to estimate a natural trend on increase phytomass throughout the spring period, and also law of spatial distribution of front of escalating of a biomass of plants. We see, that in the south of area activation of growth of plants occurs earlier, than in the north. Also cells of activity of a vegetative cover are valleys of the rivers. In the end of spring distribution of value of index NDVI becomes more evened owing to the vegetation beginning on agricultural grounds. The analysis of the resulted data testifies that the general trend of dynamics of index NDVI is similar in different types of a vegetative cover. It is a minimum of value of an index in second half of winter, then there is an increase throughout all spring to first half of summer then there is a gradual reduction till the end of autumn when speed of reduction becomes more intensive. The derivative analysis allows to define more accurately the critical periods in vegetation phenology. On the schedule of a derivative the maximum answers the greatest local speed of escalating of phytomass, and a minimum – the greatest speed of decrease in phytomass. The point of section with an axis of abscisses answers the schedule extremums: a maximum, a minimum or an excess. The analysis of the received data testifies that against the general similarity of dynamics of phytomass within administrative areas it is possible to establish the periods when the greatest differences between them are observed. Features of dynamics are most accurately shown at graphic the displayed speeds of dynamics in time (derivative) of index NDVI. So, speed of decrease in phytomass in the end of the winter period essentially distinguishes in administrative areas of area. Differences are observed also on terms of the beginning of the spring period which can be defined on a maximum of growth rate of phytomass. The second peak marks the period of "agricultural spring" when crops actively descend. This period is accurately designated on schedules, but on them areas differ among themselves a little. "Phenological summer" comes when the period of active accumulation of phytomass changes the period of its decrease. On

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the schedule of index NDVI hard precisely to define this period, and on the derivative schedule the corresponding point of section on an axis of abscisses is precisely defined. This moment occurs in areas during the different period to a range of 180–240 days from the beginning of year. Accordingly, on indicators phenological summer essential differences between areas are observed. Differences between areas which are established for dynamics of index NDVI, it is possible to apply to an explanation of features of dynamics of number of harmful insects. Authentically different dynamics of phenological phases in different territories of area can be a marker of climatic changes, and also conditions of a vegetative cover which is displayed including phenological dynamics, direct impact on populations of wreckers or predatory animals who supervise number of phytomass can make. The landscape ecological diversity of territory can be interpreted in terms of dynamics of a vegetative cover. Each type of a landscape cover forms specific time pattern dynamics of vegetation. Phenological dynamics at rather constant landscape conditions within the certain time period can differ year from a year. "The resolved range" deviations phenological dynamics is defined by type of a landscape ecological cover.

Keywords: vegetation index NDVI, plant cover, spatial agroecology, ecosystem dynamic.

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Rare and disappearing species of animals on the territory of NNP "Skolivsky Beskidss" (p. 113–116)

O. Sukhorska, B. Kalyn, R. Mugo

Protection and conservation of the biota is an important issue in the world. Of particular importance for the conservation of national biodiversity has a network of nature reserves. In the network of natural protected areas of Ukraine occupies an important place territory of the national natural Park "Skolivsky Beskidss" (NNP). One of the tasks of the national natural Park is protection and preservation of rare species of fauna. In the conditions of the Park, there are favorable conditions for long play populations characteristic of the Eastern Beskidss animals that can be an attractive subject of the Zoological environmental excursions during the development of ecological tourism in national Park, which is quite promising for the development of its infrastructure and site improvements at various times of the year.

Fauna of Skolivsky Beskidss is quite diverse. Here are concentrated many species of animals listed in the Red book of Ukraine, in particular: brown bear, otter, badger, lynx, wild cat, ermine and other Of amphibians in the beech woods occasionally happen spotted Salamander, and in wetter ecotopes – Alpine and Carpathian tritons. On territory of national natural Park there are many species of cheiroptera order, have a nests many species of birds.

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However, it should be noted that the current state of almost all rare species in the region is poor. Therefore, protection of animals on the territory of national natural Park shall be provided by:

- establish their special legal status, taking into account the requirements for the protection of these groups in development of normative legal acts;
- for the ongoing monitoring of their condition and the necessary research;
- introduction of a special regime conservation and repopulation;
- appropriate ecological education and informing of the public about their condition.

Keywords: biological diversity, park, fauna, conservation, protected mode.

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Protected areas network in the conditions of the agrarian Kherson region and the perspectives of its development (p. 117–120)

O. Vasyliuk, D. Shyriayeva

The network of protected areas in Kherson region consists of 79 objects which occupy the area of 224171 hectares. Despite the first impression that the network is quite developed, in fact there are a few reserves. Kherson region is an example of the artificial overestimation of the idea about the quality of protected areas.

1. Creation of the new protected areas within the boundaries of the others. The Ukrainian law doesn't exclude the possibility of creation the new protected areas that include the other existing protected territories, which continue to

exist and function legally. The area of the certain protected territories is counted twice according to the general state statistics. In Kherson region there are four protected areas, occupying 48529,2 hectares, which are included to the three bigger objects.

2. Counting the marine waters as a part of protected areas network to the total statistics. The marine waters are classified as territorial waters and are not included to the territory of Ukraine. Accordingly, the protected areas located in the marine waters are not included to the territories of regions, and should not be considered in the calculations of the part of Ukraine occupied by the protected areas. 74971 hectares of marine waters are included to the Chornomorskii biosphere reserve, 43685 hectares – to the Azovo-Syvaskii national park, and 2469 hectares – to the Dzharlyhatskii national park. The total marine waters in the protected areas of Kherson region are 139745 hectares (62,3 % of protected areas in region).

3. Creation the big number of the small (point) objects. Creation the small protected areas is spread throughout all regions of Ukraine. Usually, such objects are mounds, memorial or old trees, unique geological formations. In Kherson region 24 objects have the area less than 1 hectare (20 botanical, 3 hydrological, and 1 geological nature monuments). Part of them are unique, the others only create delusion of big number of protected areas. The total area of the small objects in Kherson region is 0,0004 %, although the number of such objects is 30% from the eternal protected network.

The total area of the protected network in Kherson region is not sufficient; nevertheless, it is observed its artificial overestimation instead of its real growth. We have made the recalculation and discovered that the total area of the protected objects is 84426,16 hectares, which is 2,96 % of the region, and not 7,87 % as it was submitted by the direction of the region.

Keywords: protected areas, Kherson region, nature protection, biosphere reserves, national parks, marine waters protection, corruption.

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Land abandonment as the main aspect for restoration of landscape and biological diversity (p. 121–124)

O. Burkovskyy

Natural ecosystems form conditions which provide our life in the Earth. They must cover not less than 2/3 of land surface at an average global biological productivity. Nowadays more than half of natural ecosystems are destroyed. Therefore it is too late to speak about wildlife protection. It is time for wildlife restoration.

Anthropogenic landscape occupies more than 80 % of Ukraine. The main factor of wildlife destruction is arable farming covering 54 % of Ukrainian territory. Erosion process spreads on 57,5 % of country area but natural ecosystems occupy only 12,7 %.

Landscape disbalance endangers the large-scale desertification of Ukraine and this problem is officially admitted by Ukrainian legislation and administrative acts. They declare necessity to reduce percentage of arable lands by 5–10 %. Some of them aim to remain no more than 37–41 % Ukrainian territory as arable lands comparing with recent 54 %.

However, since 2008 area of plow-lands has increased by 64 000 ha! The problem is that commercial approach to agriculture surpassed measures for land and biodiversity protection. During the 1990s Ukrainian scientists elaborated a program which suggested to abandon 90 000 km² of eroded arable lands for their transformation into grasslands (70 ths. km²) and forests (20 ths. km²). Meanwhile government began reformation of Soviet agricultural system and shared all the collective farm lands (45 % of Ukraine territory), including eroded ones, between millions of persons who worked there. It was the first step to land privatization which disabled real control of environment state of lands. Herewith authority has forbidden purposive appointment of land application to be changed. It means the landowners must use their plots only for arable farming. Any other land application, including land abandonment, involves penalty. Thus, low area of natural ecosystems in Ukraine has been set legislatively.

For solution of landscape disbalance problem it is offered to make the following changes and additions in Ukraine legislation and administrative decisions:

- It should be increased percentage of lands in state ownership and prescribed minimal area that must remain always in state ownership.
- Land abandonment should be considered not only as a measure for land recovery but also for biodiversity and landscape restoration without return to active economical use.
- It is necessary to cancel agricultural land status (low-yielding agricultural lands) for territories covered with wild aboriginal vegetation and set

for them the status of ecological network lands.
- It is necessary to pass the law about landscapes.

- Application of invasive species for land conservation (abandonment) should be forbidden.

- Change of purposive appointment of shares from agricultural to wildlife protective should be allowed as well as their transfer to natural-reserved fund.

- It is necessary to grant a remission of taxation for landowners who conserve their shares.

- Bureaucratic procedure of land abandonment must be simplified.

- It is necessary to establish State Agency of Ecological Network and Land Abandonment for conservation of plow-lands in accordance with local natural vegetation and climate.

Keywords: land abandonment, wildlife, biodiversity and landscape restoration, desertification, land legislation.

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