

KRÁTKÁ SDĚLENÍ

***Avena ludoviciana* DUR. and *Bidens frondosus* L. —
Two New Species for Romanian Socialist Republic**

***Avena ludoviciana* DUR. a *Bidens frondosus* L. —
dva nové druhy pro Rumunskou socialistickou republiku**

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Abstract — KROPÁČ Z. et M. LHOTSKÁ: *Avena ludoviciana* DUR. and *Bidens frondosus* L. — two new species for Romanian Socialist Republic. — Preslia, Praha, 43 : 249—253. ← During their visit of the Romanian Socialist Republic in September 1969 the authors were looking for two species which have not yet been cited in the literature from Romania, viz. *Avena ludoviciana* DUR. and *Bidens frondosus* L. Both species were found.

During our visit to the Romanian Socialist Republic in September 1969 we were looking for two species both in the field and in the herbaria; these species were *Avena ludoviciana* DUR. and *Bidens frondosus* L., the occurrence of which could be assumed from their distribution. These species had not yet been published in various Romanian floras and manuals (see references cited), or mentioned in other available literature. The results of our brief contribution have been discussed with Prof. Dr. Doc. Morariu (Braşov), and as to the *A. ludoviciana* DUR. we think that this finding should be recorded in the last volume of the Romanian Flora containing the family *Poaceae* (now in preparation).

Owing to the time-table of our visit and the territory which was to be seen during our visit, it was possible to have a look only at the herbaria in Cluj and Braşov. Excursion were undertaken in the nearest surroundings of Timişoara, Braşov, Cluj and Bucureşti.

Avena ludoviciana DUR. [*A. sterilis* L. subsp. *ludoviciana* (DUR.) GILLET et MAGNE] is a species known in the adjacent territory of the U.S.S.R. (MAL'CEV 1930) and the Bulgarian Socialist Republic (GEORGIJEV 1963, KOLEV 1963). GEORGIJEV (1963) states that the distribution in the B.S.R. is limited to the southern part of the Bulgarian territory, but he indicates also a general distribution in the Balkan Peninsula (besides other countries stated e.g. in MAL'CEV 1930). No locality had yet been published from the Romanian Socialist Republic except for a datum of BORZA (1947) from the Moldavia (Iaşi): "In cult. exp. 4 varietates et 5 subvar. productae". It is evident that these plants were grown experimentally. The occurrence of *Avena ludoviciana* was to be assumed firstly in the Dobrogea, unfortunately beyond our reach. Nevertheless we succeeded by a rapid examination of

some herbaria and *A. ludoviciana* was found twice from the Romanian Dobrogea; these specimens were originally determined as *Avena fatua* L. The following herbaria and localities may be quoted here:

1. Herbarul Universității Cluj, loc. Dobrogea, distr. Constanța, in arenosis ad reservationem Agigea, 28. 6. 1933, leg. E. I. NYÁRÁDY.
2. Herbarul Laboratorului de Catedra de Botanică (Institutului Politehnic) Brașov, No. o sheet 23138, loc. Mangalia-Comarova, 28. 7. 1949, leg. I. MORARIU.

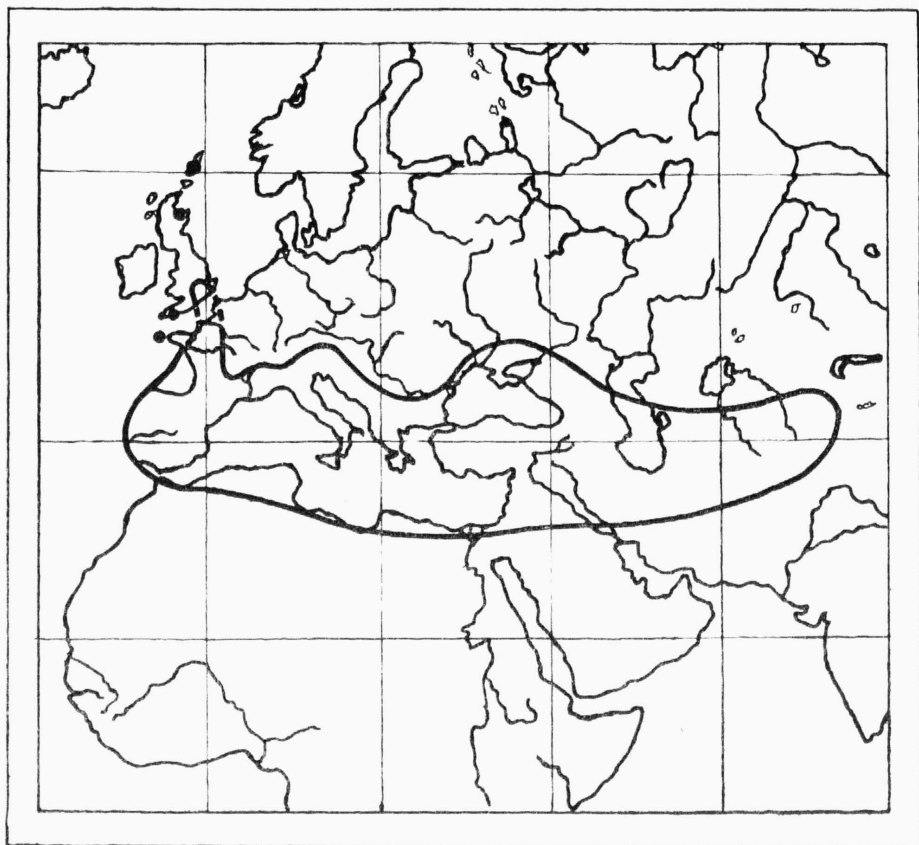


Fig. 1. — Distribution area of *Avena ludoviciana* DUR. (adapted from MAL'CEV). See also the dots on the territory of Great Britain.

There are most likely many other localities in the Romanian Socialist Republic which will certainly soon be found.

The present area of the species is shown in Fig. 1 which manifests an interesting paléo-mediterranean distribution with its Irano-Turanian center of origin (MAL'CEV 1930 : fig. 66). It is worth mentioning that *A. ludoviciana* grows today as a noxious weed not only in the Tadzhik S.S.R. (VASIL'ČENKO 1953: distribution map on p. 14), but also in France (FRON 1917, CHEVALIER 1925, BARRALIS 1961) and partly in Great Britain (THURSTON 1954, PERRING et WALTERS 1962), while in the German Federal Republic it is not yet known (LINDENBEIN et RADEMACHER 1960); the first indication from North America (COFFMAN et STANTON 1938) was not confirmed later.

Taxonomic problems lie outside the scope of this short article, but owing to frequent confusions with other wild species (especially with *A. fatua*), a short account of diacritic characters can be given here. In our opinion the MAL'CEV'S (1930) concept of the species *Avena sterilis* L. s.l. is very broad indeed. The *A. sterilis* L. s. str. (*A. sterilis* L. subsp. *macrocarpa* MAL'CEV) differs substantially by much larger caryopses, which are also more numerous in one spikelet etc. On the other hand, this species and *A. ludoviciana* DUR.

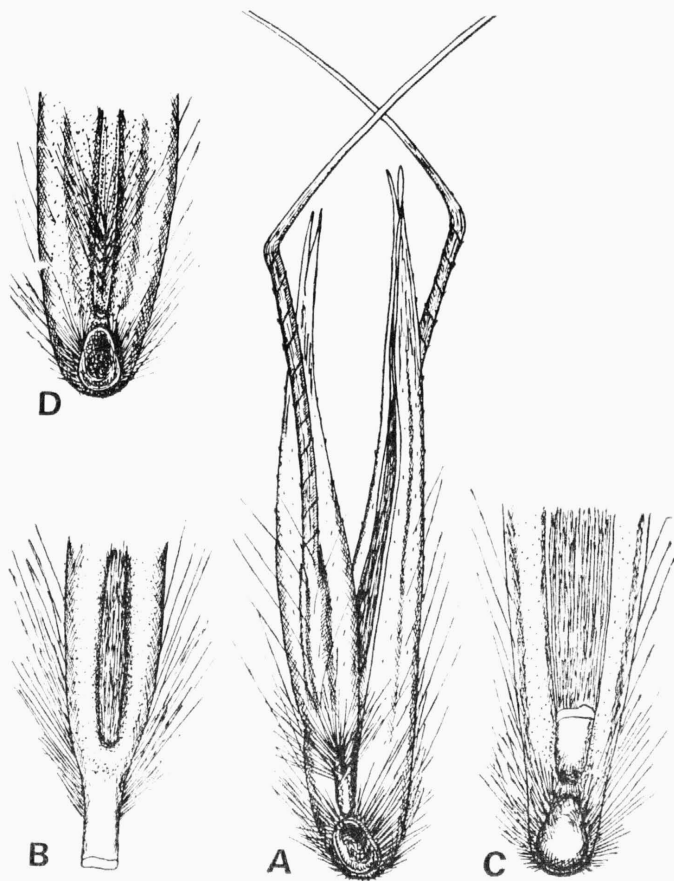


Fig. 2. — A: *Avena ludoviciana* DUR. — caryopses of spikelet with abscission scar on the first caryopse only; B, C: Detail of the caryopse base of *Avena ludoviciana* DUR.; D — Detail of the caryopse base of *Avena fatua* L. — Orig. J. LIHOTSKÝ.

were placed in the series *Biformes* (COSSON 1854). This series (as a part of subsectio *Agrestes*) is characterized by the fact that the abscission scar (callus cum cicatrice) can be found only in the first (lowermost) floret of the spikelet, so that all the caryopses (*A. ludoviciana* is usually biflowered) fall out together when ripe, adhering to the rachilla (see Fig. 2). On the other hand, in the series *Conformes* (COSSON 1854) all the florets possess the abscission scar at their base, so that each caryopse of spikelet drops off separately

(e.g. *Avena fatua* L.). It is very interesting that the characters of *Biformes* remain to some extent even after mechanical separating of caryopses, e.g. when fracture of the rachilla is brought about in the seed stock (see LINDENBEIN et RADEMACHER 1960). The observed species in the above mentioned Romanian herbaria belong to the var. *typica* MAL'CEV (i.e. *Avena ludoviciana* DUR. var. *ludoviciana*); but it would be also interesting to know whether or not the winter forms (subvar. *hibernans* MAL'CEV) could infest in the R.S.R. winter crops as known from the Crimea in the U.S.S.R. and Asia Minor (cf. MAL'CEV 1930).

Bidens frondosus L. — This species was found neither among the herbarium sheets in Cluj nor in Braşov. We had no opportunity of visiting the river bank of the Danube, where its occurrence could be taken for granted owing to its distribution along the Danube riverside in the territory of Yugoslavia as well as Hungary (SLAVNIĆ 1960, WAGENITZ 1966, LHOTSKÁ 1968a, 1968b) and owing to its probable occurrence on the Austrian part of the Danube (see the finding of MELZER (1958) on the river Raab near the town Fehring) and also owing to its excellent spreading capacity. Nevertheless, the species was found along both banks of the river Timişul near the village Uliuc (situated approx. to the southwest of Timişoara). The river bank of Timişul is, however, unsuitable for the occurrence of communities of the order *Bidentetalia* BR.-BL. et TX. 1943 in the just mentioned locality, because the river bed here is deep and the banks very steep. That is why *Bidens frondosus* and also other species of the order occur very sporadically here. We looked for the plants in a strip approximately 500 m along both riversides, and only three smaller plants of *Bidens frondosus* were collected. It is evident that the occurrence along the river Timişul is in direct connection with the distribution along the Danube. The most probable manner of dispersal here is the upstream epichory. But *Bidens frondosus* does not belong to the common plants along Romanian rivers and its present occurrence will most likely be limited to the Danube and its nearest tributaries. This opinion seems to be supported by its absence along the river Bega in the close surroundings of Timişoara for example and also along the river Someşul Mic in the surroundings of Cluj, where communities of the order *Bidentetalia* are better developed in comparison with the river Timişul.

Souhrn

Při návštěvě Rumunské socialistické republiky v září 1969 pátrali autoři podle možnosti v terénu i v herbářích po dvou druzích, které nejsou dosud v rumunské literatuře uváděny — *Avena ludoviciana* DUR. a *Bidens frondosus* L. — a jejichž výskyt se zde dal předpokládat. Oba druhy byly zjištěny.

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Recensent: S. Hejný

R. Platt:

The Great American Forest

Prentice-Hall Series, Inc., Englewood Cliffs, N. J. 1965, 271 str., 32 obr., cena neuvedena. (Kniha je v knihovně ČSBS.)

Rutherford Platt je autorem řady úspěšných popularizujících přírodovědeckých knih. Také recenzovaná kniha má všechny znaky dobré populární vědecké práce. Pojetí, výběr témat a jejich zpracování ukazují na zkušeného autora. Přírodní děje líčí autor nejen na úrovni makroskopické, nýbrž popisuje také mikroskopické struktury a fyziologické pochody rostlin. Velkou pozornost věnuje popisu vlivu člověka na přírodu, který se začal výrazněji projevovat především od doby intenzivního osídlování Ameriky evropskými vystěhovalci.

Kniha je rozdělena do 17 kapitol. V prvních kapitolách líčí vznik a vývoj lesů od minulých geologických dob přes období ledové doby až do doby osídlení lesů člověkem. Původní složení lesů dokládá fosilními zbytky. Podrobněji rozebírá druhové složení opadavých listnatých lesů a změny v jejich skladbě během ledové a poledové doby. V dalších kapitolách popisuje složení dřeva, jeho anatomickou stavbu, chemické složení a změny nastávající během růstu a rozebírá způsoby transportu minerálních látek a celkovou výživu stromů. Následující kapitola je věnována významu fotosyntézy, jejím průběhu a ovlivňování prostředím. Snaha po atraktivnosti obsahu svedla autora k nesprávnému řazení „auxinu“, který označuje P-730, jako enzymu v kapitole nazvané „Genius lesa, P-730“. Na kapitolu o životě v povrchu půdy, týkající se jak života drobných půdních živočichů, tak rostlinných organismů (řas, hlenek, hub, lišejníků), navrhuje kapitola o životě půdních mikroorganismů (baktérií a prvoků) žijících v humusové vrstvě půdy. Současně je popisován vznik humusu a jeho chemické složení. Složení a stáří jehličnatých lesů v Americe a rozdíly v jejich druhovém složení v určitých krajinných celcích jsou obsahem další kapitoly. Zbývající kapitoly jsou věnovány líčení objevitelských výprav do neznámých krajů severní Ameriky, jejich postupné kolonizaci a zásadním změnám v přírodě jako následku hlubokých zásahů člověka do krajiny.

Jednotlivé kapitoly jsou doprovázeny pěknými černobílými fotografiemi. Vědecká fakta jsou zpracována a konkrétní přírodní jevy popisovány a předkládány poutavým a srozumitelným slohem, který nepředpokládá žádné předběžné odborné znalosti, a proto tuto knihu může číst nejširší okruh čtenářů — milovníků přírody.

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