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Ado Haare (1934–2008), a prominent Estonian naturalist in Russia, and his Theory of Wonderglades

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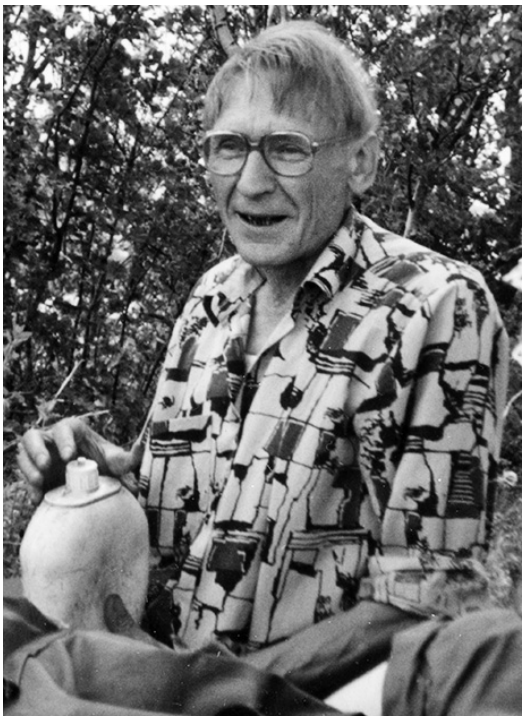
Enthusiastic naturalist and herbarium keeper Ado Haare, whose knowledge and experience in the flora of North-Western Russia was notably prominent, died 9 April 2008 in Saint-Petersburg, Russia.

Early years

Ado Haare was born 26 September 1934 in Räpina, a village in Põlva district of Estonia, to a traditional Estonian family, and his forefathers permanently resided in South-East Estonia for generations. Ado's grandfather had a farmstead nearby Räpina, which was inherited by the other branch of the family. Ado's father, Oskar Haare (earlier German name Harkman) played a significant role in the local social life. At times he was a journalist, was employed in police, and also worked in the local administration. Oskar Haare died in a Soviet forced labour camp in 1949. Ado's mother, Martha-Maria Haare (née Raudnask) was employed as a clerk in various offices. She was a gifted singer, often singing and playing in the local theatre. In Soviet times her chorus regularly went on tours to various places of the USSR. SE Estonia was traditionally famous in singing, and Põlva was the place to harbour the first Estonian singers' fests in 1855 and 1857, which are traditional nowadays. Traditional farming, folk singing and historically multicultural society (that region is home not only to Estonians but also to setu, a south-Estonian speaking nation, and to Russian old-believers escaped from the orthodox church already a few centuries ago) belonged to Ado's earlier background.



Novy Izborsk [Irboska in Estonian], Pskov Region, Russia 02.07.1997. Photo: A. Sennikov

After a basic school, at the age of 15 Ado entered the forest professional school in Tihemetsa (Tihemetsa Metsatehniline Tehnikum, South-West Estonia) to become a forester. In the summer of 1954 he started his first employment in Erastvere forestry (SE Estonia) as a forest-guard. Ado considered forestry as one of the most important occupations in the society, which requires

very high level of qualification and deep understanding of nature as a whole, to get maximal efficiency with minimal expenses and damage to nature. For the reasons of social importance, Ado believed the forest service must be totally free of political engagements, and this idea (with a good sense of humour he always possessed) allowed him to tolerate the Soviet system of management which he never accepted in his heart.

The work in forestry has been broken for three years of obligatory military service in October of 1954. Ado was a gunlayer in the tank crew; with the armoured forces he crossed the Soviet Union in various directions, staying in the Ukraine, southern Tajikistan and Russian Far East. He liked the military service and his crew which was one of the best in his division. But there was certainly another reason to like the army: Ado spent free minutes of summer time in observations of plants, birds and animals, both from trains and around the camps, and learned many plants from the botanical manuals. The advantages of the military travels were so great for the young enthusiastic naturalist that Ado was even about to continue military service overtime, but he left the army when the legendary Marshal Georgy Zhukov, deeply beloved by all soldiers, was dismissed from his position of the minister of the military forces.

Ado returned to Estonia in December of 1957 to resume his work of a forest-guard in Ilumetsa forestry (SE Estonia). He loved and highly valued the forest service but he wanted to get a good botanical education. In 1958 Ado applied to the external courses of the Leningrad State University. The reason to select a Russian university was simple: Ado was too short in money to afford full-time course attention, and the University of Tartu had no external courses at that time. To pass his first examination, Ado moved to Leningrad in November of 1958. Then his whole live was tightly connected with this city.

At the University

Along with his studies at the University, Ado earned his livings as a conveyer worker at the Leningrad bread production until 1960 when he got an employment from the Park of the Biological Institute, Leningrad State University: first as a gardener, then (from May of 1961) as the Head Manager.

Ado honestly devoted over 20 years of his life to the park management. He took active part in the scientific life of many laboratories situated in the park or having monitoring plots there. Ado readily burnt with new ideas of his colleagues and easily allocated his time to help them in collecting material and making observations and experiments, never expecting his name in the titles of scientific articles. He observed birds on migration (birds were his beloved subject; in 1950–1990th Ado made numerous observations of birds, co-authoring some minor ornithological publications), recorded geobotanical relevés, identified willow species at any stage and in any condition and gathered plant mites for phytoacarologists, as well as collected statistics on *Sedum maximum* s. l., arguing that no races can be separated from this group at species level.

In his work Ado was a great idealist, striving to be perfect in the smallest details. He never treated the things as a narrow specialist but propagated the view that the work is valuable only when the whole biota is considered. Studying plants, he looked for their connections with animals; and observing animals, he watched their behaviour towards the plant world. One of the basic observations that Ado thought be the most important was on the principles and methods of agriculture and farming, especially in those aspects which affect the present-day distribution of plant species (keeping cattle, collecting and processing forage, handling pastures and fields, planning and situating farmsteads, and certainly forestry).

Extensive duties and numerous voluntary works in the park diverted Ado from his studies at the University. Besides, dry routine of learning various academic disciplines was much less attractive than beloved field practice. After three or four years of studies Ado dropped the classes, formally when he (as many other contemporary students) failed several attempts to pass the examination on some theory of Marxism-Leninism. Indeed, he successfully continued his education by himself, from scientific books and periodicals, always complementing theoretical knowledge in botany, ornithology and entomology with practice.

The Theory of Wonderglades

In 1965 Ado made records of the plant species which were extremely rare or have never been known in North-West Russia. The plants have been collected in a single spot of less than 2 ha situated on the northern margin of the Gatchina park complex, in 50 km to the south from Leningrad, from a meadow slope with solitary trees and willow shrubs. Some species counted hundreds of individuals, the others were represented by a few patches or even by a single poorly viable plant. Most of these species have their distribution area in Central Europe up to the Carpathians, with possible extensions to Belarus and the Baltic countries. A list of species recorded from Gatchina evokes memories of Central-European montane and submontane meadows and forest margins: *Cirsium rivulare*, *Colchicum autumnale*, *Carex flacca*, *C. umbrosa*, *Phyteuma orbiculare*, *P. spicatum*, *Primula elatior*, *Ranunculus montanus*, *Sesleria uliginosa* (*S. caerulea* auct.), *Valeriana dioica* etc.

Ado had an open mind and excitable temperament, and he used to admire with unusual discoveries which often enlighted new interesting connections and causal relations between plants, animals and humans. Discovering so many strange plants altogether was a real miracle, and since they were confined there and elsewhere in NW Russia to open or partly sheltered meadows, Ado named their localities *wonderglades*.

This discovery was a precious stone worth of cutting. Years were devoted to collecting new facts: searching for new localities of the wonderglade species, their thorough exploration (some species were represented by single vegetative individuals!) and mapping on hand-made topographic maps. Ado aimed to reveal the connections between precise situations of plants, forest and landscape elements which should have shown the reason of their occurrences. To explain why these species are finely scattered far away from the main distribution areas, and why their localities are limited in territory and usually connected with man-made habitats or situated nearby roads and villages, Ado involved postglacial history of NW Russian nature interacting with human's life and economic activities.

Ado based his views on the history of the Estonian vegetation discussed by L. Laasimer. He supposed that the wonderglade species are at the risk of rapid extinction because their fitness does not match the natural conditions already for very long time. Ado developed the theory that these species, being mostly confined to mesic meadows, had continuous distribution areas including NW Russia already from Preboreal to Boreal period of early Holocene (7,500–10,300 years ago) or even from late Pleistocene. He assumed that there were significantly extensive open meadow areas with relatively nutrient-rich soils which were intermixed with birch-pine forests covering the areas with relatively nutrient-poor soils. For some reason he believed that forests were unable to colonise nutrient-rich soils until Atlantic period of middle Holocene (5,000–7,500 years ago) when broad-leaved trees reached this territory, and until spruce began replacing the earlier forests in Subboreal period of middle Holocene (2,500–5,000 years ago).

When forests became denser and closer and spruce forests gradually empoverished the soils under their canopy, late Pleistocene – early Holocene meadows disappeared along with the herbs they harbored. These herbs should have gone extinct, unless there was a factor to override the natural tendencies and preserve the "ancient" meadows and their flora. Ado hypothesised this factor was man. Humans destroyed or at least depressed forests around their habitats and kept the area open (or half-open) even in prehistoric times, and since the settlements had continuous history from Neolithic period, they permanently protected adjacent meadows from inforestation and prevented subsequent loss of species richness.

The economic activity in the present-day NW Russia (first inhabited by various fenno-ugric tribes, then invided by Slavonic population and recently colonised by Finns and even Estonians) in historic era was confined to small villages and farmsteads, and significantly large areas were occupied by pastures. If such a miracle happened that a natural meadow survived until the times of agriculture, it might have been promoted by pasturage (even though they rather might have likely been ploughed down at the time of slash-and-burn agriculture which preceded pastures here).

Was such a wonder possible? Ado stated it was. After years of hesitation he decided to publish

Table 1. Plants of the relicts of the Pleistocene biotic system preserved due to continuous residence of man, i.e. those of ancient homestead yards ("wonderglades"), in the vicinities of St. Petersburg southward of Neva River [Ado Haare, 30.01.1993, unpublished manuscript] – Bold font denotes indicator species, italics denote the species which are more frequently found outside "wonderglades". The letter index "C" [constant] after species names means most constant and characteristic species, and "V" [vagrant] means species migrating far from the places of original preservation, especially strong meaning when capital and in bold. The order of species reflects their importance.

Ajuga reptans C v
Primula elatior C
Colchicum autumnale C
Carex brizoides C
Heracleum sphondylium C
Pimpinella major C
Melandrium dioicum C V
Phyteuma nigrum C
Phyteuma spicatum C
Trisetum flavescens C **V**
Arrhenatherum elatius C **V**
Chaerophyllum hirsutum C
Cruciata glabra C
Cruciata laevipes C v
Luzula luzuloides C
Polygonum bistorta C
Crepis mollis C
Senecio aquaticus C v
Holcus mollis C v
Symphytum officinale C **V**
Chaerophyllum aureum C
Carex flacca (there is a population of different origin) C
Carex umbrosa s. str. C
Poa chaixii C
Phyteuma orbiculare c
Astrantia major c
Lathyrus montanus (L. linifolius) c
Sanguisorba officinalis c
Cirsium rivulare c
Ranunculus (?) friesianus [R. nemorivagus] c
Ranunculus nemorosus [R. mixtus] c
Ranunculus montanus
Carex hartmanii c
Carex tomentosa c
Carex caryophyllea c
Sesleria caerulea [S. uliginosa] c
Thymus pulegioides c v
Cardaminopsis halleri V
Luzula sylvatica s. l.
Geranium phaeum
Galium pumilum
Poterium sanguisorba
Taraxacum hollandicum (sect. Palustria)
Valeriana dioica
Meum athamanticum
Lathyrus laevigatus
Silaum silaus (Silaus pratensis)
Thlaspi alpestre c **V** [Noccaea coerulescens]
Carex disticha C
Polygala vulgaris C **V**
Cynosurus cristatus C **V**
Crepis biennis c **V**
Bellis perennis c **V**
Potentilla crantzii
Galium hercynicum
Thesium pratense (Th. ramosum) [Th. tenuifolium]
Asperula rivalis (Galium rivale)
Carex davalliana
Ranunculus bulbosus
Armeria vulgaris
Genista tinctoria
Glechoma hirsuta
Thalictrum minus s. l.
Luzula campestris
? Carex pilosa
? Sisyrinchium ? montanum [S. septentrionale]
? Aconitum lasiostomum
? Lysimachia punctata s. l. [s. str.]
? Clematis recta
? Polygonatum verticillatum
(? Pulsatilla vulgaris)

The following species are sometimes connected with margins of "wonderglades" (rarely with "wonderglades" themselves) :
Bromopsis erecta
Koeleria cristata
Helictotrichon pratense
Salvia verticillata
Carex rhizina
Cnidium dubium
Lactuca sibirica
Galium triflorum
Poa remota
Stellaria longifolia
Polemonium coeruleum
Dentaria bulbifera
(? Lunaria rediviva)
(? Crepis sibirica)
(? Bromopsis riparia)

Very characteristic of "wonderglades" is Leucanthemum vulgare s. l. (early flowering [diploid] race)

Open places nearby "wonderglades" are characteristically inhabited by Leontodon hispidus s. l. [hairy and glabrous forms]

Frequently found are:
Lotus corniculatus s. l.

Table 1 continued.

Carex pilulifera Ophioglossum vulgatum Listera ovata Gentianella lingulata	on the “wonderglade” under unusual ecological conditions
Rarely found is Sieglingia procumbens	Useful signs of the relic situation are Thalictrum flavum Phalaroides arundinacea when far from water in a dry place, as well as occurrence of the other species under unusual ecoloical conditions
Usually present is Glechoma hederacea	
Present are Veronica longifolia Geranium pratense	Occurrences of Asperula odorata (Galium odoratum) Sanicula europaea are rather connected not with exceptional abiotic conditions or the conditions of forest canopy, but with long-term preservation of a relict of the Pleistocene biotic system
Frequently a population of Betonica officinalis approaches the “wonderglade”, or otherwise solitary plants of this species are found here far away from the main population	The alien origin of Juncus tenuis is doubtful. This species seems to be native and connected with preserved fragments of ancient paths, from which it may sometimes be moved by excavations.
Sometimes there is a patch of Brachypodium pinnatum	

a note (Haare 1978) describing the Gatchina wonderglade and its rare plant species, with his hypothesis of their origin.

At the Komarov Botanical Institute

In 1983 Ado left his duties at the Leningrad State University and started a new job at the Komarov Botanical Institute of the Academy of Sciences of the USSR. He had a series of temporal employments at the Department of systematics and geography of vascular plants and the Department of Herbarium of vascular plants (later fused together), permanently enrolled in 1985.

Ado started as a technical assistant, whose duty was plainly to sort herbarium specimens according to names and territories. Very soon he became a keeper of the East European collections, introducing and maintaining exceptionally clear and accurate order. In technical work Ado required that sorting specimens should be not automatic and must therefore be accompanied by identifications and learning the current system of the families sorted. In course of routine herbarium work he complemented his field knowledge of plants with learning about their relatives in collections. In 1980th Ado privately made a few excursions to the Ukrainian Carpathians and the Northern Caucasus, to better understand the environment of the main areas of his wonderglade species and their relatives. Besides, Ado regularly visited his native region, south-eastern Estonia and the neighbouring parts of Pskov Region which formerly belonged to Estonia, where he discovered a few new plants either.

Further development of the Theory of Wonderglades

Free from his former park duties, Ado intensively travelled in NW Russia, keeping sharp eyes on his beloved subject. In 1980th and early 1990th many new localities of the wonderglade species emerged, providing new facts concerning their distribution and possible connections with the man-made landscape. The wonderglades appear to be concentrated in Izhora Upland and the central parts of Leningrad Region, mostly in the basins of Mga and Tosna Rivers. The list of new records continuously increased.

In 10 years a good herbarium collection of rare plants has been developed, all with labels supplemented with hand-made situation plans. Ado summarised his discoveries as a list of species found on the wonderglades in a small hand-written booklet 12 pages long, which was distributed in a few copies among his close botanical friends in early February of 1993. The full text of this booklet is reproduced in Table 1 in translation from Russian, with minor editorial changes, namely font styles and symbols replacing the original colours and underlining.

The legend is mine. My comments are added in square brackets. The nomenclature and synonymy is original, with corrections implemented in square brackets. Question marks and placement of some species names in brackets are original and indicate Ado's uncertainty in the wonderglade origin of those species.

Retirement

Throughout 1980th and later Ado seriously suffered of varicose veins that made his field work much demanding in patience. In the late 1990th he suddenly decided to drop out his work and ceased all scientific activities together, including herbarium duties and the research on "wonderglades". Increasing pains did not allow him to finish his studies at home; besides, Ado always considered his work as requiring further collections. After all, the material has simply been abandoned.

Ado's health unavoidably worsened but his interest to the world persisted. He followed the news from Estonia which happily regained its independence and restored many laws of the First Republic, in hope that some day the traditional agriculture and cattle-keeping might get their proper positions in economics and the landscape therefore might have been returned to the former conditions of forest meadows, rich in plants and animals.

Family

While working at the University, Ado became acquainted with the family of Lukašiūnas, and Zinaida Lukašiūnas was his first wife from 1972. Ado's first son Martin was born in the same year. That marriage was misfortunately short-living and dissolved in a couple of years.

Ado's true wife appeared soon from the students of the University. Galina Konechnaya (born in 1951) is a granddaughter of a Red Latvian rifleman who escaped from independent Latvia to Smolensk Region of Russia. She threw in her lot with Ado by marriage in 1976, sharing his passions for nature and becoming his right hand in the studies on wonderglades at the Komarov Botanical Institute. Ado and Galina have got two children, Eduard (1977) and Linda (1979).

The wonderglade plants again

The discovery of wonderglades was the major botanical achievement of Ado Haare's, but the wonderglades are still to find their proper place in the botanical picture of North-West Russia, awaiting for comprehensive description and analysis. Even though these species have been included into the present-day floristic lists, the fact of their occurrence remains a phenomenon as a thing-in-itself.

Even not considering the long-distance gap between the localities of these species and their apparent mismatch to the ecological conditions there, another question emerges. Why these species have not been found in earlier studies, whilst the flora was still not so much empoverished as nowadays? Ado believed that they have been plainly overlooked because nobody knew how and were to find them.

In fact, the occurrence of some of these species was recorded far northward of NW Russia, namely throughout southern and central Finland, where *Cardaminopsis halleri*, *Cruciata glabra*, *C. laevipes*, *Phyteuma nigrum*, *P. spicatum* etc. were found by P. Mannerkorpi (1944) and later researchers (Luther 1948, Hämet-Ahti 1967 *etc.*). The boreal Finnish flora is much less abundant in the "western" and "southern" species, and its relative poverty and "northern" appearance easily allow to recognise that these strange species are confined to the sites of the former German wartime camps. The German troops imported a huge amount of hay and the other fodder for their cavalry and cart transport, mostly from the eastern parts of Central Europe, leaving "botanical traces" thereafter. Such

alien plants introduced in wartime by military activities were named polemochores in the Finnish botanical literature.

Same should have been even much more common in NW Russia that was occupied by the Germans for almost three years, and the supply had to be abundantly provided to the places of severe and long-lasting battles during the blockade of Leningrad where most of the wonderglade plants have been discovered. Both the main distribution area and the situation of the localities of these species along roads, nearby stations or villages evidence for the hypothesis of their wartime transportation. Some of these species are not persistent and currently disappeared from the places of original introduction (*Meum athamanticum*), but the others successfully keep their stands (*Cruciata* sp.), or maintain small populations (*Colchicum autumnale*), or even spread along roadsides (*Arrhenatherum elatius*) and riverbanks (*Luzula luzuloides*, *Poa chaixii*).

The majority of Ado's wonderglade species is therefore to be considered as polemochores, as *Arrhenatherum elatius* (in some localities only, otherwise a relic of cultivation), *Cardaminopsis halleri*, *Carex brizoides*, *C. flacca* (outside Izhora Upland where it is native on alvar meadows), *Chaerophyllum aureum* and *C. hirsutum*, *Cirsium rivulare*, *Colchicum autumnale*, *Cruciata glabra* and *C. laevipes*, *Geranium phaeum*, *Heracleum sphondylium*, *Holcus mollis* (in some localities, otherwise a relic of cultivation), *Lathyrus linifolius*, *Luzula campestris* s. l. (in isolated northernmost localities), *Luzula luzuloides* (outside parks, along Mga River), *L. sylvatica*, *Meum athamanticum*, *Phyteuma nigrum* and *P. spicatum* (outside parks), *Pimpinella major* (may be partly of park origin), *Poa chaixii* (outside parks, along Mga River), *Primula elatior*, *Ranunculus montanus*, *R. nemorivagus* and *R. mixtus*, *Sanguisorba officinalis*, *Silaum silaus*, *Taraxacum* sect. *Palustria* (outside seashores), *Thesium tenuifolium*, *Thymus pulegioides* (excluding railway sides), *Trisetum flavescens* (outside parks), *Valeriana dioica*.

Some other species in the wonderglade list are misadditions of apparently different origin, as e.g. American aliens *Sisyrinchium montanum* s. l. and *Juncus tenuis*, relics of ornamental park cultivation (partly *Poa chaixii*, *Luzula luzuloides*, *Phyteuma* sp., *Bellis perennis*, *Galium pumilum* and *Astrantia major*) and other ornamental cultures (*Symphytum officinale*), an old apophyte *Senecio aquaticus* and a newcomer *Noccaea coerulescens*, and remnants of the old forage cultivation (*Holcus mollis*, *Arrhenatherum elatius*, *Trisetum flavescens*, the latter being also park ornamental). *Poa chaixii*, *Luzula luzuloides* and *Phyteuma* sp. are abundant in many parks and in some wartime localities either. Some plants mentioned in the list may be archeophytes connected with activities on managed meadows (partly *Cynosurus cristatus*, *Polygala vulgaris*, *Crepis biennis*). The origin of some other species concluding Ado's list (e.g. *Galium rivale*, *Armeria vulgaris*, *Carex davalliana*, *C. pilosa*, *Potentilla crantzii*, *Lathyrus laevigatus* etc.) is probably native.

Bibliography

Haare, A. 1978: A new locality of relic species in Leningrad Region. — Novit. Syst. Pl. Vasc. 15: 240–247. (In Russian)

Eponymy

Dichopelmus *haari* Sapozhnikova, Entomological review (Leningrad) 59(3): 693, fig. 3. 1980. [Tetrapodili, Acarina]

Taraxacum haareanum Tzvel., Novit. Syst. Pl. Vasc. 31: 267. 1998. [Asteraceae]