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Vernation of *Arisaema kayahense* (*Araceae*)

Jin Murata[a,*], Mu Mu Aung[b] and Nobuyuki Tanaka[c]

[a]Botanical Gardens, Graduate School of Sciences, The University of Tokyo,
3-7-1, Hakusan, Bunkyo-ku, Tokyo, 112-0001 JAPAN;
[b]Forest Research Institute (FRI), Forest Department, Ministry of Natural Resources and Environmental Conservation, Yezin, Nay Pyi Taw, MYANMAR;
[c]Department of Botany, National Museum of Nature and Science,
4-1-1, Amakubo, Tsukuba, 305-0005 JAPAN
*Corresponding author: murata@ns.bg.s.u-tokyo.ac.jp

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Leaf vernation in *Arisaema* was surveyed extensively based on living plants and also photographs of *Arisaema* with unfolding leaves presented in various literatures. Two elements of vernation, the direction of terminal leaflet and the folding patterns of leaflets, were focused on. For the direction of terminal leaflet, three types, i.e., solely erect (Type 1), erect together with adjacent leaflets (Type 2), and bent downwards (Type 3), were recognized. For the folding patterns of leaflets, two types, i.e., involute (Type A) and conduplicate (Type B), were recognized. The unique vernation Type 2 of *A. leschenaultii*, where the terminal leaflet and adjacent lateral leaflets folded upwards together, is found for the first time in *Arisaema*. Conduplicate leaflet vernation Type B was found from *A. kayahense* for the first time in *Arisaema*, too. It is possibly a unique apomorphy in the *Araceae* that generally have involute leaves or leaflets. *Arisaema kayahense* is unique in *Arisaema* in the combination of Type 3 and Type B.

Key words: *Araceae*, *Arisaema kayahense*, *Arisaema leschenaultii*, *Arisaema taiwanense,* vernation.

In our previous paper (Murata et al. 2020), we described a new species *Arisaema kayahense* J.Murata (*Araceae*) from Myanmar, which is characteristic in having a leaf with verticillate leaflets with margins strongly revolute when opening and an inflorescence with a widely triangular ovate spathe blade and a small spadix appendage. As the leaflets with revolute margins appear to be unique in *Arisaema*, to make the distinction from ordinary leaflets with flat margins clearer, vernation of *Arisaema* is widely surveyed.

Murata (1984) examined the development of the leaves of *Arisaema thunbergii* Blume subsp. *urashima* (H.Hara) J.Murata & H.Ohashi in the bud and also showed the vernation of *A. consanguineum* Schott, *A. negishii* Makino and *A. serratum* (Thunb.) Schott. In the present study, extensive additional observations were made based on living specimens (Figs. 1–3) and also photographs of *Arisaema* with unfolding leaves presented in various literatures. Two elements of vernation, the direction of terminal leaflet and the folding patterns of leaflets, were focused on. The results of the observation are summarized in Table 1.

In this study it has become evident that the leaf vernation shows remarkable characteristics in *Arisaema*. The unique vernation of *A. leschenaultii*, where the terminal leaflet and adjacent lateral leaflets are folded upwards together, was found for the first time in *Arisaema*. A conduplicate leaflet vernation was found from *A. kayahense* for the first time in *Arisaema*, too. It is possibly a unique apomorphy in the *Araceae* that generally have involute leaves (in the case of simple leaf) or leaflets. *Arisaema kayahense* is unique in *Arisaema* in the combination of a downwardly folded terminal leaflet and conduplicate leaflet vernation.

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邑田 仁[a], M.M.Aung[b], 田中伸幸[c]：**_Arisaema kayahense_（サトイモ科）の幼葉形態**

Arisaema kayahense J.Murata（サトイモ科）の小葉は，展開時に辺縁が裏側に巻き込んでおり，テンナンショウ属の多くの種類と異なっている．そこで他の種類とともに幼葉形態（芽中姿勢）を比較観察して，頂小葉の向きと小葉の折り畳まれ方の 2 点について属内の多様性を整理し，*A. kayahense* J.Murata の特徴をはっきりさせることを試みた．その結果，頂小葉の向きには，属内で一般的な頂小葉のみが上向きとなるタイプ 1，*A. leschenaultii* Blume のみで観察された頂小葉と隣接する側小葉が上向きとなるタイプ 2，下向きとなるタイプ 3，の 3 タイプが認められた．タイプ 2 はテンナンショウ属で初めて発見された．小葉の折り畳まれ方については，小葉が内巻に折り畳まれている（involute）タイプ A と内向きに 2 つ折りになる（conduplicate）タイプ B の 2 タイプが認められた．タイプ B は *A. kayahense* で観察され，テンナンショウ属で初めて確認された．この特徴は，一般に葉（単葉の場合）や小葉が内巻に折り畳まれるサトイモ科において希な派生形質である可能性がある．*A. kayahense* はタイプ 2 とタイプ B という 2 つの特徴の組み合わせにより，テンナンショウ属で独特であることが示された．

（[a]東京大学大学院理学系研究科附属植物園，
[b]ミャンマー・Forest Depertment, Forest Reseach Institute,
[c]国立科学博物館植物研究部）