

FLORIAN ŚWIĘŚ, MAŁGORZATA WRZESIEN

Department of Geobotany,
Institute of Biology, Maria Curie-Skłodowska University,
Akademicka 19, 20-033 Lublin, Poland

Rare vascular plants in the railway areas in central-eastern
Poland
III. Supplement. Lublin-Lviv Upland, Volhynia Upland

Rzadsze rośliny naczyniowe terenów kolejowych środkowowschodniej Polski.
III. Supplement. Wyżyna Lubelsko-Lwowska, Wyżyna Wołyńska

SUMMARY

The stations, previously unknown, of 60 more interesting species of vascular plants were characterized that were discovered in anthropogenic habitats of the railway areas in central-eastern Poland. Among this flora apophytes (35 species) slightly dominate over anthropophytes (25 species). These are mostly plant species rarely recorded from different parts and habitats of the Lublin macroregion. The most interesting plants in this group include: *Aegilops cylindrica*, *Anthoxanthum aristatum*, *Amaranthus lividus*, *Artemisia austriaca*, *Barbarea stricta*, *Bromus japonicus*, *Chamaenerion palustre*, *Erysimum marschallianum*, *Hieracium piloselloides*, *Iva xantiifolia*, *Oenothera acutifolia*, *O. flaevingina*, *Veronica paniculata*.

STRESZCZENIE

W dwu poprzednich publikacjach (10, 11) podano stanowiska rzadkich gatunków roślin wyższych zlokalizowanych na terenach kolejowych Wyżyny Lubelsko-Lwowskiej i Wyżyny Wołyńsko-Podolskiej. W niniejszym artykule zamieszczono uzupełniające dane o kolejnych, nieznanych dotąd stanowiskach interesujących gatunków roślin, które odnotowano w latach 2001–2003 na terenach kolejowych wymienionych makroregionów (Fig. 1). Podstawowe informacje o właściwościach fizyczno-geograficznych i geobotanicznych badanego terenu zamieszczono w dwu cytowanych wyżej artykułach. W doniesieniach tych podano również cel i metodykę całego zakresu

badań geobotanicznych prowadzonych na terenach kolejowych w środkowowschodniej części Polski. Ważniejsze informacje o aktualnie znanym rozmieszczeniu stanowisk rozpatrywanych gatunków roślin w środkowowschodniej części Polski zawarte są w publikacjach Fijałkowskiego (1, 2), Zająca (12), Święsa i Wrzesień (10, 11).

Key words: rare vascular plants, railway area, stations, Lublin–Lviv Upland, Volhynia Upland.

THE SURVEY OF STATIONS OF INVESTIGATED FLORA

Ranunculaceae

Thalictrum aquilegifolium L. A forest and shrubs apophyte. RŚ: GE9192 — Zwierzyniec, the PKP freight station, central part. The railway track margin, a sandy-gravel surface. Several specimens.

Papaveraceae

Fumaria vaillantii Lois. An archeophyte. PŚ: FE3899 — Świdnik: PZ: GE8332 — Zamość, E part. The railway track margin, a sandy-loamy surface. A dozen-odd specimens. RŚ: GF1254 — Majdan Nepryski, SE part. The railway track embankment slope, a sandy-gravel surface. Several specimens. RW: GF2564 — Lubycza Królewska, S part. The railway track embankment slope, a sandy surface. A dozen-odd specimens.

Caryophyllaceae

Cucubalus baccifer L. A water and waterside apophyte. PŚ: FE3900 — Jacków, S part. The slope of a high road embankment, a sandy-gravel surface. In large numerous in a dense expanse. FE3915 — Podzamcze, central part. The railway track margin, a sandy-gravel surface. A dozen-odd specimens. FE6611 — Pułankowice, the forests of Wilkołaz management. The railway track embankment slope, a sandy-breakstone surface. A dozen-odd specimens. GH: GE6855 — Strzyżów, W part. The embankment slope of dismantled narrow-gauge railway tracks, a sandy-gravel surface. A dozen-odd specimens. KH: GE7762 — Metelin, the PKP railway station, central part. The square fringe, a sandy-gravel surface. Several specimens. GE8513 — Koniuchy Kolonia, E part. The railway track margin, a sandy-gravel surface. A dozen-odd specimens. GE8528 — Frankamionka, W part. The slope of a high road embankment, a sandy-loamy surface. A dozen-odd specimens. GE8435 — Miasteczko, N part. The railway track margin, a sandy-gravel surface. Several specimens.

Dianthus superbis L. A meadow apophyte. PŚ: GE0013 — Jaszczów, N part. The railway track embankment slope, a sandy-loamy surface. A dozen-odd specimens.

D. carthusianorum L. A xerothermic apophyte. RW: GF3487 — Werchrata, S part. The slope of a high road embankment, a sandy-loamy surface. A dozen-odd specimens. KH: GE7729 — Gródek, S part. The slope of a high road embankment, a sandy-loamy surface. A dozen-odd specimens. GS: GF0626 — Łaszczów Kolonia, E part. The narrow-gauge track, a sandy-gravel surface. A dozen-odd specimens. PN: FE0398 — Puławy, W part. The railway track embankment slope, a sandy surface. A dozen-odd specimens. FE2842 — Lublin, Ponikwoda. The railway track embankment slope, a sandy-gravel surface. Several dozen specimens.

Silene dichotoma Ehrh. An agresto-epicophyte. KH: GE7726 — Hrubieszów, the LHS reloading station, E part. The square between railway tracks, a sandy-gravel surface with a loose plant cover. Several specimens.

Chenopodiaceae

Corispermum hyssopifolium L. An agresto-epicophyte. PN: FE2512 — Sadurki, the PKP railway station, NW part. The railway track margin, a sandy-gravel surface. A dozen-odd specimens. FE1421 — Stara Wieś, W part. A square near the railway tracks, a sandy surface. A dozen-odd specimens. PŚ: FE2883 — Lublin, Zadębie, the PKP reloading station, central part. The railway track margin, a sandy-breakstone surface. Several specimens. FE2799 — Lublin, The PKP Main Station, central part. The railway track margin, a sandy-gravel surface. Several specimens. RŚ: GE9101 — Brody Małe, the PKP railway station, central part. The railway track margin, a sandy surface. A dozen-odd specimens. GE9183 — Zwierzyniec, S part. The railway track margin, a sandy surface. A dozen-odd specimens. RW: GF2553 — Lubycza Królewska-Belżec, the area of state forests. The slope of the high road embankment, a sandy surface. A dozen-odd specimens. GF2552 — Lubycza Królewska-Zatyle, the area of state forest. The railway track margin, a sandy surface. Several specimens. GF3516 — Hrebenne, the PKP railway station, central part. The square between railway tracks, a sandy-gravel surface with a loose plant cover. A dozen-odd specimens. PZ: GE8312 — Zamość, N part. The platform margin, a sandy-breakstone surface. Several dozen specimens.

Kochia scoparia (L.) Schrad. An agresto-epicophyte. PN: FE2684 — Motycz Leśny, the PKP railway station, central part. The railway track embankment slope, a sandy-breakstone surface. Several specimens. FE2799 — Lublin, The PKP Main Station, central part. The railway track margin, a sandy-gravel surface. Several dozen specimens. FE2832 — Lublin, Rudnik, SE part. The railway

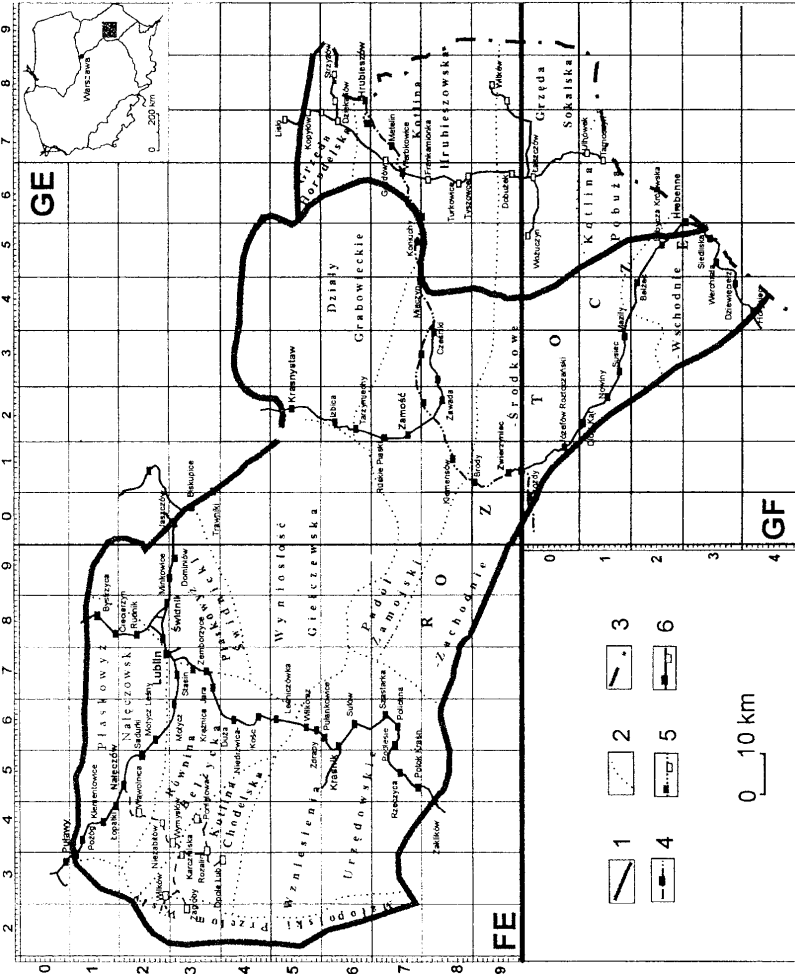


Fig. 1. Situation map of the area of investigations against the ATPOL grid. 1 — boundaries of macroregions, 2 — boundaries of mesoregions, 3 — bounder of country, 4 — standard-gauge railway line, 5 — narrow-gauge railway line, 6 — wide-gauge (LHS). Explanations of symbols and sings: DG — Grabów Divides, PZ — Zamość Valley, RŚ — Eastern Roztocze, RW — Central Roztocze, KH — Hrubieszów Basin, RBI — Biłgoraj Plain, PN — Nalęczów Plateau, PS — Świdnik Plateau, RB — Belżyce Plain, WU — Urzędów Heights, KCH — Chodel Basin, „?” — uncertain status of the species

track embankment slope, a sandy-loamy surface. Several specimens. PŚ: FE2881 — Lublin, North Station, central part. The platform margin, a sandy-gravel surface. Several dozen specimens. FE2898 — Świdnik, Biskupie, W part. The square between railway tracks, a sandy-gravel surface. Several specimens. FE3903 — Minkowice, the PKP railway station, W part. The square between railway tracks, a sandy-gravel surface with a loose plant cover. Several specimens. GE3088 — Trawniki, the PKP railway station, central part. The railway track, a sandy-breakstone surface. A dozen-odd specimens. DG: GE5264 — Krasnystaw, the PKP freight station, central part. The square between railway tracks, a sandy-gravel surface. specimens. KH: GE9687 — Dobużek Kolonia, in the area of ploughland. The narrow-gauge track, a sandy-gravel surface. A dozen-odd specimens.

Amaranthaceae

Amaranthus chlorostachys Willd. An agresto-epecophyte. PŚ: FE2882 — Lublin, Majdan Tatarski. The square near railway tracks, a sandy-gravel surface. Several specimens. PN: FE3619 — Marynin, skraj E. The square between railway tracks, a sandy-gravel surface with a loose plant cover. Several specimens.

A. lividus L. An ergasio-epekophyte. PN: FE37 — Lublin, in the vicinity of the sugar plant. The railway track margin, a sandy-loamy surface. Several specimens.

Brassicaceae

Arabis glabra (L.) Bernh. A xerothermic apophyte. RŚ: GF0018 — Terepol, the PKP railway station, central part. The railway track margin, a sandy-gravel surface. Several specimens. GF1200 — Długi Kąt, the PKP railway station, part W. The railway track margin, a sandy surface. Several specimens. GF2415 — Podlesina-Bełżec, the forests of Bełżec management. The railway track embankment slope, a sandy-gravel surface. Several specimens. GE8645 — Kozuchy, in the area of ploughland. The narrow-gauge track, a sandy-breakstone surface. A dozen-odd specimens.

Barbarea stricta Andr. A meadow apophyte. RŚ: GF1200 — Długi Kąt, central part. The railway track margin, a sandy surface. Several specimens.

Diplotaxis tenuifolia (L.) DC. An agresto-epekophyte. PN: FE2798 — Lublin, the PKP Main Station, central part. The railway track margin, a sandy-gravel surface. Several specimens. PŚ: GE3044 — Biskupice, the PKP railway station, central part. Between the platform pavement slabs. Several specimens. RW: GF1380 — Susiec, central part. The railway track margin, a sandy-gravel surface. Several specimens. KH: GE7726 — Hrubieszów, the LHS reloading station,

central part. The square between railway tracks, a sandy-gravel surface with a loose plant cover. Several specimens. PZ: GE8322 — Zamość, E part. The railway track margin, a sandy-loamy surface. Several specimens.

Erysimum marschallianum Andr. ex M. Bieb. An agresto-epicophyte. PN: FE2798 — Lublin, The PKP Main Station, central part. The railway track margin, a sandy-gravel surface. Several specimens.

Sisymbrium altissimum L. An agresto-epicophyte. RBI: FE8429 — Zaklików, the PKP railway station, E part. The railway track margin, a sandy-gravel surface. Several specimens. RB: FE4635 — Niedzwica Duża, the PKP railway station, S part. The railway track margin, a sandy-gravel surface. A dozen-odd specimens. PN: FE2503 — Nałęczów, the PKP railway station, central part. The railway track margin, a sandy-gravel surface. Several specimens together with *Sisymbrium wolgense*. FE1319 — Puławy, E part, under a viaduct in Lubelska St. The railway track margin, a sandy-gravel surface. Several specimens. FE2548 — Sadurki, the PKP railway station, central part. The railway track margin, a sandy-gravel surface. Several specimens. FE3619 — Motycz, the PKP railway station, E part. The railway track, a sandy-gravel surface. Several specimens. FE2798 — Lublin, the PKP Main Station, central part. The side-track margin, a sandy-gravel surface. Several specimens. PŚ: FE2897 — Świdnik, the PKP railway station, central part. The square between railway tracks, a sandy-gravel surface. Several specimens. WU: FE6630 — Kraśnik, the PKP railway station, central part. The railway track margin, a sandy-gravel surface. Several specimens. KH: GE7725 — Hrubieszów, the PKP railway station, central part. The square fringe, a sandy surface. Several specimens. PZ: GE8215 — Zamość, the station of Bortatycze, E part. The railway track margin, a sandy surface. Several specimens. GE8433 — Miasteczko, N part. The railway track embankment slope, a sandy surface. Several specimens.

Euphorbiaceae

Euphorbia lucida Waldst. & Kit. A water and waterside apophyte. KH: GE7729 — Gródek, SE part. The railway track embankment slope, a sandy-loamy surface. A dozen-odd specimens.

E. platyphyllos L. A synantropic apophyte. PZ: GE8174 — Klemensów, the PKP railway station part W. The square between railway tracks, a sandy-gravel surface with a loose plant cover. Several specimens. GE8166 — Bodaczów, S part. The railway track margin, a sandy-gravel surface. A dozen-odd specimens.

Rosaceae

Potentilla inclinata Vill. A xerothermic apophyte. PŚ: FE2881 — Lublin,

Majdan Tatarski. The railway track embankment slope, a sandy-gravel surface. Several specimens. FE2895 — Lublin, Zadębie, SE part. The railway track embankment slope, a sandy-gravel surface. Several specimens.

Rosa sherardii Davies. A forest and shrubs apophyte. PN: FE0387 — Puławy, the PKP railway station, W part. The railway track embankment slope, a sandy-gravel surface. A dense tuft of a dozen-odd specimens.

Rubus ortostachys G. Braun. A forest and shrubs apophyte. PN: FE2684 — Motycz Leśny, S part. The railway track embankment slope, a sandy-breakstone surface. Several specimens. WU: FE6620 — Pułankowice, S part. The railway track margin, a sandy-gravel surface. A dense tuft of a dozen-odd specimens.

Fabaceae

Astragalus cicer L. A xerothermic apophyte. PZ: GE7119 — Zamszany, central part. The railway track embankment slope, a sandy-gravel surface. Several dozen specimens. GE7658 — Gozdów, a halt of the dismantled narrow-gauge railway line. The railway track embankment slope, a sandy-gravel surface. A dozen-odd specimens. PN: FE0318 — Puławy Miasto, the PKP railway station, N part. The railway track embankment slope, a sandy surface. A dozen-odd specimens. FE1891 — Ciecierzyn, S part. The railway track embankment slope, a sandy-gravel surface. A dozen-odd specimens. FE2511 — Czesławice, W part. The railway track embankment slope, a sandy-breakstone surface. A dozen-odd specimens. PŚ: FE2883 — Lublin, Majdan Tatarski. The railway track margin, a sandy-gravel surface. A dense tuft of a dozen-odd specimens. FE3901 — Jacków, S part. The slope of the trackage trench, a sandy-gravel surface. GE3088 — Trawniki, part W. The railway track embankment slope, a sandy-gravel surface. A dozen-odd specimens. GE3034 — Biskupice, skraj SE. The railway track embankment slope, a sandy-gravel surface. A dozen-odd specimens. DG: GE6213 — Wólka Orłowska, S part. The slope of a high road embankment, a sandy surface. Several specimens.

Melilotus altissima Thuill. A xerothermic apophyte. PZ: GE8333 — Zamość, E part. The railway track embankment slope, a sandy-gravel surface. A dozen-odd specimens together with *Melilotus officinalis*.

Onagraceae

Chamaenerion palustre (L.) Scop. A water and waterside apophyte. RŚ: GF0145 — Zwierzyniec-Józefów Roztoczański, the forests of the Rztocze

National Park. The slope of a ditch near the railway track, a sandy-loamy surface. A dozen-odd specimens.

Oenothera acutifolia Rostański. An agresto-epicophyte?. RW: GF4411 — Horyniec, the PKP railway station, part W. The railway track margin, a sandy-gravel surface. A dozen-odd specimens.

O. flaemingina Hudziok. An agresto-epicophyte?. RŚ: GF0155 — Józefów Roztoczański — Borowina, the area of state forests. The railway track margin, a sandy-gravel surface. A dozen-odd specimens together with *Oenothera rubri-caulis* and *O. biennis*.

Aceraceae

Acer campestre L. A forest and shrubs apophyte. PN: FE3619 — Marynin, N part. The railway track embankment slope, a sandy-breakstone surface. Single specimen.

A. ginnala Maxim. An ergasio-epicophyte. PN: FE2661 — Miłocin, central part. The railway track margin, a sandy-loamy surface. Single specimen.

Apiaceae

Libanotis pyrenaica (L.) Bourg. A forest and shrubs apophyte. DG: GE6213 — Wólka Orłowska, central part. The slope of a high road embankment, a sandy-gravel surface. Several specimens. KCH: FE3460 — Rozalin, N part. The narrow-gauge track, a sandy-gravel surface. Several specimens.

Seseli annuum L. A xerothermic apophyte. PN: FE2511 — Czesławice, E part. The slope of a high road embankment, a sandy-gravel surface. Several specimens. FE2842 — Lublin, Ponikwoda. The railway track embankment slope, a sandy-gravel surface. Several specimens. FE2812 — Łagiewniki, central part. The railway track embankment slope, a sandy-gravel surface. A dozen-odd specimens. WU: FE7592 — Potok Kraśnicki, the PKP railway station, S part. The square fringe, sandy-loamy surface. Several specimens. RBI: FE8520 — Zaklików, E part. The railway track embankment slope, a sandy-gravel surface. KH: GE7676 — Brodzica, N part. The railway tracks of dismantled narrow-gauge, a sandy-gravel surface. A dozen-odd specimens. GS: GE9833 — Witków, central part. The railway tracks of dismantled narrow-gauge, a sandy-gravel surface. A dozen-odd specimens.

Boraginaceae

Asperugo procumbens L. A synantropic apophyte. PŚ: FE2883 — Lublin,

Zadębie, the PKP reloading station, central part. The railway track margin, a sandy surface. Several dozen specimens.

Cerintho minor L. A xerothermic apophyte? RŚ: GE9100 — Brody Małe, the PKP railway station, central part. The railway track embankment slope, a sandy surface. A dense tuft of a dozen-odd specimens. GE9192 — Zwierzyniec, the PKP freight station, central part. The square fringe, a sandy surface. A dozen-odd specimens. GE8174 — Klemensów, S part. The slope of the trackage trench, a sandy-gravel surface. A dozen-odd specimens. GE8685 — Malice, central part. The embankment slope of dismantled narrow-gauge railway tracks, a sandy surface. Several specimens.

Solanaceae

Hyoscyamus nigier L. An archeophyte. PZ: GE8215 — Zamość, the railway station of Bortatycze, central part. The railway track margin, a sandy-gravel surface. Several specimens. GE8348 — Zamość, E part. The railway track margin, a sandy-gravel surface. Several specimens. GE9870 — Poturzyn, central part. The slope of a high road embankment, a sandy-gravel surface. Several specimens.

Scrophulariaceae

Verbascum phoeniceum L. A xerothermic apophyte. PZ: GE6281 — Tarzymiechy Pierwsze, N part. The slope of a high road embankment, a sandy-gravel surface. A dozen-odd specimens. DG: GE6242 — Izbica, N part. The slope of a high road embankment, a sandy-loamy surface. Several specimens. GE5273 — Krasnystaw, Zastawie. The railway track embankment slope, a sandy-breakstone surface. A dozen-odd specimens. PN: FE2842 — Lublin, Rudnik, E part. The railway track embankment slope, a sandy-breakstone surface. Several specimens.

Veronica opaca Fr. An archeophyte. PZ: GE8255 — Zamość, the PKP railway station, W part. The railway track margin, a sandy-gravel surface. A dozen-odd specimens.

V. paniculata L. A xerothermic apophyte. DG: GE6242 — Izbica, N part. The slope of the high road embankment, a sandy-dust surface. This station is situated two kilometers again from station description by Kaźmierczakowa, Trzcńska-Tacik (1991). There *Veronica paniculata* grows together with species characteristic for *Festuco-Brometea* and *Trifolio-Geranietea* classes: *Medicago falcata*, *Galium verum*, *Campanula bononiensis*, *Sedum maximum*, *Centaurea scabiosa*, *Scabiosa ochroleuca*, *Agropyron intermedium*. GE6222 — Wólka

Orłowska, SW part. The railway track embankment slope, a sandy-gravel surface. Several specimens.

Gentianaceae

Centaureum pulchellum (SW.) Druce. A water and waterside apophyte. PZ: GE8166 — Bodaczów, central part, in the vicinity of the sugar plant. In crevasses between pavement stones. Several dozen specimens. WU: FE7624 — Szastarka, the PKP railway station, central part. The square fringe, a sandy-gravel surface. Several dozen specimens.

Cucurbitaceae

Sicyos angulata L. An ergasio-epekophyte. PZ: GE 8166 — Bodaczów, S part. The slope of a high road embankment, a sandy-gravel surface. A dozen-odd specimens. GE8322 — Zamość, E part. The railway track margin, a sandy-loamy surface. A dozen-odd specimens. DG: GE5273 — Krasnystaw, Zastawie, S part. The railway track embankment slope, a sandy-gravel surface. A dozen-odd specimens. GE6222 — Wólka Orłowska, SW part. The railway track margin, a sandy-loamy surface. Several dozen specimens. PN: FE1410 — Puławy, E part. The railway track margin, a sandy-loamy surface. A dense tuft of a dozen-odd specimens. FE1411 — Pożóg Nowy, central part. The railway track margin, a sandy-loamy surface. A dozen-odd specimens. FE1477, FE1478 — Klementowice, S part. The railway track margin, a sandy-loamy surface. A dozen-odd specimens. FE1891 — Ciecierzyn, S part. The slope of a high road embankment, a sandy-gravel surface. A dozen-odd specimens. FE2391 — Wilków, central part. The narrow-gauge track, a sandy-gravel surface. A dozen-odd specimens. FE2448 — Kębło, S part. The narrow-gauge track, embankment, a sandy-gravel surface. Several specimens. FE2503 — Nałęczów, the PKP railway station, central part. A square near the railway tracks, a sandy-gravel surface. Several specimens. FE2548, FE2549 — Sadurki, S part. The railway track embankment slope, a sandy-gravel surface. A dozen-odd specimens. FE2661 — Miłocin, central part. The slope of the trackage trench, a sandy-gravel surface. A dozen-odd specimens. FE2822 — Pliszczyn, W part. The railway track margin, a sandy-gravel surface. A dozen-odd specimens. FE3607 — Motycz, E part. The slope of the trackage trench, a sandy-gravel surface. A dozen-odd specimens. PŚ: FE3903 — Minkowice, the PKP railway station, E part. The railway track embankment slope, a sandy-gravel surface. Several specimens. FE3904 — Mełgiew, S part. The railway track margin, a sandy-loamy surface. Several dozen specimens. FE3908, FE3909 — Dominów, central part. The railway track margin,

a sandy-loamy surface. Several dozen specimens. WU: FE7535 — Rzeczyca, E part. The slope of a high road embankment, a sandy-loamy surface. A dozen-odd specimens. FE7592 — Potok Kraśnicki, central part. The railway track margin, a sandy-loamy surface. A dozen-odd specimens.

Campanulaceae

Campanula sibirica L. A xerothermic apophyte. DG: GE5273 — Krasnystaw, Zastawie. The slope of a high road embankment, a sandy-gravel surface. Several specimens. GE6260 — Przysiółek Tarnogóra, S part. The slope of a high road embankment, a sandy-loamy surface. KH: GE7729 — Gródek, SE part. The slope of a high road embankment, a sandy-gravel surface. Several specimens.

Asteraceae

Artemisia annua L. An agresto-epicophyte. PN: FE3708 — Lublin, Krochmalna St.. The railway track, a sandy-loamy surface. A dozen-odd specimens.

A. austriaca Jacq. An agresto-epicophyte. PN: FE1455 — Klementowice, central part. The slope of a high road embankment, a sandy-gravel surface. A dozen-odd specimens. FE2511 — Drzewce, central part. The railway track embankment slope, a sandy-gravel surface. Several specimens. FE2841 - Lublin, Trześniów. The railway track embankment slope, a sandy-gravel surface. Several dozen specimens. KCH: FE3317 — Karczmiska Pierwsze, N part. The narrow-gauge track, a sandy-gravel surface. A dozen-odd specimens. RŚ: GF1380 — Susiec, central part. The railway track margin, a sandy-gravel surface. A dozen-odd specimens.

Cirsium canum (L.) All. A meadow apophyte. RW: GF2552 — Zatyle, central part. The railway track embankment slope, a sandy surface. Several specimens. GF3493 — Siolo-Dziewięcierz, in the area of ploughland. The railway track embankment slope, a sandy-gravel surface. A dozen-odd specimens. PZ: GE8346 — Zamość, Szopinek, LHS. The railway track embankment slope, a sandy-loamy surface. Several specimens. GE8519 — Zawalów, E part. The railway track embankment slope, a sandy-loamy surface. A dozen-odd specimens. GE8517 — Miączyn, E part. The railway track embankment slope, a sandy-gravel surface. A dozen-odd specimens. GF1649 — Tarnoszyn, central part. The railway track embankment slope, a sandy-gravel surface. A dozen-odd specimens.

Hieracium lactucella Wallr. A meadow apophyte. PZ: GE8312 — Zamość, W part. The railway track margin, a sandy surface. A dozen-odd specimens.

H. piloselloides Vill. A meadow apophyte. PN: FE3619 — Motycz, the PKP railway station, W part. The railway track embankment slope, a sandy-breakstone surface. A dozen-odd specimens. DG: GE7119 — Krzak, central part. The railway track margin, a sandy-gravel surface. Several specimens.

Iva xantiifolia Nutt. An agresto-epycophyte. WU: FE6630 — Kraśnik, the PKP railway station, central part. The railway track margin, a sandy-gravel surface. Several specimens together with *Bunias orientalis*. PN: FE2798 — Lublin, The PKP Main Station, SW part. The square fringe, a sandy-gravel surface. Several dozen specimens.

Petasites hybridus (L.) Gaertn. A meadow apophyte. RW: GF2565 — Zatyłe, central part. The railway track margin, a sandy-loamy surface. Several dozen specimens. GF0515 — Woźuczyn, S part. The narrow-gauge track, a sandy-gravel surface. Several dozen specimens.

Scorzonera humilis L. A forest and shrubs apophyte. RŚ: GF0176 — Józefów Roztoczański, the PKP railway station, N part. The railway track margin, a sandy surface. Several specimens.

Liliaceae

Anthericum ramosum L. A forest and shrubs apophyte. RŚ: GF0135 — Zwierzyniec-Józefów Roztoczański, the forests of the Roztocze National Park. The railway track margin, a sandy-gravel surface. Several dozen specimens. GF0145 — Zwierzyniec-Józefów Roztoczański, the forests of the Roztocze National Park. The slope of a high road embankment, a sandy surface. Several dozen specimens. GF1226 — Majdan Nepryski, SW part. The slope of a high road embankment, a sandy surface. A dozen-odd specimens. GF1245 — Długi Kąt-Nowiny, the forests of Kalina management. The slope of a high road embankment, a sandy surface. A dozen-odd specimens.

Poaceae

Aegilops cylindrica Host. An agresto-epycophyte. DG: GE6222 — Wólka Orłowska, SW part. The railway track, a sandy-gravel surface. Several specimens. GE6252 — Izbica, central part. The railway track margin, a sandy-loamy surface. A dozen-odd specimens.

Agropyron intermedium (Host) P. Beauv. A xerothermic apophyte. DG: GE6242 — Izbica, N part. The slope of a high road embankment, a sandy-loamy surface. A dozen-odd specimens.

Anthoxanthum aristatum Boiss. A meadow apophyte. PŚ: GE3044 — Biskupice, central part. The railway track embankment slope, a sandy-gravel surface. A dozen-odd specimens.

Avena sterilis L. An ephemerophyte. GE8254 — Zamość, the PKP railway station, W part. The railway track margin, a sandy-gravel surface. Several dozen specimens. GE8340 — Zamość, under a viaduct in Peowiaków St. The railway track margin, a sandy-gravel surface. Several specimens.

Bromus japonicus Thunb. Ex Murr. An agresto-epycophyte. DG: GE6222 — Wólka Orłowska, SW part. The railway track, a sandy-gravel surface. Several dozen specimens.

B. sterilis L. An archeophyte. PŚ: FE2898 — Świdnik, the PKP railway station, central part. The railway track margin, a sandy-breakstone surface. A dozen-odd specimens. RB: FE4635 — Niedzwica Duża, the PKP railway station, central part. The railway track, a sandy-breakstone surface. Several dozen specimens together with *Bromus japonicus*. WU: FE6539 — Kraśnik, the PKP railway station, central part. The railway track margin, a sandy-gravel surface. FE7624 — Szastarka, the PKP railway station, central part. The railway track margin, a sandy-breakstone surface. A dozen-odd specimens. DG: GE5264 — Krasnystaw, the PKP freight station, central part. The railway track margin, a sandy-gravel surface. Several specimens. PZ: GE7148 — Ruskie Piaski, the PKP railway station, central part. A vast square between railway tracks, a sandy-gravel surface. Several dozen specimens. GE8254 — Zamość, the PKP railway station, W part. The railway track margin, a sandy-gravel surface. Several dozen specimens. GE8340 — Zamość, under a viaduct in Peowiaków St. The railway track margin, a sandy-gravel surface. Several specimens.

Bromus willdenowii (Huds.) P. Beauv. An ephemerophyte. FE2781 — Lublin, Majdan Tatarski. The railway track margin, a sandy surface. A dozen-odd specimens.

Festuca ovina L.s.s. A grass apophyte. PN: FE1308 — Puławy, Ruda Czechowska. A yard near the railway tracks, a sandy surface. A dozen-odd specimens.

F. psammophila (Hack. ex Celak.) Fritsch. A grass apophyte. PN: FE1308 — Puławy, Ruda Czechowska. A yard near the railway tracks, a sandy surface. Several specimens. PZ: GE8425 — Miasteczko, SE part. The railway track embankment slope, a sandy-gravel surface. In large numerens in a dense expanse. RŚ: GE9100 — Brody Małe, the PKP railway station, central part. The slope of the trackage trench, a sandy-gravel surface. Several dozen specimens.

Hordeum murinum L. An archeophyte. PŚ: FE2883 — Lublin, Majdan Tatarski. The railway track margin, a sandy surface. A dozen-odd specimens.

Koeleria glauca (Spreng.) DC. A grass apophyte. PN: FE1308 — Puławy, Ruda Czechowska. A yard near the railway tracks, a sandy surface. Several dozen specimens. WU: FE6527 — Kraśnik, N part. The slope of a high road embankment, a sandy surface.

Puccinellia distans (Jacq.) Parl. A saliferous apophyte. PŚ: FE2897 — Świdnik, the PKP railway station, E part. The square of Main Station, a sandy-gravel surface. Several dozen specimens. GE3088 — Trawniki, the PKP railway station, central part. The square between railway tracks, a sandy-gravel surface with a loose plant cover. Several dozen specimens. WU: FE7554 — Rzeczyca Ziemiańska, S part. The railway track margin, a sandy surface. Several dozen specimens. FE7624 — Szastarka, the PKP railway station, central part. The freight-handling yard, a sandy-gravel surface. Several dozen specimens. PN: FE2798 — Lublin, the PKP Main Station, central part. The freight-handling yard, a sandy-gravel surface. A dozen-odd specimens. FE0387 — Puławy, under a viaduct in Długa St. The railway track margin, a sandy-gravel surface. A dozen-odd specimens. FE1403 — Nałęczów, the PKP railway station, central part. The square fringe, a sandy-gravel surface. Several dozen specimens together with *Eragrostis pilosa*. KH: GE7726 — Hrubieszów, the PKP reloading station LHS, E part. The square between railway tracks, a sandy-gravel surface with a loose plant cover. Several dozen specimens. PZ: GE8174 — Klemensów, the PKP railway station, central part. A square near the railway tracks, a sandy-gravel surface. Several dozen specimens. GE8141 — Zawada, the PKP railway station, central part. A square near the railway tracks, a sandy-gravel surface. A dozen-odd specimens.

Setaria italica L. P. Beauv. An archeophyte. FE2895 — Lublin, Zadębie, SE part. The railway track embankment slope, a sandy-surface. Several specimens.

RESULTS

In the habitats of railway areas in Central-Eastern Poland were discovered stations of 60 of vascular plants belonging to rare and interesting on regional scale. Among the species listed apophytes (35 species) numerically dominate over anthropophytes (25 species). In the case of apophytes the number of species of xerothermic habitats (12 species) is somewhat larger than the number of species of forest and shrubs habitats (7 species) or meadow habitats (7 species). However, a smaller quantitative share goes to water and waterside (4 species), grass (5 species), synantropic (3 species) and saliferous (1 species) elements respectively. Within anthropophytes agresto-epiphytes (14 species) dominate

over archeophytes (6 species), ergasio-epicophytes (3 species) and ephemerophyte (2 species).

The most interesting plants reported in the habitats of the railway areas of the studied region include: *Aegilops cylindrica*, *Anthoxanthum aristatum*, *Amaranthus lividus*, *Artemisia austriaca*, *Barbarea stricta*, *Bromus japonicus*, *Chamaenerion palustre*, *Erysimum marschallianum*, *Hieracium piloselloides*, *Iva xantiifolia*, *Oenothera acutifolia*, *O. flemingina*, *Veronica paniculata*.

REFERENCES

1. Fijałkowski D. 1978. Synantropy roślinne Lubelszczyzny. Lub. Tow. Nauk., Prace Wydziału Biol., 5, Warszawa–Łódź.
2. Fijałkowski D. 1994, 1995. Flora roślin naczyniowych Lubelszczyzny. 1, 2. Środowisko Przyrodnicze Lubelszczyzny. Lub. Tow. Naukowe, Lublin.
3. Frey A. 1974. Rodzaj *Amaranthus* L. w Polsce. Frag. Flor. Geobot. 20 (2): 143–201.
4. Guzik J., Sudnik-Wójcikowska B. 1989. Badania nad zasięgami roślin synantropijnych. *Iva xantiifolia* w Polsce. Fragm. Flor. Geobot. 34 (3–4): 255–276.
5. Jackowiak B. 1984. Chorologiczne i synekologiczne aspekty ekspansji *Puccinellia distans* (L.) Parl. w Polsce. Bad. Fizjogr. Pol. Zach. 35: 67–91.
6. Kaźmierczakowa R., Trzcińska-Tacik H. 1991. *Veronica paniculata* — interesujący gatunek we florze Polski. Fragm. Flor. et Geobot. 36: 415–426.
7. Mirek Z., Piękoś-Mirkowa H., Zając A., Zając M. 1995. Vascular plants of Poland. A checklist. Pol. Bot. Stud. Guidebook, series 15, Inst. Bot. im. W. Szafera PAN, Kraków.
8. Pawlus M. 1985. Systematyka i rozmieszczenie gatunków z grupy *Festuca ovina* L. w Polsce. Fragm. Flor. et Geobot. 29: 219–295.
9. Rostański K., Fijałkowski D. 1991. Rodzaj *Oenothera* L. na Lubelszczyźnie. Ann. UMCS, sectio C, 46: 45–59.
10. Święs F., Wrzesień M. 2002. Rare vascular plants of the railway areas in Central-Eastern Poland. I. Lublin Upland, eastern part, Roztocze, Volhynia Upland. Ann. UMCS, sectio C, 57: 95–117.
11. Święs F., Wrzesień M. 2003. Rare vascular plants of the railway areas in Central-Eastern Poland. II. Lublin Upland, W part. Ann. UMCS, sectio C, 58: 69–89.
12. Zając A., Zając M. (eds). 2001. Distribution atlas of vascular plants in Poland. Edited by Laboratory of Computer Chorology, Institute of Botany, Jagiellonian University, Cracow.