

Ethnobotany of traditional rituals of Javanese in the city of Surakarta, Central Java, Indonesia

ARUM NUR MUKARROMAH¹, ASFI DZIHNI¹, ATIKAH KHORİYAH AZZAM¹,
AULIA RAHMATYA ADININGSIH¹, AYU SULISTIYANING UTAMI², IRFAN ABU NAZAR¹,
SUNARTO¹, JOHAN ISKANDAR^{3,4}, SURAPON SAENSOUK⁵, AHMAD DWI SETYAWAN^{1,6,✉}

¹Department of Environmental Sciences, Faculty of Mathematics and Natural Sciences, Universitas Sebelas Maret. Jl. Ir. Sutami 36A Surakarta 57126, Central Java, Indonesia. Tel./fax.: +62-271-663375, ✉email: volatileoils@gmail.com

²Department of Biology, Faculty of Mathematics and Natural Sciences, Universitas Sebelas Maret. Jl. Ir. Sutami 36A Surakarta 57126, Central Java, Indonesia

³Department of Biology, Faculty of Mathematics and Natural Sciences, Universitas Padjadjaran. Jl. Ir. Soekarno Km 21, Sumedang 45363, West Java, Indonesia

⁴Center for Environment and Sustainability Science, Universitas Padjadjaran. Jl. Sekeloa Selatan 1, Bandung 40134, West Java, Indonesia

⁵Plant and Invertebrate Taxonomy and Its Applications Unit Group, Biodiversity Program, Walai Rukhvej Botanical Research Institute, Mahasarakham University. Kantarawichai District, Maha Sarakham 44150, Thailand

⁶Biodiversity Research Group, Universitas Sebelas Maret. Jl. Ir. Sutami 36A, Surakarta 57126, Central Java, Indonesia

Manuscript received: 16 December 2023. Revision accepted: 12 April 2024.

Abstract. Mukarromah AN, Dzhini A, Azzam AK, Adiningsih AR, Utami AS, Nazar IA, Sunarto, Iskandar J, Saensouk S, Setyawan AD. 2024. Ethnobotany of traditional rituals of Javanese in the city of Surakarta, Central Java, Indonesia. *Asian J Ethnobiol* 7: 22-31. Surakarta is one of the municipalities in Central Java Province, Indonesia, known as a multicultural city, so it might be potential for cultural performances in the form of historical buildings, local culinary delights, cultural products, cultural arts, and traditional rituals. This research aimed to determine the use and meaning of plants in traditional rituals carried out by the people of Surakarta. Data were collected using in-depth interviews and observation methods collected primary data in three villages: Baluwarti, Mojosongo, and Keprabon, Surakarta City, Central Java, Indonesia. The results show that there are 10 traditional rituals commonly carried out by people in three villages, namely *mitoni*, *medeking*, *procotan*, wedding, death, *grebeg Maulud* or *sekaten*, *grebeg syawal*, *tedhak siten*, *tumpengan*, and *sadranan*, where, each traditional ritual uses plants according to their respective meanings. There are 27 plant species belonging to 20 families used in traditional rituals by the people of three villages. Most respondents purchase plants used in traditional rituals from the traditional markets due to increasingly limited open space for planting the plant species.

Keywords: Ethnobotany, meaning of plants, Surakarta, traditional rituals

INTRODUCTION

Indonesia is rich in various religions, tribes, cultures, and traditions (Fajrin et al. 2021). Traditional rituals are closely related to social activities in society which will be passed down to the next generation (Arianti and Marselina 2020; Satrianegara et al. 2021). Belief in tradition is an important part of cultural identity and is still practiced by community groups (Ogilvie et al. 2018; Nurfadilah et al. 2022).

Surakarta is a municipality in Central Java Province, Indonesia which was known as the economic and cultural center of Java in the past, it was the former capital of the Javanese kingdom (Mataram Sultanate). As an economic center, there are many immigrants to this area, although the Javanese remain dominant. Various native Indonesian tribes and ethnicities live in this city, as well as foreign ethnic groups, especially Chinese and Arabs (Purbasari and Suharno 2019; Praiswari and Arsandrie 2022).

The city has rich cultural diversity in the form of historical buildings, culinary delights, cultural products, cultural arts, and traditional rituals (Fadilah and Abidin 2021). Characteristics of traditional rituals of the city

include *Grebeg* which is held three times a year in the Surakarta Palace; the traditional *Sekaten* ceremony is held to commemorate the birth of the Prophet Muhammad; and *panggih* is part of wedding customs (Rahayu and Suryono 2020; Purwani et al. 2022; Risyanti et al. 2022).

Ethnobotany is the study of interactions between humans and plants (Latifah and Ami 2022). Changes in human interactions with the environment, influenced by changes in populations, environmental conditions, and livelihoods, have increased the importance of human-plant relationships in biodiversity conservation (Ncube et al. 2022). Ethnobotanical study can be integrated into various areas of human life, significantly contributing to science and technology development and preserving local knowledge (Sutraningsih et al. 2019).

There is a close connection between local Indonesian communities or ethnic groups and plants in their ritual contexts (Sari and Setyawati 2019). It can be said that plants are an integral part of indigenous beliefs, traditions and culture and have important meaning, especially when used in religious ceremonies (Ristanto et al. 2020). Therefore, traditional Javanese culture seeks to prevent

excessive exploitation of natural resources by regulating their use and protection (Kathambi et al. 2020). There is a close relationship between local Indonesian communities or ethnic groups and plants in their ritual contexts (Sari and Setyawati 2019). As a result, traditional culture seeks to prevent the over-exploitation of natural resources by regulating their use and protection (Kathambi et al. 2020).

The types of plants used in traditional rituals vary in identity and number, and often have various symbolic meanings (Ramadhani et al. 2021). A few examples are *Amaranthus hybridus*, *Bryophyllum pinnatum*, *Cananga odorata*, *Carica papaya*, *Citrus aurantium*, *Cocos nucifera*, *Pandanus amaryllifolius* and *Rosa chinensis* (Sutrisno et al. 2020). One of the rituals in Indonesia that use plants is *ngemban belo selemban* or wooing a girl of the Karo Tribe, which uses plants, such as betel, areca nut, gambier and tobacco (Apriani 2023). The Dayak Bakati Tribe uses pumpkin, jasmine flowers, white turmeric to carry out the *balenggang* ritual (Rafdinal et al. 2023). The Ngusaba ceremony, by the Tenganan Pegringsingan community in Karangasem, Bali, uses *loja* (*Asystasia gangetica*), taro, and water spinach (Ratnani et al. 2021). The Peraq Api ritual of the Sasak Tribe on Lombok Island uses *Waru* leaves, turmeric, jasmine (Rahayu et al. 2020). *Moringa oleifera* is also used in the ritual of exorcising evil spirits or black magic by the Kedungbulus people of Gembong in Pati Regency (Dani et al. 2019).

In other countries, such as in Eastern and Southeastern Serbia, the ritual of the Lazarus Saturday holiday uses plant species, consisting of *Urtica dioica*, *Helleborus odoratus*, and *Allium cepa* which are made into flower bouquets and placed next to the icon of the patron saint to protect the home from all bad things and improve the health and well-being of the household (Matejić et al. 2020). In addition, rituals at the 'Bihu' harvest festival in Assam, India, use the fruit of *Garcinia*, it is given to livestock as part of the ritual (Paul and Zaman 2022). This study aims to determine the use and meaning of plants in traditional rituals conducted

by the people of Surakarta. We hope this research can provide information about the diversity of traditional rituals that they can be preserved as cultural treasures in Surakarta.

MATERIALS AND METHODS

Study area

The entire area of Surakarta City, Central Java Province, Indonesia is lowland with an altitude of 105 m asl. (Pemerintah Kota Surakarta 2022). The city of Surakarta is located between 110° 45' 15"-110°45' 35" E and 7°36'-7°56' S (DPMPTSP Kota Surakarta 2018). Three villages, Baluwarti Village, Keprabon Village, and Mojosongo Village, were selected to be the focus of the study area. The selection of study area was based on recommendations from several key persons regarding information on people who still carry out traditional rituals. This research was carried out in December 2023.

Baluwarti Village is located in Pasar Kliwon Sub-district, between 7° 57'-7° 58' S and 110° 82'-107° 83' E. The distance from the Pasar Kliwon Sub-district and Surakarta City Hall is 1.4 km and 1.7 km, respectively. Baluwarti Village is a special village because the entire land belongs to the Surakarta Sunanate (Kingdom) and is within the palace fort (PPID Kota Surakarta 2019). Keprabon Village is located between 7°56' S and 110°82' E. The village belongs to Banjarsari Sub-district. The distance to Banjarsari Sub-district and Surakarta City Hall is 4.5 km and 1.1 km, respectively. The village area belongs to the Mangkunegaran Palace on the northern and eastern sides. Meanwhile, Mojosongo Village is located between 7° 53'-7° 55' S and 110° 83'-107° 86' E. The village is located in Jebres Sub-district. The distance to Jebres Sub-district and Surakarta City Hall is 2.5 km and 3.5 km, respectively (Figure 1).

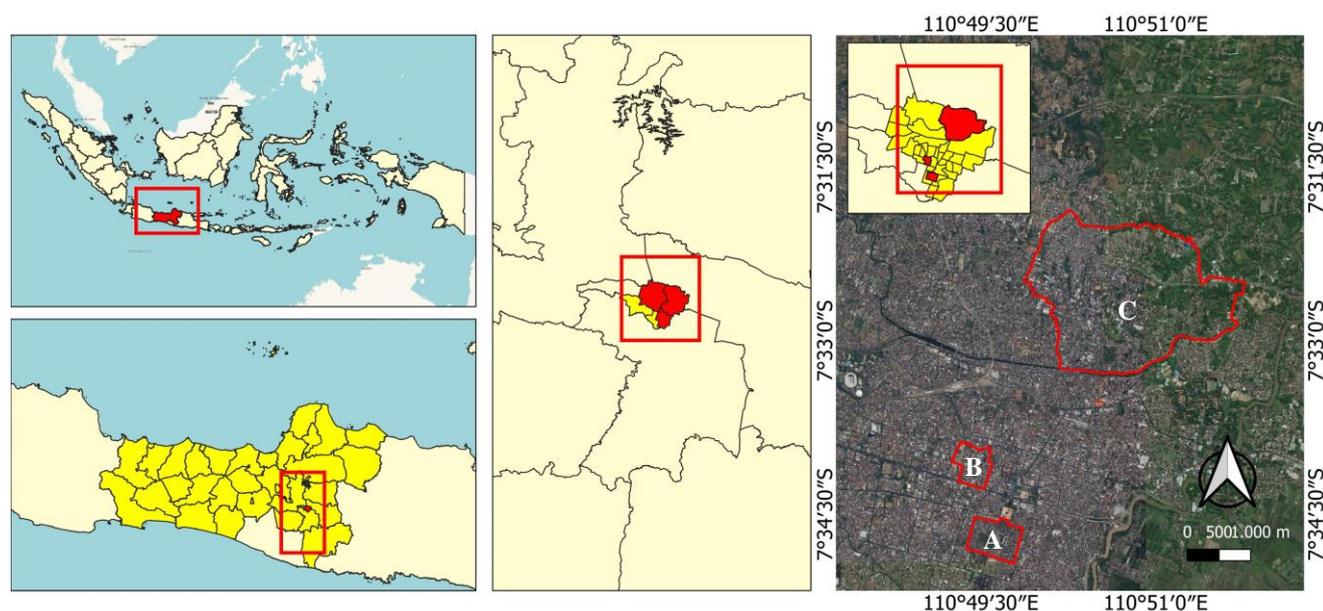


Figure 1. Map of the study area in A. Baluwarti, B. Banjarsari and C. Mojosongo Villages, Surakarta City, Central Java Province, Indonesia

Data collection

Primary data collection was used by observation and in-depth interviews. The observation approach was used to understand general environmental conditions on agriculture land, home gardens, and gardens. Observations were also carried out to observe plants that grow in people's yards and used in traditional rituals in three villages. In-depth interviews were conducted with competent informants who were selected purposively using the snowball technique by asking the main informants at the first time (Erawan et al. 2018). These included village staff, informal figures, male and female farmers, and traditional healers. In-depth interviews were conducted to obtain information about traditional rituals from traditional leaders and the community, including the names of various traditional rituals, plant used, plant's meaning, plant parts used, and how to obtain them. Botanical identification of commonly used plants was done by referring to local plants. This identification was carried out based on related literature and based on the authors' knowledge.

Data analysis

The qualitative data obtained from interviews was analyzed by cross-checking, summarizing, and writing descriptively, following Erawan et al. (2018).

RESULTS AND DISCUSSION

Diversity

Respondents from the three villages totaled 104 people (Table 1). The majority were women (72.2%), and men (27.8%). The majority of interviewees worked as self-employed (63.4%), Housewives were 31.7%, and Government employees (4.9%).

Based on Table 2 there are 27 plants usually used in traditional rituals in Surakarta, from 27 species and 18 families, namely Amaranthaceae (1 sp.), Bromeliaceae (1 sp.), Moraceae (1 sp.), Annonaceae (1 sp.), Solanaceae (4 sp.), Arecaceae (1 sp.), Fabaceae (3 sp.), Poaceae (3 sp.), Convolvulaceae (1 sp.), Oleaceae (1 sp.), Lamiaceae (1 sp.), Anacardiaceae (1 sp.), Moringaceae (1 sp.), Rutaceae (1 sp.), Musaceae (1 sp.), Pandanaceae (1 sp.), Piperaceae (1 sp.), and Rosaceae (2 sp.).

The implementation of traditional ritual cannot be separated from using plant parts. According to Mutaqin et al. (2018), the plant parts used in traditional events or rituals include roots, stems, leaves, fruits, flowers, seeds, fronds, and tubers. In this study, five plant parts were used in ritual practices, namely fruit, leaves, flowers, stalks, and seeds. The percentage of use for each type of plant part is fruit (33.4%), leaves (40%), flowers (20%), stems (3.3%), and seeds (3.3%). The part most used by the community is the leaf with a percentage of 40% (Table 3).

Traditional rituals

A total of 10 traditional rituals were commonly carried out by the people of Baluwarti, Keprabon, and Mojosoongo villages.

Mitoni

The seventh-month celebration event in the first pregnancy is called *mitoni* or *tingkeban*. In the *mitoni* event, there is a procedure for *gantos penganggan*, or what is usually called changing clothes up to seven times, which is then known as *tingkeban*. The ceremony is held on odd dates without exceeding the full moon (3, 5, 7, 9, 11, 13, and 15); it is believed that the *mitoni* or *tingkeban* ceremony is held when a baby who is seven months old baby in the fetus has begun to live. Based on observations, *mitoni* is still being carried out in these three villages, and their implementation is generally the same.

According to Abdullah et al. (2021), the complete procedure for carrying out the *mitoni* starts with the *siraman*. The *siraman* is carried out at 11.00 a.m. because angels are believed to come down from heaven to bathe; those carrying out the *siraman* were seven or nine female elders. Meanwhile, the ladle used is made from coconut shells. Next is *gantos penganggan ngantos kaping pitu*, after finishing the watering, then change the cloth. The pregnant woman enters the house and stands where there are seven *sinjang* and *kemben*. The elders then put it on in turn. After putting it on, take it off, then put it on again; that repeated six times, and the elders' parents always said *durung patut* (improperly dressed). Finally, on the seventh cloth, the *pinisepuh* wear a *sinjang truntum kemben* with a *bangotulak* motif. At the same time, the elders said that *wis patut* (properly dressed). The plant used is young coconut (*C. nucifera*), commonly called *cengkir*, which ensures the mother's and baby's safety. Young coconuts have almost the same meaning in several regions; the mother and fetus are always blessed with good things (Fauzana et al. 2021); then, *bancaan*, a food serving containing long beans, kale, and spinach. Long beans mean that good traditions must be preserved for the next generation and not be broken, while fruit is a form of religious offering to the earth as a form of gratitude to God. Spinach means it symbolizes health and freshness. *Bancaan* means a form of gratitude, getting rid of bad luck, and sharing happiness because a child will be born.

Medeking

It is the same as *mitoni*, but *medeking* is held for the pregnancy of an odd-numbered child with the hope of becoming a religious child, a child with abundant sustenance, respecting parents, and being useful for their religion, society, homeland, and nation (Revlina 2023). *Medeking* is a pregnancy ritual for mothers who are pregnant with their third, fifth, seventh, and odd-number babies. The *medeking* ceremony is carried out based on the belief that the birth of children on their third, fifth, or seventh, is usually hard. In addition, among the three villages, *medeking* was only carried out in Keprabon Village.

The *medeking* ceremony is a spiritual effort to reject unwanted things and smooth the birthing process. Pregnant women have prepared the ingredients for *aking* rice; it could be made by ourselves, bought, or often given by close relatives. This is usually done for the third and fifth child at the end of the third or fifth month of pregnancy.

Once the ceremony equipment is available, male or female elders are invited to pray for the pregnant woman's safety and her family. After praying, the *aking* rice is distributed to relatives and neighbors. Next, the elders give water to the mother to drink. After that, they held the pregnant mother's stomach and said, *jabang* (Dear baby), even if you are going to see me in the wilderness, do not be fussy; just be an angel.

Medeking means safe *deking*; *deking* is *aking* rice with a side dish of *sura* (a kind of *sura* porridge), fried coconut (*cemplung*), tofu, tempeh, dried fish, bean sprouts, chicken eggs, and so on. This food is arranged on a plate and distributed to relatives and neighbors. The plant used is rice (*Oryza sativa*), which symbolizes prosperity and fertility for pregnant women and unborn babies. Side dishes include chicken and *bancaan*. The *bancaan* consists of long beans, kale, and spinach. Long beans have a good traditional meaning that must be preserved for the next generation and

not be violated, while fruit is a form of religious offering to the earth as a form of gratitude to God. Spinach means it symbolizes health and freshness. *Bancaan* means gratitude, freedom from bad luck, and sharing happiness because a child will be born.

Table 1. Demographic characteristics of informants

Variable	Amount	Percentage (%)	
Gender	Men	29	27.8
	Women	75	72.2
Work	Housewife/not working	33	31.7
	Government employees	5	4.9
	Self-employed	66	63.4
Total	104	100	

Table 2. List of plants commonly used to perform traditional rituals by the people of Baluwarti, Keprabon, and Mojosongo villages, Surakarta City, Central Java Province, Indonesia

Scientific Name	Family	Local Name	Part of Plant Used	Rituals
<i>Amaranthus</i> spp.	Amaranthaceae	<i>Bayam</i>	Leaf	<i>Mitoni</i> ceremony (7 months)
<i>Ananas comosus</i> (L.) Merr.	Bromeliaceae	<i>Nanas</i>	Fruit	Wedding ceremony and <i>mitoni</i> (7 months)
<i>Artocarpus camansi</i> Blanco	Moraceae	<i>Kluwih</i>	Fruit	Wedding ceremony
<i>Cananga odorata</i> (Lmk)	Annonaceae	<i>Kenanga</i>	Flower	Death ceremonies, weddings, <i>sekaten</i> , <i>syawalan</i> , <i>tedhak siten</i>
<i>Capsicum annuum</i> L.	Solanaceae	<i>Cabai Merah</i>	Fruit	<i>Grebeg Maulud</i> ceremony
<i>Capsicum var. annuum</i>	Solanaceae	<i>Cabai Hijau</i>	Fruit	<i>Grebeg Maulud</i> ceremony
<i>Cocos nucifera</i> L.	Arecaceae	<i>Kelapa</i>	Fruit and Leaf	<i>Mitoni</i> (7 months) and marriage
<i>Erythrina variegata</i> L.	Fabaceae	<i>Dadap</i>	Leaf	Funerals
<i>Ficus benjamina</i> L.	Moraceae	<i>Beringin</i>	Leaf	Wedding ceremony
<i>Imperata cylindrica</i> (L.) Raeusch.	Poaceae	<i>Alang-Alang</i>	Leaf	Wedding ceremony
<i>Ipomoea aquatica</i> Forssk.	Convolvulaceae	<i>Kangkung</i>	Leaf	<i>Mitoni</i> (7 months) and <i>tumpengan</i>
<i>Jasminum sambac</i> (L.) W.Art	Oleaceae	<i>Melati</i>	Flower	Death ceremonies, weddings, <i>syawalan</i> , <i>sekaten</i> , <i>tedhak siten</i> , and <i>sadranan</i>
<i>Magnolia x alba</i> (DC.) Figlar	Lamiaceae	<i>Kanthal</i>	Flower	Death ceremonies, weddings, <i>syawalan</i> , <i>sekaten</i> , <i>tedhak siten</i> , and <i>sadranan</i>
<i>Mangifera</i> sp.	Anarcadiaceae	<i>Mangga</i>	Fruit	<i>Mitoni</i> ceremony (7 months)
<i>Moringa oleifera</i> Lam.	Moringaceae	<i>Kelor</i>	Leaf	Funerals
<i>Murraya paniculata</i> (L.) Jack	Rutaceae	<i>Kemuning</i>	Flower	Funerals
<i>Musa x paradisiaca</i> L.	Musaceae	<i>Pisang</i>	Fruit and Leaf	Wedding ceremony, <i>mitoni</i> (7 months), and <i>procotan</i>
<i>Nicotiana tabacum</i> L.	Solanaceae	<i>Tembakau</i>	Leaf	<i>Grebeg sekaten</i> ceremony
<i>Oryza sativa</i> L.	Poaceae	<i>Padi</i>	Seed	<i>Mitoni</i> ceremony (7 months), death, wedding, <i>deking</i> , <i>grebeg maulud</i> , <i>separasan manten</i> , and <i>sadranan</i>
<i>Pachyrhizus erosus</i> L.	Fabaceae	<i>Bengkoang</i>	Fruit	<i>Mitoni</i> ceremony (7 months)
<i>Pandanus amaryllifolius</i> Roxb.	Pandanaceae	<i>Pandan</i>	Leaf	Funerals
<i>Piper betle</i> Linn	Piperaceae	<i>Sirih</i>	Leaf	Wedding, death and <i>grebeg sekaten</i> ceremonies
<i>Rosa x alba</i> L.	Rosaceae	<i>Mawar Putih</i>	Flower	Death ceremonies, weddings, <i>syawalan</i> , <i>sekaten</i> , <i>tedhak siten</i> , and <i>sadranan</i>
<i>Rosa</i> sp.	Rosaceae	<i>Mawar Merah</i>	Flower	Death ceremonies, weddings, <i>syawalan</i> , <i>sekaten</i> , <i>tedhak siten</i> , and <i>sadranan</i>
<i>Saccharum officinarum</i> Linn	Poaceae	<i>Tebu</i>	Stem	Wedding ceremony, <i>tedhak siten</i> , <i>mitoni</i> (7 months)
<i>Solanum melongena</i> L.	Solanaceae	<i>Terong</i>	Fruit	<i>Grebeg Maulud</i> ceremony
<i>Vigna unguiculata</i> subsp. <i>sesquipedalis</i> (L.) Verdc.	Fabaceae	<i>Kacang Panjang</i>	Fruit	<i>Mitoni</i> ceremony (7 months), <i>tumpengan</i> , and <i>sekaten</i>

Table 3. Percentage of plant parts used in rituals

Part of Plant Used	Quantity	Percentage
Fruit	10	33.40%
Leaf	12	40%
Flower	6	20%
Stem	1	3.30%
Seed	1	3.30%
Total	30	100%

Procotan

Procotan is a ceremony carried out when the pregnancy is 9 months old. *Procot* means birth without obstacles. The religious offering that must be provided includes: *jenang procot*, *jongkong inthil*, *clorot*, and *jenang boning-baning*. These foods are usually served on banana leaves. The food served in the *procotan* ceremony has good meaning and prayers for the baby in the womb, such as *jenang procot* dan *clorot* which means that the baby can be born soon, while *jenang bonang baning* means that the baby is born in a clean state of mind and body. Javanese believe these foods can bring good things to the mother and baby as well as the birth process later.

The plant used is bananas (*Musa paradisiaca*) in this traditional *procotan* ceremony. Bananas symbolize prosperity, luck, and success in life. In this way, it is hoped that the born baby will always have good luck and success in life. The parts used are fruit and leaves as a base for the food served. Based on the results of interviews and observations at the three villages, *procotan* is still being implemented in Keprabon and Baluwarti Villages.

Wedding

Traditional wedding rituals are intended to express gratitude for the bride and groom's family. The community traditionally carries out wedding customs to hold a wedding, while wedding rituals are an activity that is usually carried out to prepare, carry out, and solidify a marriage. Each stage of a wedding ritual contains elements of purpose, place, time, tools, implementer, and implementation of the ritual. Wedding rituals continue to be carried out in three villages.

Plants used in bridal ceremonies, often called *mantenan* for the people of Surakarta, including coconut leaves and coconut fruit (*C. nucifera*), Banyan (*Ficus benjamina*), sugar cane (*Saccharum officinarum*), rice (*O. sativa*), and one bunch of plantains (*M. paradisiaca*). In a wedding series of customs, there is a ritual of the groom stepping on an egg. Then, water is poured from a jug by the bride onto the feet of the groom, who has stepped on the egg. Apart from that, there is another event called the *nyawer* ritual, where money and flowers are put into a silver bowl, and the bride throws the flowers and coins to the guests. Apart from that, grain mixed with coins is also commonly used for this ritual.

Various objects used in the wedding ceremony have symbolic meanings. In Surakarta, rice (*O. sativa*) means happiness and hope for the bride and groom to live a happy and prosperous life. Meanwhile, in Madiun East Java, rice

means a husband's responsibility to his wife (Mustakim et al. 2022). Rice symbolizes happiness, so the prospective bride and groom are expected to be happy and prosperous. Various kinds of flowers, including red roses (*Rosa* spp.), white roses (*Rosa alba*), *kanthil* (*Magnolia × alba*), *kenanga* (*C. odorata*), and jasmine (*Jasminum sambac*) contain meanings and symbolic of fragrance and beautiful to look at. So, the new family is expected to have good behavior, such as being able to help other families in need, so that the new family has a 'good family name,' like the flower fragrance. At the same time, coins or small money symbolize good fortune or possessions. Hopefully, the new family will have a lot of money to live on. Money and rice have an important symbolic function; for example, the new couple in their life will gain wealth, success, and full of happiness. *Beringin* leaves symbolize is the bride and groom will live long and be able to provide shelter for their family. *Alang-Alang* leaves are a symbol that marriage can run smoothly, cleanly, modestly, and without any obstacles. Meanwhile, there is also *Lodeh Kluwih* (vegetable soup). The meaning of *Lodeh Kluwih* comes from the word *Kluwih* which means excess. Hope is that the bride and groom can be someone who has strengths or weaknesses.

The coconut leaves installed at the house entrance mean the bride and groom get a good fortune in whatever direction. In addition, the coconut leaves made from *mayang* twins or *gawar* are intended to unite the bride and groom and become soul mates in the afterlife. Usually placed at the house entrance, these leaves keep the bride and groom's souls cool, not easily angered and at peace. One bunch of plantains (*M. paradisiaca*) in a pair means that marriage is good so that husband and wife can be grateful to each other, accept each other, and understand each other. Banyan (*F. benjamina*) means that we must protect each other, while sugar cane means that husband and wife can have a sense of respect, affection, and love for each other. The meanings of several plants in wedding rituals in Surakarta and Madiun are different. In Surakarta, rice means happiness and hope for the bride and groom to live a happy and prosperous. Meanwhile, in Madiun, rice means a husband's responsibility to his wife (Mustakim et al. 2022). Besides that, coconut in Surakarta means that husband and wife can benefit others, family or neighbors, wherever they are. Meanwhile, in Madiun, coconut means uniting two individuals' hearts, feelings, actions, and thoughts in marriage (Mustakim et al. 2022).

Death

Death rituals are an important thing in various customs in Indonesian society. This signifies respect for the family of the deceased and prays that God will accept the deceased after death. Indonesia has various customs and cultures to honor people who have died. This means that Indonesia has various types of death ritual ceremonies, be it burial, washing away, or burning. Death in any culture is always treated with ritualization. Like wedding rituals, death rituals continue to be carried out in three villages.

Javanese people view death not as a transition to a new status for the person who dies (Damayanti et al. 2019).

Dead people are held higher than living people. Death in Javanese society also gives rise to *ziarah* or grave viewing. The bond between the dead and the living is reconnected through the activity of grave visitations. This tradition also implicitly creates hope for the living that the dead, who are already in the other world, can channel blessings and *pangestu* to the living. In Javanese society, apart from believing that the spirit will be around the house until 40 days after death, they also believe that the spirit or ancestral spirits have the opportunity to see the grave (visit their grave) and *tilik omah* (visit their house). The ceremony is intended to obtain blessings or sustenance and safety on their job.

The *brobosan* culture is carried out when the body is about to be sent to the grave; that is, when the body is carried, the children and grandchildren of the person who has just died walk under the body seven times. According to the Javanese belief, by holding *brobosan*, people who are still alive will easily forget people who have recently died. *Brobosan* is a symbol of respect from relatives for someone in their family who has died. If the person who dies is very old, it is hoped that their children and grandchildren will inherit a long life. *Brobosan* is only carried out for married corpses, whereas if the deceased is not married, then it will not be held.

Slametan in death ceremonies is carried out to commemorate the day of death (*geblage*) of people who have died, including *surtanah* (when digging a grave), *telung dinane* (the third day after someone dies), *pitung dinane* (the seventh day after someone dies), *patangpuluh dinane* (the fortieth day after someone dies), *satus dinane* (the hundredth day after someone dies), *tahune* or *mendak pisan* (one year after someone dies), *rongtahune* or *mendak pindho* (two year after someone dies), *telung Tahune* or *nyewu* (three year after someone dies) (Setiawati 2019). In Keprabon Village, salvation for the dead also uses fried chili sauce and *ingkung ayam* (full-size chicken). Fried chili sauce means that living people must experience the formation of human character and identity. At the same time, *ingkung ayam* means that one's strength is shared with others so everyone can feel happy. Apart from that, *setaman* flowers are also used, including red roses (*Rosa* spp.), white roses (*R. alba*), *Kanthil* (*M. × alba*), *Kenanga* (*C. odorata*), and jasmine (*J. sambac*). The *kanthil* flower means that spiritual and physical success will be achieved by praying and living the noble values taught by their ancestors. Jasmine flowers convey a message of sincerity in doing everything, including pilgrimages to the graves of deceased family members. The rose conveys the message not to feel like you have everything in this world, meaning you have to accept the departure of your loved one back to God. Ylang-ylang flowers have a message to imitate all the good behavior of their ancestors. *Pandan* leaves are believed to be a symbol of respect and an embodiment of love from the living family to the person who has died. The meanings of several plants used in death rituals differ. For example, rice in death ceremonies in Surakarta and Batak Toba has different meanings; in Surakarta, rice has the meaning of giving smoothness and ease to the afterlife. Meanwhile, in the Toba Batak community, rice means

God's blessing for the entire family (Marpaung and Idris 2022).

Grebeg maulud or sekaten

The tradition of *sekaten* is a Walisongo preaching that invites people to celebrate the birth month of the Prophet Muhammad SAW. The interviews and observations on the three villages show that *grebeg maulud* or *sekaten* are still being implemented in Keprabon and Baluwarti Villages. Surakarta Palace usually makes *gunungan* containing fruit, vegetables, *apem*, boiled chicken eggs, and half-cooked *rengginang*. This tradition also uses red roses (*Rosa* spp.), *Kanthil* (*M. × alba*), *Kenanga* (*C. odorata*), and jasmine (*J. sambac*). The vegetables that must be included in the *gunungan* are long beans (*Vigna unguiculata* subsp. *sesquipedalis*). At the same time, fruit is a form of religious offering to the earth as a form of gratitude to God. The *apem* on the *gunungan* is made rounded, which is related to the expression *kepleng ing rasa, handayoh kansampurnaning urip*, which means that while living, there are good things and bad things, so every human being must have a life determination and always be careful.

In the tradition of *grebeg maulud*, roses, jasmine, ylang-ylang, and *kantil* are also used, which means that people who witness it can remember it and keep it in their hearts. *Grebeg* is a traditional or customary ceremony of the Surakarta Palace (Keraton Surakarta) where, on the 12th of *maulud*, the king came out of the Palace to *Sitihinggil*, sat in the *manguntur tankil* ward, was greeted (faced) by the *srimpi* culture, the female courtiers and in addition to the courtiers in *ageng alit* at home and abroad in Surakarta, facing *sitihinggil* or at *sasono sumewo* performances (Pramusinto and Wahono 2020).

The *grebeg* ceremony is marked by the king taking out a large *tumpeng* called a *gunungan* and bringing it to the great mosque (Masjid Agung) to be given a prayer led by Kyai Penghulu Tafsir Anom in the midst of the community. The ceremony, with its typical large *tumpeng* offerings in the shape of a *gunungan*, shows the Javanese elements that have become the culture of the palace and its supporting community. The *grebeg* ceremony is marked by releasing the mountains from the palace and taking them to the great mosque in Surakarta. This event is quite interesting for people to visit and enjoy, have good luck or blessings, have recreational, and other things.

When the *gunungan* came out, people came in droves to fill the *kamandungan* gate to the palace north square and the great mosque or mosque ward courtyard. *Gunungan* in Surakarta consists of two types: male and female. The male *gunungan* is shaped like a *tumpeng*, and the frame is made of woven wire or bamboo covered with banana leaves. *Gunungan* is shaped like a *tumpeng robyong* which consists of the ingredients: sugar cane (*S. officinarum*), long beans (*V. unguiculata* subsp. *sesquipedalis*), green chilies (*Capsicum annum* var. *annuum*), red chilies (*C. annum*) and eggplant (*Solanum melongena*). Those ingredients are arranged on a *tumpeng* frame until it is full. The female mount is shaped like a *mutho* umbrella, made from *rengginang* (a cracker-like food made from sticky rice), the size of a plate, with stems arranged until the

frame is completely covered. In addition, the *gunungan* in the *grebeg maulud* ritual in Surakarta and Yogyakarta has a different meaning. In Surakarta, this *gunungan* has a good traditional meaning that must be preserved for the next generation and must not be broken, and is a form of earthly charity as gratitude to God. Meanwhile, in Yogyakarta, this *gunungan* means prosperity and fertility (Al-Fajriyati 2019).

In Surakarta, *grebeg* ceremony tradition is also known as *sekaten*. The local community carries out *sekaten* based on preserving ancestral traditions passed down from generation to generation, originating from the traditions of cultural values during the heyday of Demak kingdom under the rule of Raden Patah (son of Prabu Brawijaya from the Majapahit Kingdom and plays an important role in teaching Islam structurally and culturally, one of which is through art) together with the guardians. This ceremony is also intended to attract people to visit the traditional commemoration of the birthday of the Prophet Muhammad SAW. *Sekaten* is a culture held to commemorate the birth of the Prophet Muhammad SAW, a mixed culture between Islamic and Javanese, this *sekaten* ceremony was carried out in harmony. In this culture, there is syncretism, which can be observed in implementing the *sekaten* culture (Ridwan and Sumarno 2022). The *sekaten* ritual in Surakarta uses seven types of vegetables, which are made into *tumpeng* with *setaman* flowers, betel, and tobacco so that it has several meanings, namely high ideals, a means of sharing happiness, blessings, and establishing friendship, purity and honor, as well as courage. Meanwhile, the *sekaten* ritual in Yogyakarta uses *gunungan* containing jasmine flowers, *Kanthil* flowers, long beans, and red chilies, which have meaning as a picture of worldly life and spiritual life in which God, as the ruler of the universe, holds control over all activities in the universe (Nugraha 2020).

Grebeg syawal

Grebeg syawal is the same as the *grebek maulud*, which uses a *gunungan*, but in the *grebeg syawal*, the *gunungan* is just one, while the *grebek maulud* is made of a pair. Based on the results of interviews and observations at the three villages, *Grebeg Syawal* is still being implemented at these villages. *Gunungan* is shaped like a *tumpeng robyong*, which consists of sugar cane (*S. officinarum*), long beans (*V. unguiculata* subsp. *sesquipedalis*), green chilies (*C. annuum* var. *annuum*), red chilies (*C. annuum*) and eggplant (*S. melongena*).

Grebeg syawal is carried out by community members through *sungkeman* or apologizing to each other (Ridwan and Sumarno 2022). This activity began with a blackjack night with several activities, such as reciting and reading the Al-Qur'an, which was held during Ramadan. Apart from that, there is also *zakat* distribution to less fortunate local communities and compensation to orphans. The *Grebeg syawal* ritual in Surakarta also uses the *setaman* flower, which means blessing and hope for the fragrance of the ancestors. Meanwhile, the *Grebeg syawal* ritual in Demak District uses *tumpeng*, which means togetherness and harmony (Mahmudah 2020).

Tumpengan

Tumpengan is one of the traditional rituals as a manifestation of people's gratitude for the enormous, valuable and priceless blessings from God, namely by giving offerings to the earth so that people can live in peace and harmony. The results of interviews and observations at the three villages show that *tumpengan* is still being implemented. The plants used include water spinach (*Ipomoea aquatica*), long beans (*V. unguiculata* subsp. *sesquipedalis*), with the meaning of keeping fresh life (healthy), happy and blessed by good fortune. Apart from vegetables, the *tumpengan* also uses pointed rice, which means that the prayers offered are addressed to God, and boiled eggs are meaningful as the beginning of life.

Tumpengan can be performed for several events, such as *separasari* (35 days from the birth of the baby), funerals for the deceased, and *sadranan*. In Keprabon Village, salvation for the dead also uses fried chili sauce and *ingkung ayam* (full-size chicken). Fried chili sauce means that living people must experience the formation of human character and identity. At the same time, *ingkung ayam* means that one's strength is shared with others, so there will be happiness together.

Tedhak siten

Tedhak siten originates from the words *tedhak*, which means down, and *siten*, which means land, so *tedhak siten* or *tedak siti* is a tradition that introduces children to nature by setting their feet first on the ground. Usually, this tradition is carried out by the Surakarta palace families. The results of observations and interviews at the three villages show that *tedhak siten* is still carried out in Mojosoongo Village, even though it is carried out by people who have a fairly high economic status. Therefore, currently there are few ordinary people who carry out *tedhak siten*. *Tedhak siten* uses several plants, such as jasmine (*J. sambac*) and red roses (*Rosa* spp.). *Melati* (jasmine) means uniting the heart, which means that in the future, the child can become a person who has compassion. The meaning of jasmine flowers in the *tedhak siten* ritual between Surakarta and Aceh also has differences. In Aceh, jasmine flowers mean making children become humble people (Rahimah et al. 2019). The red rose, which means uniting the people, means that the children will always honor their parents.

Tedhak siten is a traditional event where a child aged around eight months (245 days) will be led by his or her mother to walk on the ground. Generally, the *tedhak siten* ceremony is held in the yard on the day of birth (Addini et al. 2023). The purpose of the *tedhak siten* event is as a form of gratitude because the child will start learning to walk. This ceremony also aims to introduce the child to the surroundings and mother nature. This also embodies a Javanese proverb that reads *Ibu Pertiwi Bopo Angkoso*, meaning the earth is the mother and the sky is the father.

The first procession is at the baby cage when the child is asked to hold or choose one of the items provided in the cage vicinity. According to their belief, the first object a child holds and takes symbolizes the child's future livelihood (fate). For example, if a child takes a writing

instrument, it is believed that the child will grow up intelligent and clever. The next process is that money and yellow rice from the rice (*O. sativa*) are put into a bowl, scattered, and fought over by the young children participating in the ceremony. After that, the child is taken out of the baby cage and then bathed in a tub filled with water containing *setaman* flowers, including red roses (*Rosa* spp.), white roses (*R. alba*), *kanthil* (*M. × alba*), *kenanga* (*C. odorata*), and jasmine (*J. sambac*). Finally, the child is dressed in new clothes and wears jewelry. The next ceremony is the *kenduri*, which ends the *tedhak siten* ceremony. This ceremony is conducted when a seven-month-old baby learns to sit and walk on the ground; this ceremony is intended for this child to become independent. The *tedhak siten* ceremony is always eagerly awaited by parents and relatives of Javanese families because, from this ceremony, they predict the interests and talents of their younger siblings who have just learned to walk. This series of traditions has its uniqueness and meaning for Javanese people.

Sadranan

The *sadranan* tradition is generally carried out twice a year, namely in *maulud* (Arabic calendar) or *muluddan* (Javanese calendar), which coincides with the birth of the Prophet Muhammad SAW, namely on the 12th of *maulud* and in *sya'ban* (*ruwahan*) before the fasting month. Usually, *nyadran* on *muluddan* is accompanied by *merthi desa*. *Merthi desa*, often called village clean, is essentially a symbol of the community's gratitude to the Almighty for the abundance of gifts He has given. *Sadranan* or *Ruwahan* is a tradition usually carried out by Javanese people before arrival the month of Ramadhan by making a grave pilgrimage to family grave (grandmother, grandfather, mother, father, or other family members). The interviews and observations at the three villages show that *sadranan* is still being implemented at these villages.

People who do *nyadran* will pray for grandfathers, grandmothers, fathers, mothers, or relatives who have died. After praying, people holds a feast together (*kenduri*). Each family that takes part in the *kenduri* brings many of traditional food.

The plants used in *sadranan* are three-colored flowers or *setaman* flowers, namely *Mawar Merah* (*Rosa* spp.) and *Mawar Putih* (*R. alba*), jasmine (*J. sambac*), and *Kenanga* (*C. odorata*) which means the color of life, that human life begins from birth, matures and ends with death. *Setaman* flowers are synonymous with fragrance, beauty, and good purposes or prayers to honor and remember deceased ancestors or family. The *setaman* flower in the *sadranan* ritual has almost the same meaning in several regions, namely, to honor ancestors who have passed away (Suyitno 2022). Meanwhile, roses in death ceremonies have the meaning of making the soul of the deceased smell sweet and fragrant.

Discussion

Surakarta is one of economic and industrial centers that impacts people's lifestyles and traditional preservations. Javanese rituals require a more expensive cost and timely

compared to modern, such as weddings. Marriage costs money, and requires much time and energy (Yuliana and Zafi 2020). Culturally, the Surakarta Palace and several traditional rituals still play an important role in the lives of the people of Surakarta Municipality. The Surakarta Palace is one of the cultural heritage sites of the kingdom, with monarchical rule in the past. Cultural heritage includes physical buildings, customs, and traditions passed down from generation to generation, which are still maintained today (Sunaryo and Masjhoer 2023). Apart from that, modernization also affects existing traditions that must be preserved. Tradition is a cultural asset that needs to be preserved so that its existence is not lost due to modernization. The impact of modernization means that society must try to preserve existing traditions (Saputri et al. 2021). From the three villages, the results of community interviews in each village showed that in Mojosongo Village, many people no longer carry out rituals because the area is urban. Baluwarti and Keprabon villages are also urban areas, but people still perform and preserve existing rituals. According to Eni et al. (2022), urban is an area that is used for urban settlements, social services, and economic activities, as well as centralization and government services.

In conclusion, there are 10 traditional rituals that the people of Baluwarti, Keprabon, and Mojosongo villages commonly carry out. These rituals include the seventh month of pregnancy (*mitoni*), *medeking*, *procotan*, wedding, death, *grebeg maulud* or *sekaten*, *grebeg syawal*, *tumpengan*, *tedhak siten*, and *sadranan*. Each traditional ritual uses plants according to their respective meanings. The percentage of use for each type of plant part is leaves (40%), fruits (33.4%), flowers (20%), stems (3.3%), and seeds (3.3%). Most of the respondents purchased plants used in traditional rituals because there was increasingly limited open space for planting these plants. The use of plants as a medium in traditional ceremonies is important, because each plant has its own symbolic meaning in traditional ceremonies. The use of various plant species has been passed down from generation to generation and preserved by the community, so their use cannot be changed carelessly because it is related to culture. For this reason, it is important to raise public awareness about collecting plants in traditional rituals, apart from that, it is also important to use plants wisely in traditional rituals. So we can anticipate potential impacts on the environment and biodiversity in the use of plants for traditional rituals, such as rare plants and damage to plant habitats.

ACKNOWLEDGEMENTS

We would like to thank the village leader and all informants from the villages of Baluwarti, Keprabon, and Mojosongo, Surakarta City, Central Java, Indonesia, who have assisted us in carrying out this ethnobotanical study.

REFERENCES

- Abdullah W, Wibowo PAW, Hidayati IW, Nurkayaton S. 2021. Kearifan lokal Jawa dalam Tradisi Mitoni di Kota Surakarta (Sebuah Tinjauan Etnolinguistik). *Jurnal Kawruh* 3 (1): 19-26. DOI: 10.32585/kawruh.v2i2.907. [Indonesian]
- Addini S, Harahap AM, Zulkarnain. 2023. Tradisi tedhak siten masyarakat Jawa ditinjau dari ajaran Islam studi kasus Desa Parbalongan, Kecamatan Tanah Jawa, Kabupaten Simalungun. *Anwarul* 3 (6): 1122-1131. DOI: 10.58578/anwarul.v3i6.1609. [Indonesian]
- Al-Fajriyati MI. 2019. Pengaruh tradisi Sekatenan terhadap perilaku keagamaan masyarakat Yogyakarta. *Khazanah Theologia* 1 (1): 40-46. DOI: 10.15575/kt.v1i1. [Indonesian]
- Apriani DT. 2023. Studi etnobotani pada ritual adat masyarakat Suku Karo di Kecamatan Merdeka Kabupaten Karo Sumatera Utara. *Bioma* 5 (1): 1-16. DOI: 10.31605/bioma.v5i1.2479. [Indonesian]
- Arianti S, Marselina S. 2020. Analisis jenis, fungsi, makna, dan nilai ekonomi tumbuhan pada ritual Mamapas Lewu Suku Dayak Ngaju. *Anterior Jurnal* 19 (2): 12-19. DOI: 10.33084/anterior.v19i2.1410. [Indonesian]
- Damayanti T, Susanto H, Ekwandari YS. 2019. Tradisi Brobosan dalam Upacara Kematian Masyarakat Jawa di Kelurahan Rajabasa Raya. *Jurnal Pendidikan dan Penelitian Sejarah* 7 (4): 1-12. [Indonesian]
- Dani BYD, Wahidah BF, Syaifudin A. 2019. Etnobotani tanaman kelor (*Moringa oleifera* Lam.) di Desa Kedungbulus Gembong Pati. *Al-Hayat* 2 (2): 44-52. DOI: 10.21580/ah.v2i2.4659. [Indonesian]
- DPMPTSP Kota Surakarta. 2018. Geografis Kota Surakarta. DPMPTSP Kota Surakarta, Surakarta. <https://investasi.surakarta.go.id/v1/profil/geografis>. [Indonesian]
- Eni P, Astuti AP, Alfaridzhi MF, Panorama M. 2022. Pemetaan industri kreatif dalam meningkatkan pertumbuhan ekonomi pada kawasan urban di Kota Palembang. *SINOMIKA Journal* 1 (3): 265-276. DOI: 10.54443/sinomika.v1i3.258. [Indonesian]
- Erawan TS, Alillah AN, Iskandar J. 2018. Ethnobotany of traditional rituals in the Karangwangi Village, Cianjur District, West Java, Indonesia. *Asian J Ethnobiol* 1 (2): 53-60. DOI: 10.13057/asianjethnobiol/y010201.
- Fadilah F, Abidin MR. 2021. Perancangan desain aplikasi Kampung Baluwarti Surakarta sebagai media pelestarian warisan budaya. *Jurnal Barik* 2 (3): 28-43. [Indonesian]
- Fajrin SN, Oruh S, Agustang A.. 2022. Makna simbolik ritual Mabbaca-Baca di Kelurahan Ujung Tanah Kecamatan Cenrana Kabupaten Bone. *Equilibrium* 10 (1): 57-62. DOI: 10.26618/equilibrium.v10i1.6490. [Indonesian]
- Fauzana N, Pertiwi AA, Ilmiyah N. 2021. Etnobotani kelapa (*Cocos nucifera* L.) di Desa Sungai Kupang Kecamatan Kandangan Kabupaten Hulu Sungai Selatan. *Al Kawnu* 1 (1): 45-56. DOI: 10.18592/alkawnu.v1i1.5073. [Indonesian]
- Kathambi V, Mutie FM, Rono PC, Wei N, Munyao JN, Kamau P, Gituru RW, Hu GW, Wang QF. 2020. Traditional knowledge, use and conservation of plants by the Communities of Tharaka-Nithi County, Kenya. *Plant Divers* 42: 479-487. DOI: 10.1016/j.pld.2020.12.004.
- Latifah S, Ami MS. 2022. Etnobotani dalam ritual pernikahan masyarakat Desa Sidomulyo Kecamatan Megaluh Kabupaten Jombang Jawa Timur. *Jurnal Inovasi Penelitian* 3 (3): 5227-5238. DOI: 10.47492/jip.v3i3.1846. [Indonesian]
- Mahmudah DA. 2020. Dampak ekonomi dan sosial pada tradisi syawalan di Kelurahan Krpyak Kota Pekalongan. *Jurnal Ekonomi dan Bisnis* 23 (1): 19-23. DOI: 10.31941/jebi.v23i01.1097. [Indonesian]
- Marpaung EP, Idris M. 2022. Studi etnobotani tumbuhan yang digunakan dalam upacara kematian Saur Matua. *Bioedusains* 5 (2): 418-424. DOI: 10.31539/bioedusains.v5i2.4747. [Indonesian]
- Matejić JS, Stefanović N, Ivković M, Živanović N, Marin PD, Džamić AM. 2020. Traditional uses of autochthonous medicinal and ritual plants and other remedies for health in eastern and southeastern Serbia. *J Ethnopharmacol* 261: 113186. DOI: 10.1016/j.jep.2020.113186.
- Mustakim AOP, Yunitasari I, Laasiliyah ML, Sari RN, Kamalia AZ. 2022. Kajian etnobotani tradisi temu manten pada pernikahan adat masyarakat Jawa di Daerah Dungsung Madiun. *PISCES* 2 (1): 157-166. [Indonesian]
- Mutaqin AZ, Astriani W, Husodo T, Partasasmita R. 2018. Pemanfaatan tumbuhan untuk beberapa upacara adat oleh masyarakat Desa Pangandaran Kecamatan Pangandaran Kabupaten Pangandaran. *Jurnal Pro-Life* 5 (1): 496-505. DOI: 10.33541/jpvol6Iss2pp102. [Indonesian]
- Ncube SF, Ndagurwa HG, Mundy PJ, Sibanda S, Dlodlo M. 2022. Ethnobotanical knowledge and use-value of *Harpagophytum* (Devil's claw) in Matabeleland, Zimbabwe. *S A J Bot* 144: 134-144. DOI: 10.1016/j.sajb.2021.08.015.
- Nugraha PE. 2020. Tradisi Sekaten di Keraton Yogyakarta. Universitas Sanata Dharma, Yogyakarta. [Indonesian]
- Nurfadilah, Majid A, Muliadi M. 2022. The perspective of ritual communication in the tradition of childbirth in the Bugis Community in Talaka Village, Ma'rang District, Pangkajene Regency and Islands. *Respon Jurnal Ilmiah Mahasiswa Ilmu Komunikasi* 3 (2): 31-41. DOI: 10.33096/respon.v3i2.65.
- Ogilvie M, Ng D, Xiang E, Ryan MM, Yong J. 2018. Using traditional rituals in hospitality to gain value: A study on the impact of Feng Shui. *Intl J Hosp Manag* 72: 1-9. DOI: 10.1016/j.ijhm.2017.12.010.
- Paul A, Zaman MK. 2022. A comprehensive review on ethnobotany, nutritional values, phytochemistry and pharmacological attributes of ten *Garcinia* species of South-East Asia. *S A J Bot* 148: 39-59. DOI: 10.1016/j.sajb.2022.03.032.
- Pemerintah Kota Surakarta. 2022. Ketahui dan Pahami Batas Kota Surakarta. Pemerintah Kota Surakarta, Surakarta. <https://surakarta.go.id/?p=25327>. [Indonesian]
- PPID Kota Surakarta. 2019. Kelurahan Baluwarti. PPID Kota Surakarta, Surakarta. <https://ppid.surakarta.go.id/informasi/kelurahan-baluwarti/>. [Indonesian]
- Praiswari RW, Arsandrie Y. 2022. Akulturasi budaya di Kawasan Kauman Surakarta. *Jurnal Arsitektur Arsir Edisi Khusus Juli 2021*: 35-45. DOI: 10.32502/arsir.v0i0.3647. [Indonesian]
- Pramusinto E, Wahono SM. 2020. Keterkaitan antara upacara adat tradisional Sekaten dengan pengembangan kepariwisataan di Kodya Surakarta. *Germawisata* 16 (1): 32-49. [Indonesian]
- Purbasari VA, Suharno. 2019. Interaksi sosial Etnis Cina-Jawa Kota Surakarta. *Jurnal Antropologi* 21 (01): 1-9. DOI: 10.25077/jantro.v21.n1.p1-9.2019. [Indonesian]
- Purwani O, Rahmatulloh OR, Rahayu P. 2022. Invented traditions in Surakarta after decentralisation. *Cities* 131: 103985. DOI: 10.1016/j.cities.2022.103985.
- Rafidinal R, Yulinda E, Wardoyo ERP. 2023. Pemanfaatan tumbuhan dalam ritual Balenggang oleh suku Dayak Bakati Desa Kalon Kecamatan Seluas Kabupaten Bengkayang. *Jurnal MIPA* 12 (2): 61-67. DOI: 10.35799/jm.v12i2.48778. [Indonesian]
- Rahayu NT, Suryono J. 2020. Traditional and digital media; Cultural communication mix in Sekaten tradition. *Proc Intl Conf Community Dev (ICCD 2020)* 477: 564-567. DOI: 10.2991/assehr.k.201017.125.
- Rahimah, Hasanuddin, Djufri. 2019. Kajian etnobotani (upacara adat Suku Aceh Di Provinsi Aceh). *Biotik* 6 (1): 53-58. DOI: 10.22373/biotik.v6i1.4045. [Indonesian]
- Ramadhani L, Oktavianti T, Andriani A, Nafsiah N, Sihite RJ, Suwardi AB. 2021. Studi etnobotani ritual adat pernikahan suku Tamiang di Desa Menanggih Kabupaten Aceh Tamiang Provinsi Aceh. *Bioma* 10 (1): 80-92. DOI: 10.26877/bioma.v10i1.6090. [Indonesian]
- Ratnani DAS, Junitha IK, Kriswiyanti E, Dhana IN. 2021. The ethnobotany of Ngusaba ceremonial plant utilization by Tenganan Pegriingsan community in Karangasem, Bali, Indonesia. *Biodiversitas* 22 (4): 2078-2087. DOI: 10.13057/biodiv/d220457.
- Revlina I. 2023. Analisis nilai-nilai konselor multikultural dalam budaya Mitoni. *Shine: Jurnal Bimbingan dan Konseling* 4 (1): 13-19. DOI: 10.36379/shine.v4i1.261. [Indonesian]
- Ridwan M, Sumarno. 2022. Eksistensi Islam Jawa sebagai identitas di Desa Wisata Edukasi Religi Pakuncen Patianrowo Kabupaten Nganjuk Tahun 2019-2021. *Avatara* 12 (2): 1-10. [Indonesian]
- Ristanto RH, Suryanda A, Rismayati AI, Rimadana A, Datau R. 2020. Etnobotani: Tanaman ritual keagamaan Hindu-Bali. *Jurnal Pendidikan Biologi* 5 (1): 96-105. DOI: 10.31932/jpbio.v5i1.642. [Indonesian]
- Risyanti YD, Ngarawula B, Junianto J, Octafian R. 2022. The symbolic meaning study of Java's Panggih wedding traditions in Surakarta. *J Soc Sci* 3 (3): 601-609. DOI: 10.46799/jss.v3i3.350.
- Saputri RM, Rinenggo A, Suharno S. 2021. Eksistensi tradisi Nyadran sebagai penguatan identitas nasional di tengah modernisasi. *Civics Educ Soc Sci J* 3 (2): 99-111. DOI: 10.32585/cessj.v3i2.2080. [Indonesian]
- Sari LYS, Setyawati R. 2019. Etnobotani tumbuhan ritual yang digunakan pada upacara jaman di keraton Yogyakarta. *Bioma* 4 (2): 99-106. DOI: 10.20956/bioma.v4i2.6691. [Indonesian]

- Satrianegara MF, Juhannis H, Lagu AMHR, Habibi, Sukfitrianty, Alam S. 2021. Cultural traditional and special rituals related to the health in Bugis Ethnic Indonesia. *Gac Sanit* 35 (S1) : S56-S58. DOI: 10.1016/j.gaceta.2020.12.016.
- Setiawati D. 2019. Slametan dalam spritualisme orang Jawa pada masa lalu sampai sekarang. *Maharsi* 1 (1): 76-88. DOI: 10.33503/maharsi.v1i01.357. [Indonesian]
- Sunaryo TB, Masjhoer JM. 2023. Pergeseran fungsi bregada prajurit Keraton Surakarta. *Jurnal Masyarakat dan Budaya* 25 (1): 51-65. DOI: 10.55981/jmb.2023.1639. [Indonesian]
- Sutraningsih NKA, Sukenti K, Sukiman, Aryanti E. 2019. Ethnobotanical study on Daksina constituent plants on Lombok Island, West Nusa Tenggara, Indonesia. *Asian J Ethnobiol* 2 (2): 78-83. DOI: 10.13057/asianjethnobiol/y020202.
- Sutrisno IH, Akob B, Navia ZI, Nuraini, Suwardi AB. 2020. Documentation of ritual plants used among the Aceh Tribe in Peureulak, East Aceh District, Indonesia. *Biodiversitas* 21 (22): 4990-4998. DOI: 10.13057/biodiv/d211102.
- Suyitno M. 2022. Sadranan: Tradisi, ritual, sosial, dan ekonomi pada masyarakat Tumang. *Jurnal Pendidikan Dasar dan Sosial Humaniora*. 1 (7): 1403-1412. DOI: 10.53625/jpdsh.v1i7.2136. [Indonesian]
- Yuliana E, Zafi AA. 2020. Pernikahan adat Jawa dalam perspektif hukum Islam. *Al-Mashlahah Jurnal Hukum Islam dan Pranata Sosial* 8 (02): 315-326. DOI: 10.30868/am.v8i02.745. [Indonesian]