## Prajs B., Antkowiak W. New localities of Liparis loeselii (L.) Rich. and Cypripedium calceolus L. in the Kulawa River Valley (Zaborski Landscape Park, N Poland)

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A transitional moor of 0.95 ha, with about 70-cm layer of a waterlogged peat deposit covering organic gyttja is located at the southwestern shore of Lake Gluche Male (53°57'45" N, 17°32'15" E, Fig. 1). The pH value of water in the substrate measured at 2 locations of the central part of the bog was 7.14 and 8.6. The bog is covered by a mosaic of different plant communities, i.e. *Caricetum paniculatae*, *Caricetum lasiocarpae*, *Caricetum davallianae*, as well as the *Carex flava-Valeriana dioica* and *Menyanthes trifoliata-Sphagnum teres*. Altogether 7 specimens of *Liparis loeselii* were recorded, including two blooming specimens (Fig. 2), in a phytocenosis of 3 m<sup>2</sup> in the latter community. This phytocenosis is characterized by the predominance of *Sphagnum teres* and a relic species *Paludella squarrosa* in the moss layer.

*Cypripedium calceolus* (Fig. 2) is found on the north-western shore of Lake Głuche Małe, within a strongly transformed forest community. A phytocenosis of this community borders an alder forest from the side of lake shore, while from the valley side – fresh coniferous forest. The tree stand is mainly composed of approximatively 150-year old *Pinus sylvestris* and *Betula pendula* trees, while in the lower storey specimens of *Populus tremula, Sorbus aucuparia, Fagus sylvatica* and *Acer platanoides* are found. The herb layer forms a relatively dense soil cover, with predominating *Brachypodium pinnatum* and an admixture of *Poa pratensis* and *Holcus mollis*. In this site five clumps of *C. calceolus* were recorded: one with three flowering shoots, another with nine flowering shoots, two with three juvenile shoots and one with two juvenile shoots, respectively. Within this phytocenosis another orchid species – *Listera ovata* (22 blooming specimens) was found, along with *Primula veris* and *Aceta spicata*.