SOME SHORT-LIVED RUDERAL PLANT COMMUNITIES OF NON-TRAMPLED HABITATS IN NORTH KOREA

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Keywords: Phytosociology, Ruderal vegetation, Stellarietea mediae

Abstract: Short-lived plant communities of ruderal habitats in North Korea were studied using the Zürich-Montpellier approach. The Beckmannio eruciformis-Potentilletum costatae, the Daturattofallae-Siegesbeckietum pubescentis, the Humulo japonicae-Chenopodietum albi and the Cosmo-Humulion japonicae were described as new.

INTRODUCTION

The synanthropic vegetation of North Korea has only recently become an object of study. Up to the present, the vegetation of soya fields (DOSTÁLEV et al. 1990), trampled habitats (MUCINA et al. 1991), nitrophilous pond and river banks (JAROLÍMEK et al. 1991), town lawns (ŠRŮTEK & KOLBEK 1992, BLAŽKOVÁ 1993), walls (KOLBEK & VALACHOVIČ, in prep.), and rice fields (KOLBEK et al., in prep.) has been studied.

This paper deals with the vegetation of mesophilous and non-trampled ruderal (not segetal) habitats, hitherto unknown from North Korea. These habitats occur frequently in settlements and their environs. In Japan, only segetal vegetation (MIYAWAKI 1980-1989) was studied. Fragmentary data (e.g. BORZA 1960) have been reported from this type of vegetation in China.

MATERIAL AND METHODS

Phytosociological relevés according to the Zürich-Montpellier approach (BRAUN-BLANQUET 1964) were made in June and July 1990 (thus prior to arrival of the monsoon) in different parts of the Democratic People’s Republic of Korea: in Pyongyang, Haeju, Wonsan, and Hyangsan towns and in the Ondzongri village (Kumgangsan Mts.), at altitudes ranging between 10 and 110 m (Fig. 1). The relevés were taken from all stands satisfying the following conditions: (a) covering an area of at least 8 m², (b) with plant cover > 35 %, (c) with predominance of annuals, but (d) excepting segetal, trampled habitats, and stands of Bidentetea tripartitae which had already been studied.

The cryptogams were rare and not registered. No other stand types, delimited as above, were found. All the stands had a single dominating species or a combination of some of the following: Potentilla costata, Rorippa palustris, Datura tatula, Siegesbeckia pubescens, Chenopodium album, C. glaucum, C. ficifolium, Kochia scoparia, Cosmos bipinnata, Humulus japonica, Oenothera biennis, Chylocalyx perfoliatus, and Persicaria cochinchinensis. No relevés were additionally excluded from the synthesis.
The nomenclature of the Korean plants follows a checklist by RI & HWANG (1984), excepting the following new taxa for this country: *Amaranthus chlorostachys* WILDL., *Chenopodium ficifolium* SM., *C. strictum* ROTH and *Potentilla supina* subsp. *costata* SOJAK (further referred to as *P. *costata*). The nomenclature of the plants occurring only in Japan follows OHWI (1965).

**RESULTS**

Based on the tabular synthesis of 58 relevés, 3 associations were distinguished (Tab. 4). For Tab. 1-3 see Appendix (pp. 213-217).

**Beckmannio eruciformis-Potentilletum costatae ass. nov. hoc loco**

Nomenclatural type: relevé 3 in Table 1 (holotypus)
Diagnostic species: see Table 1, 4

The stands are small-sized and often very patchy. The cover of the herb layer varies. The average number of species per relevé is 18. In the pre-monsoon phenophase, the stands are two-layered with dominating *Potentilla *costata or *Rorippa palustris* in the lower herb layer reaching up to 20 cm. The discontinuous upper herb layer reaching up to 1 m is formed by *Chenopodium* sp. div., *Erigeron canadensis*, *Beckmannia eruciformis*. Some hygrophilous species (mostly from the class *Bidentetea*) also occur regularly, with various number and cover.

The stands of the association are found in sites fringing water pools, in flat depressions on compacted soils such as at building sites, on loamy and gravelly substrata. The stands often for a long time limose and littoral ecophases (for the classification of ecophases see HEJNY 1960). Periodic disturbances caused by truck wheels and/or by temporary extensive trampling are a characteristic condition of this community.

This community was found only in Pyongyang.

**Daturo tatulae-Siegesbeckietum pubescentis ass. nov. hoc loco**

Nomenclatural type: relevé 4 in Table 2 (holotypus)
Diagnostic species: see Table 2, 4

During the pre-monsoon period, the stands form small patches. They are very dense, without marked dominant species, with high cover. The lower herb layer attains a height of about 25 cm — *Commelina communis*, *Siegesbeckia pubescens*, and *Xanthium strumarium* s.l. are the major components of it. In the upper herb layer (reaching over 1 m), *Chenopodium album*, *Datura tatula*, and *Kochia scoparia* are dominant. In some stands, crop plants, e.g. *Perilla frutescens*, *Oenanthe decumbens*, *Ricinus communis*, *Zea mays* and...