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Typology of Woodcarving Motifs in Johor Traditional Malay Houses

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Abstract: Johor traditional Malay houses are typically known for its Limas roof. However, apart from the significant roof, woodcarving motifs found in Johor traditional Malay houses also possess a distinct architectural heritage that can promote the identity of a region. Many woodcarving motifs are found and should be studied and managed to sustain the identity of a local region as part of heritage sustainable management. A study on typology of woodcarvings motifs is critically needed in order to avoid losing the authenticity of each state if not being preserved and documented. Johor traditional Malay houses are being demolished day by day before we get to know the typology of it's woodcarving motifs. The objective of this paper is to identify the woodcarvings motifs found in Johor traditional Malay houses, reveal the typology and analyze the mostly used to be named as the identity of Johor woodcarving motif. Site visits were conducted to 60 traditional Malay houses around Johor in which the woodcarvings motifs were examined, photographed and documented. Interviews were also conducted with the house owners or occupants, and the wood carvers. The samples were analyzed, and the results were verified by experts. A total of 12 typologies derived from 13 motifs were discovered, drawn, coded and named. The pumpkin motif preceded the percentage of the analysis statistics of mostly used and was named as Labu Maya. The findings of this research suggest that the Labu Maya motif represents the identity of woodcarving motifs of Johor traditional Malay houses. From the analysis and discussion made, 12 typologies on Johor woodcarving motifs were revealed, named and documented. This research has shown the local authenticity, beautiful heritage that should be enhanced through managing the typology and sustaining the local identity as part of sustainable management. All these typologies are important for Johor architectural heritage, body of knowledge and also for tourism purposes.

Keywords: Wood carving, malay woodcarving motifs, malay woodcarving, traditional house, vernacular architecture, Johor traditional identity

1. Introduction

Traditional Malay houses in Malaysia are frequently ornamented with woodcarvings. This traditional woodcarving is an intricate and exquisite Malay heritage as it has various motifs that stand as the representation of Malay art and architectural symbolism. This inheritance should be adored, valued, appreciated, preserved, and passed along through generations (Silah et al., 2013). Regardless of being a significant ornamental architectural element, woodcarving is on the verge of being ignored due to the recent practices of choosing motifs that do not belong to the locality. These attempts of mixed imitation copy-paste of other unbelonging motifs may create an identity crisis. This can a be threat and jeopardize the authenticity of the original local heritage. (Hanita, 2008). If these copy-paste habits are endured and

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the real identity of the local heritage is not well identified, recognized, and documented, the identity of the local designs left behind by the ancestors will eventually be corrupted and gone. Identifying the Malaysian architectural identity including on ornaments have been difficult and may be misinterpreted due to the lack of dissertations, research studies, and documentation relating to the topic. (Nor Hayati, 2015). The threat of not having an authentic identity needs to be taken seriously to avoid identity crisis with others. Due to that, the objective of this paper is to identify the woodcarvings motifs found in Johor traditional Malay houses, reveal the typology, and analyze the mostly used to be named as the identity of Johor woodcarving motifs.

1.1 Issues and Problem Statement

One of the major sustainable issues that produce a challenge in sustaining the Johor traditional Malay heritage is the abandonment of traditional houses, especially those that contain woodcarving as their ornaments. Houses and woodcarvings that are being destroyed unappreciated and undocumented, are considered a terrible waste. Sadly, a huge amount of traditional Malay houses are being demolished at an alarming rate, resulting from the vast urbanization where old houses were being refurbished with new elements for a more contemporary approach. These are in line with the rapid development of architectural style and recent technology that has been conquered for some time (Mohamad Tajuddin, 2006). Many cultures and heritages are endangered, vulnerable to destruction, lost and forgotten, including the memories of family members who shifted to follow the recent trend, newness, and modernism (Yilmaz & Maz, 2006; Hanita Yusof, 2020). It is a huge waste that those woodcarving typologies that haven't yet been discovered and recorded will be abandoned and disregarded. It shall be a total loss to the local cultural heritage sustainable efforts that also affect tourism where it should be enhancing the local identity. The Kongres Budaya which was held years ago in 2017 has upraised the issue of the destruction of cultural heritage in traditional buildings that lead to the loss of identity. Kamarul Afizi Kosman (2012) and Mastor Surat (2012) both have highlighted that it is critical for all states in Malaysia to involve in the efforts on preserving their own architectural heritage in line with the government's goals including Johor.

Apart from unsustainable heritage, another issue aroused is concerning the crisis of identity. This issue occurs due to no documentation on the existing typologies found in Johor. The motifs carved in the future will be solely based on a replicative clone of foreign motifs. This is intolerable and offensive due to the fact that it is not genuinely complimenting the antiquity, not representing the design values of the locals, and is unrelated to Johor. Sad but true, according to Gurupiah & Syed Iskandar (2016), Johor's cultural heritage is define as the responsibility of the highest leader in the state, which is not always looking directly at the place, locality or even its genius loci. Conflicts of identity correspondingly occur when modern generations of Johor local carvers adopted woodcarving motifs' typologies from other states such as Kelantan and Terengganu, as well as from foreign countries such as India, Myanmar and even Bali. Norhaiza Noordin (2017) feared that compelling ideas and influences of non-local features shall eventually dominate and overshadow our own heritage. This fear is not impossible to happen, knowing the facts that most carvers in Malaysia including Johor local carvers learned carving from the East Coasts, Indonesia, and Bali too. Abu Bakar Yatim (2015) mentioned that some local carvers are captivated to use Bali motifs in their carvings which, unfortunately, do not reflect the local identity. This issue of identity crisis needs to be taken seriously where existing local woodcarving motifs should be studied, while the typologies must be revealed and documented because the woodcarvings did belong to traditional Malay houses in Johor and have existed for more than a century.

1.2 Methodology

The methodology of this research comprised a set of case study and data collection methods which involved field study and interviews. The research commenced with learning about traditional Malay Johor houses which is mainly the Limas Johor. Site visits and inventory were conducted to more than 100 traditional Malay houses found throughout Johor and from there, 60 decent houses were chosen as the case study in which the houses along with their woodcarvings were explored, examined, photographed, and recorded. All 60 houses were selected based on their age where some were built as early as 1800, came with distinctive woodcarvings in various parts of the house, and by having interesting motifs in significant vast placements. The house residents were interviewed to acquire info and data interrelated to the year when the house and the woodcarvings were built, the influences and functions apart from the particulars of the house owner and house address. Photographs of each house, facades, architectural elements, and also woodcarvings were taken. Interviews with professionals comprising of four Johor woodcarvers and woodcarving experts were done to acquire their analytical reviews. Data gathered from the site visits were then analyzed with narration and interpretation from prominent Johor woodcarvers. The data collected and woodcarving samples were analyzed and discussed with experts for verification. Apart from the Johor local woodcarvers, a series of interviews were also done with Norhaiza Noordin, Malaysia's prominent woodcarver, who is also the Yang Dipertua Persatuan Penggiat Seni Ukir Kayu Malaysia (Pengukir). The analysis and findings were discussed to get more satisfactory results and later verified.

2. Analysis and Discussion

All 60 Johor traditional Malay houses possessed interesting motifs on their woodcarvings. The findings from the analysis and discussion are as follows:

2.1 Woodcarving Motifs

Based on the investigation, 12 significant and noticeable motifs were discovered and decided to be identified and coded as the typology of woodcarving motifs of Johor. Those motifs were mostly found on window railings or *jerejak tingkap* in which the placement was identified as the highest percentage of placements. The findings from the analysis on all 60 houses uncovered that approximately all houses have woodcarvings on their *jerejak tingkap* and their motifs carved are remarkable. The priority of placement was apparently given to *jerejak tingkap* to be decorated with woodcarving simply because it will beautify the facade and heighten the attraction to the house from the front façade because of the position at the *anjung* is so noticeable and dominant since the *anjung* is protruded from the frontage.

The highest percentage of motifs chosen is in the category of floral motifs. This is because Johor traditional Malay houses were built after the arrival of Islam which forbade the use of animals and mythical creatures as motifs. Based on the investigation, the five categories of motifs found are flora, fauna, cosmos, geometry and calligraphy while floral motifs preceded the percentage of the analysis statistics where all houses were found to have it.

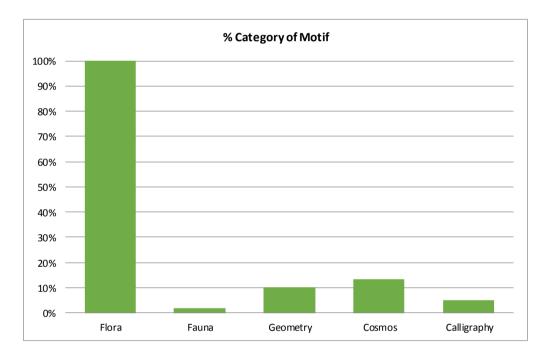


Fig. 1 - Bar chart showing percentage of motifs under the category of flora, fauna, cosmos, geometry and calligraphy

2.2 Findings on Pumpkin and Other Floral Motifs

The finding revealed that pumpkin (*labu*) motifs have the highest percentage of its occurrence in case study compared to other motifs which formulate it as a typical woodcarving motif for Johor. The detection and recognition of all motifs were agreed upon a series of interviews and discussions with wood carving experts.

The pumpkin motif preceded the percentage of the analysis statistics at 42%. Besides pumpkin (*labu*) motif, painted nettle (*ati-ati*) motif as much as 22%, beans chickpea (*kacang buncis*) motif at 8%, jasmine (*melur*) motif at 6%. Other floral motifs such as star anise + bamboo shoot (*bunga lawang* + *rebung buluh*), king's salad (*ulam raja*), white clover (*semanggi putih*), spanish cherry (*bunga tanjung*), pineapple (*nenas*) are at 3% while scarlet jungle flame (*siantan*), turmeric (*kunyit*) and also spider lily (*bakung*) at 2%. Pie chart showing percentage of floral motifs consisting of 12 different motifs are shown in Fig. 2.

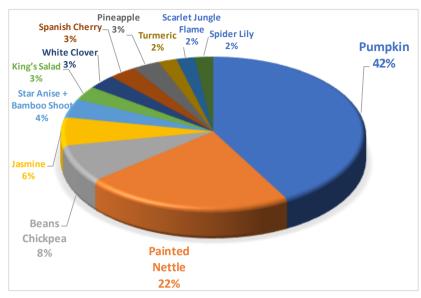


Fig. 2 - Pie chart showing percentage of floral motifs

2.3 Analysis on Pumpkin and Other Floral Motifs

After all findings revealed and percentage statistics have been unveiled and shown in the pie chart in Fig. 2, an analysis template was made to analyze all 12 motifs that have been discovered. Among the variables listed in the analysis apart from category of the motif were placement, technique, design composition, design approach, source, 'S' code, component, name of plant, botanical name, characteristic, function, benefit, availability, and plant nature and status.

Below is the analysis template for implementing motif recognition methods discussed with woodcarving experts for the verification processes.

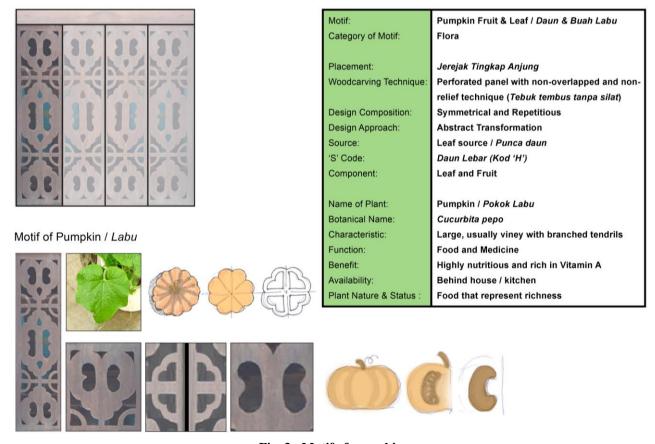


Fig. 3 - Motif of pumpkin



Motif of Painted Nettle / Ati-Ati



Motif: Painted Nettle Leaf / Daun Ati-Ati Category of Motif: Flora Placement: Jerejak Tingkap Anjung Woodcarving Technique Perforated panel with non-overlapped and nonrelief technique (Tebuk tembus tanpa silat) Design Composition: Symmetrical and Repetitious Design Approach: **Abstract Transformation** Source: Leaf source / Punca daun 'S' Code: Daun Berbentuk Hati Component: Leaves Name of Plant: Painted Nettle / Pokok Ati-Ati **Botanical Name:** Plectranthus scutellarioides / Coleus blumei Characteristic: Bushy, woody-based evergreen perennial Function: Decorative and Medicine Benefit: Treat diarrhoea, urinary problem and colic Availability: Infront of house Plant Nature & Status Leaves of various colours in attractive patterns

Fig. 4 - Motif of painted nettle



Motif of Beans Chickpea / Kacang Buncis



Motif: Beans Chickpea Leaf, Tendril, Stem and Fruit / Daun, Sulur, Batang dan Buah Kacang Buncis Category of Motif: Placement: Jerejak Tingkap Anjung Woodcarving Technique Perforated panel with non-overlapped and nonrelief technique (Tebuk tembus tanpa silat) Design Composition: Symmetrical and Repetitious Design Approach: **Abstract Transformation** Source: Secret source / Punca rahsia 'S' Code: Daun Bergerigi Lembut Component: Leaf, Tendril, Stem and Fruit Name of Plant: Beans Chickpea / Pokok Kacang Buncis **Botanical Name:** Phaseolus vulgaris Characteristic: Rhizomatous herbaceous perennial Function: Cooking and Medicine Benefit: Rich in protein, vitamin, fibre and mineral Availability: Behind house / kitchen Plant Nature & Satus Vegetable in cooking

Fig. 5 - Motif of beans chickpea



Motif of Jasmine / Melur



Motif: Jasmine Flower / Bunga Melur Category of Motif: Flora Placement: Jerejak Tingkap Anjung Woodcarving Technique Perforated panel with non-overlapped and nonrelief technique (Tebuk tembus tanpa silat) Design Composition: Symmetrical and Repetitious Design Approach: Abstract Transformation Source: Flower source / Punca bunga 'S' Code B8kpa / Bunga Kelopak 8 Pandangan Atas Component: Flower Name of Plant: Jasmine / Pokok Melur **Botanical Name:** Jasminum sambac Characteristic: Evergreen vine or shrub Function: Decorative, Medicine and Beauty Benefit: Relieves stress, neutralizes and purifies air Availability: Infront of house Plant Nature & Status Nice and strong fragrant

Fig. 6 - Motif of jasmine



Motif of Bamboo Shoot / Rebung Buluh



Motif: Bamboo Shoot / Rebung Buluh / Tunas Buluh Category of Motif: Flora Placement: Jerejak Tingkap Anjung Woodcarving Technique Perforated panel with non-overlapped and nonrelief technique (Tebuk tembus tanpa silat) Design Composition: Symmetrical and Repetitious Design Approach: **Abstract Transformation** Source Seed source / Punca benih 'S' Code: Pucuk Tajam (Kod 'H') Component: Shoot and Stem Name of Plant: Bamboo / Pokok Buluh **Botanical Name:** Bambusa vulgaris Characteristic: Grow wild Function: Cooking and Medicine Rich with fibre Benefit: Availability: Nearby trench and forest Plant Nature & Status Consist of several fibrous layers tightly bound

Fig. 7 - Motif of bamboo shoot



Motif of Star Anise / Bunga Lawang



Motif: Star Anise / Bunga Lawang Category of Motif: Flora Placement: Jerejak Tingkap Anjung Perforated panel with non-overlapped and non-Woodcarving Technique relief technique (Tebuk tembus tanpa silat) Design Composition: Symmetrical and Repetitious Design Approach: **Abstract Transformation** Seed source / Punca benih Source: 'S' Code: B8kpa / Bunga Kelopak 8 Pandangan Atas Component: Flower Star Anise / Bunga Lawang Name of Plant: **Botanical Name:** Illicium verum Characteristic: Having 8 petals with strong fragrant Function: Cooking and Medicine Benefit: Rich in flavour and diuratics function Availability: Behind house / kitchen Plant Nature & Status Very popular spice

Fig. 8 - Motif of star anise



Motif of King's Salad / Ulam Raja



Motif: King's Salad / Wild Cosmos / Daun Ulam Raja Category of Motif: Flora Jerejak Tingkap Anjung Placement: Woodcarving Technique Perforated panel with non-overlapped and nonrelief technique (Tebuk tembus tanpa silat) Design Composition: Symmetrical and Repetitious Design Approach: **Abstract Transformation** Source: Seed source / Punca benih 'S' Code: Daun Bergigi Tajam Component: Leaf, Stem and Seed Name of Plant: King's Salad / Pokok Ulam Raja **Botanical Name:** Cosmos caudatus Soft and pungent leaves with succulent stem Characteristic: Function: Food, Medicine and Beauty Benefit: Rich source of bioactive with anti-inflammatory Availability: Behind house / kitchen Plant Nature & Status Famous as traditional salad

Fig. 9 - Motif of king's salad

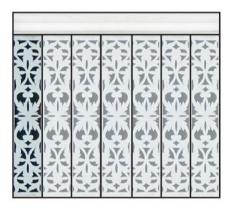


Motif of Pineapple / Nenas



Motif: Pineapple Fruit & Crest / Buah & Jambul Nenas Category of Motif: Flora Placement: Jerejak Tingkap Anjung Woodcarving Technique Perforated panel with non-overlapped and nonrelief technique (Tebuk tembus tanpa silat) Design Composition: Symmetrical and Repetitious Design Approach: **Abstract Transformation** Source: Fruit source / Punca buah 'S' Code: Daun Jambul (Kod 'H') Component: **Fruit and Crest** Name of Plant: Pineapple / Pokok Nenas **Botanical Name:** Ananas comosus Characteristic: Herbaceous perennial Function: Food and Medicine Highly nutritious and rich in Vitamin A Benefit: Availability: Behind house / kitchen Plant Nature & Status Food that represent richness

Fig. 10 - Motif of pineapple



Motif of Spanish Cherry / Tanjung



Motif: Spanish Cherry Flower / Bunga Tanjung Category of Motif: Jerejak Tingkap Anjung Woodcarving Technique Perforated panel with non-overlapped and nonrelief technique (Tebuk tembus tanpa silat) Design Composition: Symmetrical and Repetitious Design Approach: Abstract Transformation Source Flower source / Punca bunga 'S' Code B8kpa / Bunga Kelopak 8 Pandangan Atas Component: Flower Name of Plant: Spanish Cherry / Pokok Tanjung **Botanical Name:** Mimusops elengi Characteristic: Medium-sized, evergreen, tropical tree Function: Medicine and Beauty Treat heart disease and antitoxins Benefit: Availability: Infront & behind house Plant Nature & Status Nice and strong fragrant

Fig. 11 - Motif of spanish cherry



Motif of Turmeric / Kunyit



Motif: Turmeric Flower / Bunga Kunyit Category of Motif: Flora Placement: Jerejak Tingkap Anjung Woodcarving Technique Perforated panel with non-overlapped and nonrelief technique (Tebuk tembus tanpa silat) Design Composition: Symmetrical and Repetitious Design Approach: **Abstract Transformation** Source: Flower source / Punca bunga 'S' Code: Bunga Kelopak Bertingkat-tingkat Component: Flower Name of Plant: Turmeric / Pokok Kunyit **Botanical Name:** Curcuma longa Characteristic: Rhizomatous herbaceous perennial Function: Cooking, Medicine and Beauty Benefit: Anti-inflammatory and antioxidant Availability: Behind house / kitchen Plant Nature & Status Coloring and flavouring in cooking

Fig. 12 - Motif of turmeric

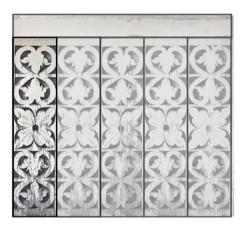


Motif of White Clover / Semanggi Putih



Motif: White Clover Leaf / Daun Semanggi Putih Category of Motif: Flora Placement: Jerejak Tingkap Anjung Woodcarving Technique: Perforated panel with non-overlapped and nonrelief technique (Tebuk tembus tanpa silat) Design Composition: Symmetrical and Repetitious Design Approach: Abstract Transformation Source Leaf source / Punca daun 'S' Code: Daun Tiga Component: Leaves Name of Plant: White Clover / Pokok Semanggi Putih Trifolium repens Characteristic: Short-lived herbs and with 3 toothed leaflets Function: Food and Medicine Benefit: Leaf tea used for colds, coughs, and fevers Availability: Behind house / kitchen Plant Nature & Status Broad and unique leaf

Fig. 13 - Motif of white clover

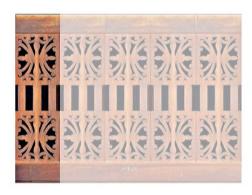


Motif of Scarlet Jungle Flame / Siantan



Motif: Scarlet Jungle Flame flower / Bunga Siantan Category of Motif: Flora Placement: Jerejak Tingkap Anjung Woodcarving Technique Perforated panel with non-overlapped and nonrelief technique (Tebuk tembus tanpa silat) Design Composition: Symmetrical and Repetitious Design Approach: Abstract Transformation Source: Flower source / Punca bunga 'S' Code: B4kpa / Bunga Kelopak 4 Pandangan Atas Component: Flower Name of Plant: Scarlet Jungle Flame / Pokok Siantan **Botanical Name:** Ixora coccinea Characteristic: A dense multi-branching evergreen shrub Function: Decorative, Landscape Uses and Medicine Treatment of hiccups, fever and gonorrhoea Benefit: Availability: Infront and behind house Plant Nature & Status Popular ornamental shrub with various colors

Fig. 14 - Motif of scarlet jungle flame



Motif of Spider Lily / Bakung



Motif: Spider Lily flower / Bunga Bakung Category of Motif: Flora Placement: Jerejak Tingkap Anjung Woodcarving Technique Perforated panel with non-overlapped and nonrelief technique (Tebuk tembus tanpa silat) Design Composition: Symmetrical and Repetitious Design Approach: Abstract Transformation Source: Flower source / Punca bunga 'S' Code: B6kpa / Bunga Kelopak 6 Pandangan Atas Component: Flower Name of Plant: Spider Lily / Pokok Bakung **Botanical Name:** Hymenocallis littoralis / Lycoris radiata Characteristic: A vigorous, evergreen, bulbous perennial Decorative, Landscape Uses and Medicine Function: Benefit: Effective in cleaning indoor air Availability: Infront and behind house Plant Nature & Status Exotic, faintly fragrant, extremely long petals

Fig. 15 - Motif of spider lily

3. Results on Typology of Johor Woodcarving Motifs

From the analysis and discussion made, 12 typologies on Johor woodcarving motifs were revealed, coded and documented. This research has shown the local authenticity, beautiful heritage that should be enhanced through managing the typology and sustaining the local identity as part of sustainable management. All these typologies are important for Johor architectural heritage, body of knowledge and also for tourism purposes. Figures 16 till 21 below are the images of 12 typologies derived from 13 motifs found in window railings or *jerejak tingkap* in Johor traditional Malay houses.

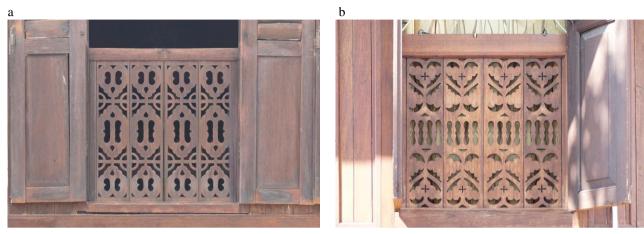


Fig. 16 - (a) Typology 1 pumpkin; (b) typology 2 painted nettle

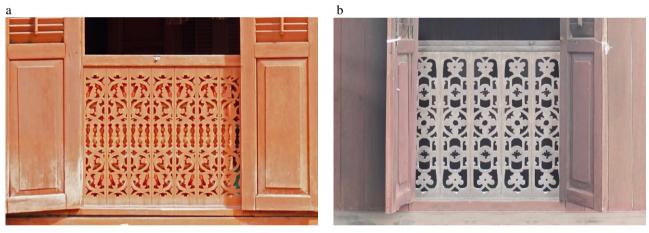


Fig. 17 - (a) Typology 3 beans chickpea; (b) typology 4 jasmine



Fig. 18 - (a) Typology 5 bamboo shoot + star anise; (b) typology 6 king's salad



Fig. 19 - (a) Typology 7 pineapple; (b) typology 8 spanish cherry



Fig. 20 - (a) Typology turmeric; (b) typology 10 white clover



Fig. 21 - (a) Typology 11 scarlet jungle flame; (b) typology 12 spider lily

All 12 typologies revealed above will be acknowledged as the Johor woodcarving typologies that can be used for future woodcarvings in any building in Johor to sustain the motifs and design so that the identity would not be gone. Hopefully, these findings enable to convey the awareness and gain recognition of Johor woodcarvings including its motifs. It is hoped that these typologies may provide valuable guides to the current Johor woodcarvers or even future woodcarvers to use these typologies into upcoming woodcarvings to cherish, protect and sustain the local identity of Johor.

4. Identity

The identity of Johor traditional Malay houses is Rumah Limas Johor and it is because of the limas roof. Besides the limas roof, the *anjung* also recognized to be the identity of Limas house because the anjung forms the limas roof. These ar due to the *anjung* layout which is protruded from the frontage and is elevated above the ground, the presence of woodcarving on the windows in the *anjung* becomes extremely dominant and noticeable from the front and side view. The woodcarving placements particularly on the *jerejak tingkap* and *kepala tingkap* in the *anjung* are incredibly prominent and dominant for the Limas Johor houses. As for that fact, the motifs used for the woodcarvings can be recognized as the identity for Johor motifs based on the highest percentage of usage in houses.

Hence, the findings revealed from this research imply that the pumpkin motif which is named as motif Labu Maya is acknowledged as the identity of the Johor woodcarving motif. From the inventory and analysis done, Labu Maya was found to be in 42% of the houses, and can be said that its popularity is widespread.

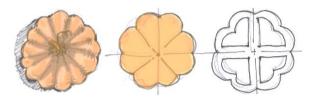


Fig. 22 - The transformation from the actual look of realism image towards the abstract image of the pumpkin from the top view



Fig. 23 - The exterior, cross-section, and interior images of the pumpkin are sketched toward abstract transformations from the side view

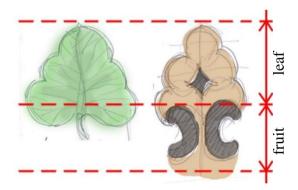


Fig. 24 - The pumpkin leaf and carve sketch of a combination of pumpkin motif through the leaf surface and cross-section of fruit being carved in an abstract transformation approach

From the three figures above of Fig. 22-24, sketches showing the transition from real image towards the end product of woodcarving motifs are not exactly the same as they are portrayed using the transformation approach. The fact that pumpkin carving is portrayed in an abstract image using transformation approach instead of a realism image approach, so it has to be distinguished by a unique namen different from the pumpkin motif that is in realism image approach that may be carved and found elsewhere. Therefore, this study contributed to the discovery and finding of the pumpkin motif as 'Labu Maya', a specially carved pumpkin motif in transformation approach of an abstract image extracted from the top view of fruit's exterior, inside cuttings, and leaves to make it a distinct motif in Johor. This motif is suggested to be acknowledged as the identity of Johor woodcarving motif.



Fig. 25 - Typology 1 of the pumpkin fruit and leaf in abstract transformation named 'Labu Maya'

5. Conclusion

The findings revealed 12 woodcarving typologies derived from 13 motifs with the highest percentage of motifs found is the pumpkin motif that is being named 'Labu Maya'. This identification and name given are indeed significant and substantial to the local architectural heritage of Johor traditional Malay houses as it depicts the unity and legacy of the local folks since 1800.

The pumpkin motif preceded the percentage of the analysis statistics at 42%. Apart from pumpkin (*labu*) motif, there were also painted nettle (*ati-ati*) motif as much as 22%, beans chickpea (*kacang buncis*) motif at 8%, jasmine (*melur*) motif at 6%, while other floral motifs of star anise + bamboo shoot (*bunga lawang* + *rebung buluh*), king's salad (*ulam raja*), white clover (*semanggi putih*), spanish cherry (*bunga tanjung*), pineapple (*nenas*) at 3% and scarlet jungle flame (*siantan*), turmeric (*kunyit*) and also spider lily (*bakung*) at 2%. It is hoped that all 12 woodcarving typologies and 13 motifs identified can sustain as they can be used for future buildings in Johor in order to sustain the heritage by managing the typology and sustaining the local identity as part of sustainable management.

All these typologies are important for Johor architectural heritage, the body of knowledge for students as well as for the young Johor woodcarvers, and not to forget for tourism purposes. It is crucial to support and foster the local identity and sustain the regional possessions without imitating the identities of other countries. Hopefully, the findings will be beneficial to recognize and acknowledging Johor woodcarving's unique identity, to be used for future generations. Additionally, the findings may well also stipulate significant and beneficial guides for woodcarvers to apply these typologies into their future works to sustain and treasure the Johor identity. Protect what is there and reuse the typologies to sustain the existance. Hence, the local identity and the authentic value of the local heritage can be preserved.

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References

Abu Bakar Yatim (2015). Komunikasi Peribadi. Tanjung Gading, Muar, Johor.

Hanita Yusof (2018). Identiti Ukiran Kayu bagi Rumah Limas Johor. PhD Thesis, Universiti Teknologi Malaysia.

Gurupiah Mursib dan Syed Iskandar Syed Ahmad (2016). Significance of Local Involvement in Continuing Local Architectural Identity. MIT-UTM Malaysian Sustainable City Planning Program.

Kamarul Afizi Kosman (2012). Peranan Masyarakat dalam Pembangunan Identiti Seni Bina Kebangsaan. In: Bengkel Garis Panduan Identiti Seni Bina Kebangsaan.

Mastor Surat (2012). Identiti Senibina Kebangsaan Melalui Pendekatan Senibina Warisan Alam Melayu. Dalam: Bengkel Garis Panduan Identiti Seni Bina Kebangsaan, 18-19 Disember 2012, The Royal Bintang Hotel.

Mohamad Tajuddin Mohamad Rasdi (2006). The Discontinued Traditions of Malay Wood Carvings in Modern and Post-Modern Architecture in Malaysia: Jurnal Alam Bina, Jilid 8, No.2, 2006. Universiti Teknologi Malaysia.

Norhaiza Noordin (2017). Komunikasi Peribadi. Seri Menanti Resort, Negeri Sembilan.

Nor Hayati Hussain (2015). Thoughts on Malaysian Architecture Identity and Design Principles of Malayan Architects Co-Partnership: Tesis PhD, UTM.

Silah, Sumardianshah, Basaree, R. O., Isa, B. dan Redzuan, R. S. (2013). Tradition and Transformation: The Structure of Malay Woodcarving Motifs in Craft Education. Procedia - Social and Behavioral Sciences, 90 (InCULT 2012).

Yilmaz, M. & Maz, M. (2006). Architectural Identity and Local Community. Ekistics, 73(436/441), 140-146. Retrieved from http://www.jstor.org/stable/43623731.