Plants, people and narratives in Southeast Asia: reading Kampoon Boontawee's *A Child of the Northeast* as literary ethnobotany

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Abstract. This paper examines Thai author Kampoon Boontawee's novel *A Child of the Northeast*, originally published in Thai as *Luk Isan* (1976) and translated to English by Susan Fulop Kepner in 1988. The semi-autobiographical novel details the uncertainties of village life in the Isan region of north-east Thailand in the 1930s. Boontawee presents the immediacies of drought, food, trade, and intercultural tensions between Chinese, Vietnamese, and Thai villagers from the perspective of an eight-year-old boy, Koon, whose parents remain unnamed throughout the novel. Previous studies of *Luk Isan* have focused on cultural self-sufficiency in relation to the harsh yet seasonally bountiful environment depicted throughout the work. Critics have described the novel as an account of Isan life and ecological practices that have since shifted due to socio-cultural and land use changes in the region. This paper suggests that *A Child of the Northeast* can also be understood as "literary ethnobotany"—a work of literature that documents traditional uses of plants. Through textual analysis of the novel, involving a survey of its ethnobotanical references, a model of literary ethnobotany that traverses literature, social science, and botany is posited, theorized, and applied. In an era of habitat loss and destructive human impacts on environments—in Thailand and around the world—literary ethnobotany contributes to the documentation of vanishing environmental practices, specifically those related to plants as foods, medicines, fibers, and spiritual objects.

Key Words: Thai Literature, Isan, Ethnobotany, Kampoon Boontawee

1. Introduction

According to *The State of the World's Plants Report*, one in five—or approximately twenty-one percent of—plant species on earth are presently regarded by scientists as nearing extinction (RBG Kew 2016, 3). However, only five percent of plants across the globe have been assessed, suggesting a potentially much higher actual percentage of species threatened with extermination. The tragic irony is that, despite increasing threats to botanical taxa and communities the world over, researchers continue to identify previously unclassified plants on an annual basis. For example, in 2015, two-thousand-and-thirty-four new vascular plant species were registered in the International Plant Names Index (RBG Kew 2016, 10), leaving the concerned public to speculate about the species already lost to the scientific and ethnobotanical record, as well as those plants that will be lost. The global diminishment of plant life also extends to Thailand where a range of problems—deforestation, soil erosion, pollution, overfishing, and the biodiversity decline—endanger the country's unique ecological heritage and quality of life (Fahn 2003; Forsyth and Walker 2008).

Since the Seventh Economic and Social Development Plan (1992–1996), environmental protection has become a concern for the Thai government, alongside social and economic growth. One of the

objectives of the plan was stated as the "prevention, control and management of the environment in all aspects" (Government of Thailand 1996, 185). Despite the ecological aims outlined in the plan, the impacts of agricultural intensification, exacerbated by climate change-related weather disturbance, continue to fragment the distribution of botanical species and compromise the viability of non-cultivated plants in Thailand. In particular, the deagrarianization of regional South-east Asian communities has triggered greatly damaging land use practices, such as the intensive application of agrochemicals and rapid depletion of soil fertility (Rigg 2006). Although some scholars argue for the positive consequences of South-east Asian deagrarianization, highlighting the diversification of local economies and the movement away from total reliance on variable agricultural livelihoods (Wilson 2012), other theorists contend that the process has resulted, in many instances, in the dissolution of traditional environmental knowledge and practices (Rigg 1991, 2006).

The alteration of South-east Asian land use patterns, aggravated by climate variability, has led to a contraction of plant distributions linked to a fracturing of ethnobotanical knowledge. The marketization of agriculture—characterized by a focus on the cultivation of a handful of crops rather than a diverse base—has instigated changes in rural livelihoods, especially in relation to plants of medicinal value used in traditional healthcare (Offringa 2014, 13; Tangjitman et al. 2015). In response to this alarming environmental context, a contemporary aim of *ethnobotany*—an interdisciplinary field crossing the biological and social sciences—has become to preserve vital and disappearing knowledge of the uses of flora as food, medicine, fiber, tools, and totems. In 1896, through research into Native American cultures, the botanist J.M. Harshberger first proposed the term, defining it as "the use of plants by aboriginal people" (qtd. in Johns 2000, 143). In *Ethnobotany: The Evolution of a Discipline*, the ethnobotanist Richard Evans Schultes explains that *ethnobotany* denotes an area of academic inquiry as well as "the uses, symbolism, ritualistic, [and] other aspects of the practical, everyday interrelationship between people and plants" (Schultes and Von Reis 2008, 19). Alan Hamilton of the World Wildlife Fund (UK) observes that ethnobotany, since its beginnings, has encompassed the fields of anthropology, botany, ecology, economics, and geography; for Hamilton, *applied ethnobotany* addresses issues of plant conservation, access to resources by community members, and rural development in the world today (2001, xii).

Notwithstanding the interdisciplinarity of the field, an area of knowledge left out of the appraisal of ethnobotany by Hamilton and other scholars and practitioners is literary studies. This omission reflects a long-standing split between empirical ethnobotanical research, on the one hand, and creative texts that the engage with plants, on the other—and more generally between the "objective" sciences and "subjective" humanities and arts. Nevertheless, there is a sizeable body of literary works from around the world that reference botanical subject matter and describe, with varying degrees of precision, everyday human interactions with flora. This largely unexamined corpus of writing—which I will call *literary ethnobotany*—comprises fictional and semi-fictional novels, creative non-fiction, autobiographies, biographies, and poetry blending ethnobotanical observation with the narrative structures and imaginative modes typical of literary works. Although set within a narrative structure, such allusions to—and evocations of—traditional knowledge center on practical applications of plant knowledge and human interactions with species, communities, and ecologies.

This article pursues these claims by proposing the term *literary ethnobotany* as a way to think across the humanities-science gulf through an analysis of Kampoon Boontawee's *A Child of the Northeast*. Literary scholars have previously observed the novel's themes of economic self-sufficiency, regional inhabitation, ecological awareness, and sense of place (Chuenpraphanusorn 2014; Sturlaugsdottir 2010), but not in relation to the practical knowledge of plants exhibited by the young protagonist Koon, his family, and village residents in the Isan region of Thailand during the 1930s. Using *A Child of the Northeast* as a case study, I argue that the theories and methodologies of literary studies can complement the aims of applied ethnobotany. Works of literature have the capacity to serve as narrative repositories of ethnobotanical knowledge. Furthermore, the production of literary works (novels, poetry, performances, plays, etc.) can offer vital means for preserving, disseminating, and re-imagining traditional understandings of plants.

2. Objectives and Scope

2.1 Objectives

The main objectives of the study were as follows:

1) To determine the extent to which literary narratives preserve traditional ethnobotanical knowledge
2) To understand the potential contribution of literary methodologies to the aims of applied ethnobotany
3) To assess the strengths and limitations of hybridizing ethnobotany and literary studies
4) To propose *literary ethnobotany* as an area of inquiry with potential for development by literary scholars and social scientists
5) To undertake a reading of *A Child of the Northeast* as a work indicative of literary ethnobotany and to analyze the botanical references made by the author in the novel
6) To contribute to Thai ecocritical scholarship through the development of literary ethnobotany

2.2 Scope

Although this paper will postulate that works of literary ethnobotany can be found in the literatures of all cultures and traditions, of the past and present, and across genres, only a single work of Thai literature—*A Child of the Northeast*, in translation from Thai to English—will be used as an example for developing and substantiating this contention. Indeed, there is broad scope for the exploration of literary ethnobotany in the canons of diverse cultures globally. Additionally, the analysis of *A Child of the Northeast* will be limited to wild, non-cultivated, non-domesticated plants occurring in or around the village in the story. This paper employs the use of the term *wild* to signify "traditional non-domesticated plant resources" (Cunningham 2001, xvii). Domesticated and semi-domesticated plants, such as coconuts, bananas, bamboo, palms, vegetables, and other food, fiber, and medicine crops, will be mostly left out of the analysis. Furthermore, references to plant species will be verified where possible against documented ethnobotanical sources and published studies. Nevertheless, the approach will be limited by variability between common names. Also of importance are orthographic differences between plant names found in sources, reflecting regional vernacularisms that prevent the identification of some flora to the genus-species level. In the novel, the translator, Susan Fulop Kepner, sometimes preserves the Thai name for a plant but, in other cases, uses an English translation which might or might not be entirely congruent with the plant's scientific (genus-species) nomenclature.

3. Conceptual Framework

The conceptual framework consists of scholarship that critiques the ingrained division between the sciences (including pure and applied fields) and the humanities (comprising the arts and creative disciplines). Many critics have called into question the persistence of disciplinary boundaries, as well as the epistemological and ontological segregation that results. Citing C.P. Snow's notion of "the Two Cultures" (or, science vs. the humanities), Laura Dassow Walls outlines the fragmentation of holistic intellectual pursuits into disciplines and professions that intensified during the nineteenth-century in Europe and North America. For Walls, "science is distilled, abstracted, reduced, in order to be highly mobile" whereas literature is "inseparable from experience, dependent on direct participation" (Walls 2007, 203). Drawing from nineteenth-century American authors R.W. Emerson and H.D. Thoreau, Walls invokes the idea of *consilience* to elaborate on the limits of disciplinarity and to advocate dialogue between the sciences and the humanities. In 1840, Whewell coined the term *consilience* to describe a leap in knowledge that results when "facts are not only brought together, but seen in a new point of view. A new mental element is *superinduced* [resulting in] a new conception, a principle of connexion and unity [italics in original]" (qtd. in Walls 2007, 205).

An important principle for thinking through the "Two Cultures," and for developing literary ethnobotany, is *trandisciplinarity* in which knowledge results from the convergence of disciplinary perspectives and frameworks. In this regard, the biologist E.O. Wilson points to the divergence between the major branches of learning—natural sciences, social sciences, and humanities—beginning in the eighteenth century. A shift toward transdisciplinarity involves integrative methods that are "connected and interconnected by cause-and-effect explanation" (Wilson 2011, vii). Despite its obvious challenges (for example, ethical, linguistic, and methodological differences between disciplines), the expression of the "fundamental unity of knowledge" (Wilson 2011, ix) helps to characterize the interconnections between humanity and nature (people and plants) with greater precision. As a broad, transdisciplinary field, the environmental humanities strongly reflects the ethos of consilience. The objective of the field is to coalesce cultural, literary, social, and ecological approaches to the environment in order to support conservation and well-being for all species. Research within the field recognizes knowledge-production as culturally situated. Ideas of relationality and interconnectedness deconstruct the historical privileging of the sciences over the humanities while fostering approaches that elide disciplinary and cultural boundaries, and species-driven distinctions (DeLoughrey, Didur, and Carrigan 2015).

Another crucial conceptual framework for this study is *ecocriticism*, defined by Glotfelty as "the study of the relationship between literature and the physical environment [which takes] an earth-centered approach to literary studies" (qtd. in Garrard 2004, 3). Despite its historical emphasis on North America, Europe, Australia, and New Zealand, ecocriticism has received recent attention in Asia with the volume *East Asian Ecocriticisms* (Estok and Kim 2013). Ecocritical studies focus on the environmental dimensions of texts, broadly conceptualized and comprising literary works, cinema, performance, digital media, and artifacts of popular culture. Through dialogue between scientific, ecological, and humanistic concepts, ecocriticism gives prominence to nonhuman protagonists. What is more, bioregional ecocritical studies develop in reference to geographically-delineated regions. For instance, in *A Child of the Northeast*, the regional awareness of the Chi River bioregion of Thailand, as exhibited by the traditional knowledge of the characters, shapes the narrative and the ethnobotanical knowledge contained within it.

Another useful theoretical framework is the emerging field within ecocriticism and the environmental humanities known as *critical plant studies*, a transdisciplinary area that "seeks to redress the long-standing biases that have proscribed plants from the spheres of intelligence, agency, and ethics" (Vieira, Gagliano, and Ryan 2015, x). Research in this field aims to highlight the intricate lives of plants, including their abilities to sense, learn, and behave in dynamic relation to their environments. As we know, plants are our foods, medicines, fibers, decorations, and totems. Human beings breathe with plants every moment of our lives through embodied dialogue. Yet, perhaps because of their sessile lifestyles and uncanny abilities to regenerate, we also tend to forget about plants or relegate them to the categories of disposable things, mute materials, or aesthetic objects. The growing body of scholarship in critical plant studies aims to reverse these trends. The field poses a sharp critique of long-standing conceptions of plant life in aesthetics, critical theory, ethics, literary studies, metaphysics, ontology, performance, politics, and other areas of culture and philosophy. Plant studies aims to do for plants what human-animal studies began to do for animal life over twenty years ago. Attributing greater agency and autonomy to the non-human world strengthens the ethical standing of beings historically relegated to the lower rungs of the chain of life.

The transdisciplinary conceptual framework of this paper—synthesizing the existing models of the environmental humanities, ecocriticism, and critical plant studies—makes possible a closer analysis of the intersections between storytelling and the natural world that is a salient feature of *A Child of the Northeast* and other examples of literary ethnobotany. To be sure, the linkages between storytelling (an activity normally associated with the creative arts and humanities) and environmental knowledge (a system of empirical understandings of land and organisms, usually considered the domain of the natural sciences) comprise an essential component of literary ethnobotany. Stories—or narratives—embody a particular structure based on cause-and-effect relationships between events and characters over time and positioned in a setting, location, or place (Dahlstrom 2014, 13614). Often regarded

negatively as anecdotes based on generalizations from a small population or limited set of samples, stories tend to be held in sharp contrast to the logos-driven, objectively-oriented, context-independent style of communication privileged within the sciences. Notwithstanding their empirical limitations, narrative techniques—such as the use of metaphor to foster empathy and stimulate the imagination—hold the potential to impart a much-needed human scale to exceptionally distant and abstract scientific themes (Dahlstrom 2014, 13618), particularly those concerning environmental change. The narratives of Isan ethnobotany communicated by Boontawee in *A Child of the Northeast* help to bring a vital emotive, personal, and family dimension to the knowledge of traditional uses of plants in the region.

4. Abbreviated Literature Review

The ethnobotanical literature is rapidly growing and extensive. As a consequence, this brief review will focus on the specialization known as *applied ethnobotany*. Applied ethnobotany aims to address challenges to the conservation of plants and botanical knowledge (Cunningham 2001; Chamratpan and Homchuen 2005; Tangjitman et al. 2015). The book *Applied Ethnobotany* (2001) by Cunningham describes conservation techniques in relation to issues of commercialization and environmental change. However, the text makes no mention of literary works as sources of knowledge or as repositories that counter the impacts of ecological and cultural disruption by offering narrative repositories or creative means to deal with conservation issues. In relation to applied ethnobotany in South-east Asia, Tangjitman and colleagues (2015) examined the impacts of climate change on medicinal plant diversity in northern Thailand. The study postulates that eight of the nine species surveyed will be significantly reduced in range by 2050. The researchers suggest that climate change effects should be factored into ethnobotanical conservation. Chamratpan and Homchuen (2005) explored the use of medicinal plants by Isan villagers in upper north-eastern Thailand and identified five methods of administering herbs: as poultices, decoctions, alcoholic tinctures, massage ointments, and as fresh vegetables.

The field of ecocriticism is just beginning to gain traction in South-east Asia. With its origins in the late twentieth-century writings of Raymond Williams in England, Lawrence Buell in the United States, and literary scholars in Australia and New Zealand, coupled to recent theoretical developments in other regions of Europe, the scholarly field of ecocriticism has borne, throughout much of its short history, a distinct Anglophone imprint. The edited work *East Asian Ecocriticisms* (2013, eds. Estok and Kim) has begun to shift the historical emphasis by turning an ecocritical eye to Asia and, more specifically, the literary works and writers of Japan, Korea, Taiwan, and China. Additionally, Karen Thornber's *Ecoambiguity* (2012) addresses responses to environmental crises in East Asian literature, but with passing references to South-east Asian works. Most recently, *Ecocriticism of the Global South* (2015, eds. Sarveswaran, Slovic and Rangarajan) includes discussion of ecocriticism in India, Sri Lanka, and Pakistan but lacks critical content on the vast body of South-east Asian texts with ecological themes.

Published studies of Thai ecocriticism in English are considerably fewer than the ethnobotanical research articles previously cited in this review. In his analysis of Khukrit Pramoj's environmental writings, Ryan (2015) characterizes Thai ecocriticism as a relatively unexplored area of scholarship with vast potential for growth. He argues that the scope for ecocritical analysis is broad and could include specific regions (such as Isan or Lanna), species (such as elephants or eels), or rivers (such as the Chao Phraya or Ping) in Thailand. Ryan observes that the relationship between history, religion, environment, and literature offers an particularly salient and productive focus for Thai ecocritical scholars. In reference to Kampoon Boontawee's work, Chuenpraphanusorn (2014) examines the ethics of regionalism and self-sufficiency, as well as notions of ecological awareness, in *A Child of the Northeast*. The study developed a comparison of the novel to Pearl S. Buck's *The Good Earth* (1931). Sturlaugsdottir (2010) focuses on sense of place and "topophilic affection" in Boontawee's novel through an analysis of ethnic relations, religious practices, and food procurement, yet gives only passing attention to the narrative's considerable ethnobotanical dimensions. For Rigg (1991, 40), the novel illustrates the narrow margin between survival and starvation in rural Thailand during the early

twentieth century, as villagers in the narrative negotiate rain, malnutrition, health, education, and reliance on a drought-stricken climate to eke out an agricultural livelihood.

5. Research Methods

The two methods used were (a) textual analysis and (b) case study. The term *text*, for McKee (2003, 10), includes literary works (poetry and prose) as well as "films, television programmes, magazines, advertisements, clothes, graffiti, and so on." Textual analysis makes possible an understanding of *A Child of the Northeast* as literary ethnobotany (a literary work that represents plants or botanical conservation issues within the narrative). The novel was read for its allusions to ethnobotanical understandings. Where possible, references to certain plants mentioned in the novel were checked against published ethnobotanical research from the scientific record. The second method, case study, involves analysis of a subject and its context in order to extrapolate trends and themes (Swanborn 2010). *A Child of the Northeast* offers a case study from which themes and data were extracted.

The author, Kampoon Boontawee (1928–2003), was born in the Yasothon province of northeast Thailand along the Chi River within the Isan region comprising twenty provinces and one of the country's poorest regions. The novel reflects Boontawee's memories of his upbringing during the Great Depression of the 1930s. In 1979, he won the inaugural SEAWrite Award for *A Child of the Northeast* (Thai: ลูกอีสาน or *Luk Isan*), translated to English in 1988 by Susan Fulop Kepner. In 1982, a movie based on the book was released. Although the novel is significant within the history of Thai literature, its ethnobotanical dimensions have not hitherto been researched as crucial aspects of the narrative. Consequently, the methods of textual analysis and case study make possible an initial attempt to understand literary ethnobotany through the example of the novel as a model for subsequent research into other texts, although not necessarily of Thai origin. Indeed, comparable methods, perhaps combined with ethnographic interviewing and other forms of qualitative field research, could be employed in other places in South-east Asia and around the world where traditional knowledge of plants is threatened.

6. Research Results

Table 1 summarizes a cross-section of the ethnobotanical references made in *A Child of the Northeast*. Common names in Thai are referenced in the translation and presented in the table. Scientific names are interpreted from the literature (Austin 2014; Chamratpan and Homchuen 2005; Offringa 2014; Tangjitman et al. 2015). The uses of plants summarized in the table are paraphrased from the novel and verified, where possible, through the scientific literature. In some cases, obvious ethnobotanical information is not provided by Boontawee. Instead, the protagonist reflects on the aesthetic or poetic qualities of a tree or shrub. For instance, young Boon compares the orange glow of the setting sun to a hanging areca fruit or *mahk* (*Areca catechu*) (Boontawee 1988, 318), implying that plant knowledge has a non-utilitarian dimension especially when translated from the field to a literary medium. The areca is sometimes called *betel* because the fruit is often chewed with a betel leaf (*Piper betle*) as a stimulant, intoxicant, and medicine. In fact, numerous references are made in the novel to the betel-stained gums and teeth of elderly villagers as they yawn or speak.

Table 1 Examples of Ethnobotanical References in *A Child of the Northeast*

Thai Name	page #	English name	Latin name	uses or references
cham-cha	144–45	saman; rain tree	*Albizia saman*	apply wax to knife handles
cham-cha	147	saman; rain tree	*Albizia saman*	trade wax
cham-cha	148	saman; rain tree	*Albizia saman*	propagate wax insects
chat	317	annatto	*Bixa orellana*	add to cooking as herb
hya ramie	158–59	ramie grass	*Boehmeria nivea*	weave quail nets
jik	34–5	wild almond	*Barringtonia acutangula*	eat tart leaves with cicadas
jik	63	wild almond	*Barringtonia*	eat tough leaves for blood

			acutangula	
jik	408	wild almond	*Barringtonia acutangula*	make cart axle from wood
ka	48	galangal	*Alpinia officinarum*	add to minced fish for flavor
khoi	38	Siamese rough bush	*Streblus asper*	refer to as landmarks during hunting
khram	328	indigo	*Indigofera* spp.	heal ox wound
mahk	318	areca	*Areca catechu*	chew fruits
makhuea phuang	123	pea eggplant	*Solanum torvum*	stain fingers yellow with fruit
mamwng	116	mango	*Mangifera* spp.	make sandals from wood
maphraw	114–15	coconut	*Cocos nucifera*	make dipper from shell
maphraw	187	coconut	*Cocos nucifera*	make dipper from shell
matoom	64–5	bael	*Aegle marmelos*	eat fruit as a medicine
matoom	116	bael	*Aegle marmelos*	make sandals from wood
pah moh	187	dog fart vine	*Xenostegia tridentata*	ingest leaves for flatulence; make candy from leaves
palm	402	palm	*Arecaceae*	construct kratongs
pradoo	408	padauk	*Pterocarpus macrocarpus*	make cart axle from wood
pradoo	216	padauk	*Pterocarpus macrocarpus*	make knife handle from wood
sabah	103	St. Thomas' bean	*Entada phaseoloides*	use seeds as toys
sado or *nim*	47	neem tree	*Azadirachta indica*	eat fruit and leaves with lop as medicine
sako	116	kadam	*Anthocephalus cadamba*	make sandals from wood
sako	116	kadam	*Anthocephalus cadamba*	feed fruit to oxen
samet	215	cajeput	*Melaleuca* spp.	use bark for soaking nets to strengthen fibers
samet	216	cajeput	*Melaleuca* spp.	consume tender shoots
tamlung	436	ivy gourd	*Coccinia grandis*	eat leaves with boiled eggs or with jaew
tan	347	palmyra palm	*Borassus* spp.	use stems as spits to roast fish
unnamed	83	unnamed	unnamed	apply pulped leaves to chest injury

Boontawee's literary ethnobotany also includes references to ecological understandings of species' relations and the roles that human characters have in ensuring the regeneration of ecosystems. *Cham-cha* (saman or rain tree; *Albizia saman* or *Samanea saman*) is a large, spreading tree with compound leaves known for its resin. Although he had not seen "bug wax" before, Koon comments that he has observed his father apply the gum of *cham-cha* to knife handles. When Koon and his friend Jundi finally spot the gum for the first time, it is unmistakable: "a lump of wax was wrapped around the branch. It was nearly round, and looked a little like a lump of honey. It was half the span of Koon's hand, and dark red" (Boontawee 1988, 145). The *maw ya* (medicine doctor), Uncle Gah, explains other uses of the gum as a seal for letters and a dye for cotton or silk, then elaborates on the ecology of the insects that feed on the tree and facilitate resin production. The impact of this registers through his sense of smell: "Koon raised the lump of wax to his face and sniffed it. It smelt faintly like fresh boiled eggs" (Boontawee 1988, 147). Uncle Gah demonstrates, for Koon and Jundi, a method of harvesting the gum in order to facilitate the gum's seasonal renewal and the boys' knowledge of the process. The instructions he gives to Koon and Jundi constitute an ethics of stewardship and sustainability, as knowledge passes from one generation to the next: "I keep back one nice big lump.

Then I bind it to a fresh tree with straw. The bugs in that lump will climb out and make fresh nests on the other branches" (Boontawee 1988, 148).

Indeed, the categorical distinction between medicinal and edible plants blurs in *A Child of the Northeast*. *Chat* (annatto or arnatto, or *Bixa orellana*) is a fast-growing shrub with cordate leaves. The bark is used as cordage and internally as an astringent and purgative (McFarland 1944, 200). Its bright red seeds are known as a dyeing agent. Koon's mother makes *hawmoke*, a fish custard with pungent herbs, and adds the fragrant leaves of *chat*. Koon's father gathers the tender, tart leaves of *jik* (possibly wild almond, or *Barringtonia acutangula*) for wrapping cicadas. He instructs Koon that the tough leaves of *jik* are a tonic herb that makes "strong blood, so you can stay out in the sun, and in the rain" (Boontawee 1988, 63). *Matoom* (beal, or *Aegle marmelos*) is a food medicine similar in appearance to quince. Koon observes a "ripe yellow matoom fruit as big as a man's fist" (Boontawee 1988, 64). The fruit is a relief from the boredom of eating *lop pla ra* and rice everyday. Koon's father demonstrates his knife skills in cutting up the matoom, leaving no errant marks on the fruit or wasting pieces. *Matoom* is known throughout Asia as a food and medicinal plant, for healing viral diseases (Offringa 2014, 52–8). Moreover, the tender, bitter shoots of *samet* (cajeput, or *Melaleuca* spp.) were consumed as a medicine (Boontawee 1988, 215).

Other plants have more generalized applications as pleasurable, desirable, or beneficial to health. *Pah moh* (dog fart vine, or *Xenostegia tridentata*) is a medicinal creeper widespread in Australasia (Austin 2014). The odoriferous vine is transformed into a pleasant sweet when prepared properly: "Although these leaves smelled terrible, after they had been pounded and their juice squeezed out and mixed with rice flour, and the dough steamed, the confection that resulted was fragrant and delicious" (Boontawee 1988, 187). Moreover, the name *dog fart vine* reflects the importance of naming practices in folkloric systems of plant knowledge (Singnoi 2011). Koon recalls his grandfather chewing the leaves for flatulence—a memory documenting sensorial knowledge of plant life. There are also important semi-cultivated medicinal plants in the story. When Koon scratches his chest climbing a tree, his mother strips leaves from an unnamed plant "she grew for its healing power" (Boontawee 1988, 83), mashing its leaves and applying it as a poultice. That the plant is unnamed in *A Child of the Northeast* suggests that Boontawee might have been reflecting on the experience from his childhood during the writing of the novel but failed to recall the exact name of the species used. This exemplifies some of the potential challenges involved in using literary sources as a precise basis for conserving or invigorating ethnobotanical knowledge.

Further ethnobotanical references relate to the uses of plants as fiber. Every part of *tan* (palmyra palm, or *Borassus* spp.) is used: the fruit is eaten, made into a drink, or processed into sugar. Monks fans, hats, and buckets can be made from the leaves. The leaves of *tan* were once used as writing paper (Boontawee 1988, 347). Koon's mother, aunt, and sister weave the leaves of a palm into cooking containers as their caravan travels to the Chi River in search of fishing grounds and relief from the drought plaguing their village. The caravan members apply plants topically to heal animal wounds. When Uncle Gah's ox Aye-Tak is injured in a fight with a group of oxen belonging to the local villagers, he "spread a thin dark ointment over the gash" (Boontawee 1988, 328) to prevent flies from colonizing the wound. Although Koon's mother considered coal tar more effective for such an injury, she acknowledges the medicinal qualities of indigo beyond its commonly known application as a dye for clothes.

7. Conclusion

The results of this transdisciplinary analysis of *A Child of the Northeast* indicate that literary ethnobotany presents a potentially productive framework complementing the goals of ethnobotany, the environmental humanities, and ecocriticism. As traditional knowledge of plants diminishes or disappears with the passing of human generations and the ecological impacts of globalization—in conjunction with the disruptive effects of climate change, deagrarianization, and other land use changes on plants and people in Thailand and elsewhere—works, such as Boontawee's novel, offer

narrative repositories of endangered ethnobotanical heritages. In the context of literary ethnobotany, the reading of a novel, or other literary work, can thus be understood in active terms as the transmission of plant knowledge from author to readers and communities. The inherent appeal and efficacy of storytelling—for instance, in stimulating imagination, empathy, curiosity, wonder, respect, and other constructive environmental values—support the promotion of positive human regard for plants. The awareness fostered by narratives provides a social foundation for practical conservation aims. Through the personalization facilitated by storytelling, scientific knowledge of plants (botany) and human-plant relationships (ethnobotany) achieves a human scale in the manner in which it is communicated. As a consequence, rather than confined to specialist researchers or local communities only, ethnobotanical knowledge becomes narrativized. Traditional knowledge is thereby rendered more accessible to broader audiences, resulting in enhanced social appreciation of plant taxa that are threatened or endangered.

In its transdisciplinary emphasis, literary ethnobotany reflects the significance of maintaining local ecological knowledge while fostering environmental literacy in support of sustainable health developments for humanity and nature in South-east Asia (Antweiler and Hornidge 2012). In sum, three practical applications of literary ethnobotany, emerging from this paper, that intersect with the conservation aims of applied ethnobotany include: (1) the close textual examination of literary works as a method for contributing to the restoration of threatened or lost knowledge of plants; human communities might then (re)incorporate the reclaimed botanical heritage into their contemporary modes of livelihood and economy; (2) the production of new creative works—novels, poetry, exhibitions, theatrical performances, and cinematic productions—endeavoring to generate narratives in support of the conservation and communication of traditional ethnobotanical knowledge to diverse audiences; and (3) the modification of local and national educational standards to embrace substantive eco-literacy components at different phases of schooling and across all student age groups. For instance, a "greening of the university curriculum" (Haigh 2007) in South-east Asia and elsewhere would equip higher education students with greater levels of ethnobotanical understanding and aptitude as part of a more generalized fostering of environmental literacy and sustainability by educators. A botanical focus within environmental education curricula would counterbalance the prevalent human tendency to dismiss plants as mere aesthetic objects or dispensable constituents of the landscape (Wandersee, and Schussler 1999). In support of botanical literacy, I recommend that subsequent studies of literary ethnobotany examine works from other regions of Thailand, South-east Asia, and the world, as well as other genres, including creative non-fiction, poetry, and performance. Through transdisciplinary dialogue between literary scholars, ethnobotanists, conservationists, and educators, the future of the world's botanical diversity will be better ensured.

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