

呼唤野性

Invoking the Wild

南希·西顿
未来绿色工作室高级助理设计师

Nancy SEATON*
Senior Associate Designer, Future Green Studio

*Corresponding Author
Address: 18 Bay Street, Brooklyn, NY 11231, USA
Email: info@futuregreenstudio.com

摘要

在人类的印象中，荒野植物是随遇而安、坚韧又脆弱的——人类亦如是。城市环境中充斥着的植物，诗意地扎根于工业基础设施遗迹之上——无论是顺着路沿和铁丝网、于路面裂缝之间，还是在空地、碎石堆和公路分隔带中。

未来绿色工作室通过一系列城市漫走、演讲、公民科学的活动对城市自生植物进行调查，并将成果集结为《城市自生植物：纽约城野草》一书，希望借此促使人们与周边的街道、墙壁、土地和树池等环境互动。这项工作也不断为工作室的众多景观设计项目提供种植理念支撑，力图展现出城市荒野强健且富有魅力的一面。在进行种植设计时，工作室会从项目所在地的植物群落（如橡树林和灌木丛）中选择能够耐受目标生境环境的物种；项目地的植物和生态总能为设计师提供源源不断的灵感。野生植物不再被视为破坏城市环境的幽灵；反之，它们是保证人类与其他地球居民健康和福祉的无形资产，展现了城市促进未来生态演进发展的能力。

关键词

城市自生植物；野性；野生植物；可持续性；景观设计；生态学

ABSTRACT

Wild places remind us of the adaptability, resilience, and fragility of plants and humans alike. The urban environment is awash in plant life, often taking root in remnants of industrial infrastructure in poetic ways—along roadsides and chain-link fences, between cracks of pavement, and within vacant lots, rubble dumps, and highway medians.

Future Green Studio’s investigations into spontaneous urban plants have aspired to engage people with their neighborhood environments—streets, walls, lots, and tree pits—through a series of walks, talks, citizen science participation, and the publication of a book, *SUP: Weeds in NYC*. This work continues to feed planting concepts behind many of the studio’s designed landscapes, which seek to capture the rugged vision of urban wilderness. Species for the studio’s projects are selected for their ability to tolerate the proposed habitats created on sites and are often drawn from local plant communities, such as oak barrens and shrublands; the plants and ecologies of project sites are a frequent source of inspiration. The studio does not see uncultivated plant growth as the specter of disinvestment, but as an asset to the performance, health, and well-being of its inhabitants, human or otherwise, which demonstrates the ability of the city to support the evolving ecologies of the future.

KEYWORDS

Spontaneous Urban Plants; Wildness; Wild Plants; Sustainability; Landscape Design; Ecology

1 引言

或许，在人工设计的城市的衬托下，人们才能更好地欣赏自然的野性之美——它与包裹着城市的光滑如镜的、没有任何感情色彩的混凝土和玻璃截然相反。城市环境充满了这种野性，野生的植物扎根于城市的各种缝隙中——顺着路沿和铁丝网，于路面裂缝之间，以及空地、碎石堆和公路分隔带内。尽管许多人将这些城市自生植物等同于荒废或无序，但另一部分人却惊叹于这些无畏的物种能在糟糕的立地条件下繁衍生息，哪怕再微弱、再渺小（图1）。

人们对于野生植被盘踞于建筑遗迹之上的迷恋并非始于后工业时代^[1]，早在18世纪，乔凡尼·巴蒂斯塔·皮拉内西关于罗马古迹的风景画中就有所体现（图2）：这些版画展现了遗迹的诗意本质，是对稍纵即逝的人类生活和文明的注释——“毋忘你终有一死”（Memento mori）^①。尽管这些作品的核心是体现崇高的（常常是幻想的）建筑和工程技艺，但它们也体现了博物学家在记录欧洲和北美城市中的植物生命方面的共同兴趣^②。这种“探索”罗马遗迹的热潮在皮拉内西完成研究一个世纪之后依然强劲：1855年，一本介绍罗马斗兽场中生长的420种野生植物的旅游指南得以出版，其中包括每种植物的特性、实际用途，以及相关的文学作品和神话。^[2]

自19世纪初到20世纪末，植物学家不断划分和细化植物区系，并将重点放在缺少文献记载或“未开发”的地区。但直到20世纪70年代，当科学家发现全球各地城市中均存在广布植物区系，城市生态学才被视为一个独立的研究领域^[3]。在美国，研究机构

翻译 | 崔婧云、王颖、王琰
TRANSLATED BY | CUI Jingyun, WANG Ying, WANG Yan

https://doi.org/10.15302/J-LAF-1-050028
收稿时间 RECEIVED DATE | 2021-01-29

中图分类号 | TU984
文献标识码 | B



© Nancy Seaton
1



2

对记录这一植物区系中物种的兴趣日益浓厚。早在1974年，哈佛大学就发行了一期《阿诺德亚》研究报告，专门介绍“城市野生植物”（wild plants in the city）——而非“杂草”（weeds）——的野外识别。^[4]

纽约市的两所植物园为该市植物区系的长期研究项目提供了赞助。1990年，布鲁克林植物园发起了一项对纽约市约80km半径范围内所有植物的研究，即“纽约大都会植物志计划”。这项工作大大丰富了关于该市植物区系的数据资料，并为植物标本库提供了新的标本，记录了乡土物种数量减少及非乡土植物数量增加的迹象^[5]，并以一系列对比图的形式加以呈现。2018年，纽约植物园发起了“纽约市生态植物志计划”，旨在鼓励公民科学家参与保存、保护乡土植物，同时为政策决策补充最新数据资料。2018年出版的《城市植物状况》提出了纽约市植物保护的多元策略，包括吸纳志愿者协助纽约植物园的研究工作。^[6]

长达数十年间，关于入侵植物和非乡土植物负面影响的讨论十分广泛，上述两个项目也都有所涉及。但植物没有主观意愿——这些物种的繁荣或衰退完全取决于人类行为。

除大量非乡土植物外，城市植物群中只有最强健的乡土植物才能存活，因此常被认为毫无价值或纯粹是“有害的”。是否有可能扭转人们的印象，让他们认识到这些无需人类栽培的植物对城市有诸多裨益？

这绝非存心引发争论——世界上超过一半的地区已经历城市化；随着生物和非生物系统的不可逆转的改变，城市逐渐不再适合原有物种生存，转而演化出了新的生态系统。^{[7][8]}彼得·德尔·特雷迪奇在《东北部城市野生植物：野外手册》中强调了城市野生植

物在当代城市生态中的重要作用：并非是要用其取代复杂的乡土植物群落，而是为普罗大众详述当代现实和科学趋势。^[9]

2 城市自生植物探索

在上述话题的持续热议的背景下，未来绿色工作室（Future Green Studio，以下简称FGS工作室）围绕城市环境中的野生植物（或城市自生植物）主题开展了一系列项目。项目的第一阶段始于2011年，主要内容包括在工作室附近的街头漫走、观察记录和常见物种的识别。在这一阶段，工作室标记了自身办公场所附近第三大街人行道中的城市自生植物：用黄色颜料圈画标记自生植物，促使人们关注这些无处不在又常被忽视的植物（图3）。设计这个标记的意图之一是鼓励社区居民更仔细地观察周围环境，关注共同居住于这座城市的植物，并通过细微的环境改变来一改人们对杂草的消极认知。之后，工作室启动了一项艺术研究，并利用社交应用程序“Instagram”（标签为“#spontanenousurbanplants”）来吸引更多市民与当地环境互动。在应用程序的推广下，人们积极参与新一轮的植物探索浪潮，在各个角落寻找典型和不常见的城市物种，并通过一幅幅精美的照片记录下城市中的野草奇观（图4）。

从2013年到2016年，FGS工作室还参与了一系列城市漫走活动：包括全天候探索活动，以及利用午休时间在红钩区（工作室所在地、布鲁克林废弃滨水工业区）开展的漫走活动（图5）。在这期间，FGS工作室开始根据实地观察和文化用途及起源研究，编

绘植物物种档案。任由野生植被在夹缝中生长，对城市来说是一种财富——人行道上和树池中的植被垫层能够缓冲雨水，减弱大型风暴的环境累积效应，进而减少水土流失；非人工栽植的树木可以为高温的铺装地面遮阴，降低城市热岛效应（图6）。工作室创始人大卫·赛特这样描述城市自生植物项目（图7）：“城市自生植物令人惊叹之处在于，它们不需要人工辅助就能在极端的、不稳定的城市环境中生存并自我维护，同时还能提供与传统景观植物和行道树相同的生态效益。我们不应试图除掉它们，而应抓住机会，享受其恩惠，并向更多人介绍它们。”^[10]

- ① “Memento mori”，拉丁语意为“毋忘你终有一死”，引申义为“提醒死亡必然性的事物”。
- ② 欧美早期城市植物志主要包括：《巴黎植物志》（塞巴斯蒂安·瓦扬，1722）；《植物种志》（卡尔·林奈，1753）；《伦敦植物志》（威廉·柯蒂斯，1777）；《费城植物概要》（威廉·巴顿，1818）；《纽约周边植物日志》（约翰·托里，1818–1820）；以及《波士顿植物志》（雅各布·毕格罗，1840）。

1. 纽约市曼哈顿晨边高地地区岩石缝隙中生长出的欧洲千里光（*Senecio vulgaris*）
2. 《蒂沃利哈德良别墅的雕塑展廊废墟》（出自《罗马风景画》，皮拉内西作于1748~1774年）

1. *Senecio vulgaris* emerging from crevice in Morningside Heights, Manhattan, New York City.
2. *Rovine d'una Galleria di Statue nella Villa Adriana a Tivoli*, from *Vedute di Roma*, Piranesi, 1748~1774.

3 野性作品

城市植物具有极强的适应力，能够在各种恶劣环境中生存。受此启发，FGS工作室将在城市景观中遇到的极端环境条件视作机遇，而非限制因素。工作室早期的项目——建成于2013年的纽约市曼哈顿肉库区345号（图8-1）便是一例。该社区历史悠久的负载雨篷及附近的高线公园为建设第十四大街居民楼植物密集的人口雨篷提供了借鉴。建造的景观沿立面自发生长，有着各种城市自生植物生长地的狂野气质和体量。极浅的生长介质（约15~51cm，由工作室铺撒）支撑着火炬树（*Rhus typhina*）、草本植被和沿着混凝土雨篷边缘生长的垂吊植物（图8-2）。该项目在许多方面体现了城市自生植物的精神：飘落的种子偶然“发现”了这里，因而雨篷这种不寻常的地方才会出现悬空的植物景观。肉库区345号的鬼斧神工为工作室的其他项目带来了许多灵感，例如庞德街41号（图9）和22号（图10）的立面种植。

FGS工作室的大部分设计对象为城市构筑物、屋顶和驳岸，常受到荷载和活动类型的限制。鉴于每个场地独特的植被、原生土壤、地形、水文和地质条件，FGS工作室认真研究每块场地的自然史。在生长介质厚度受限的情况下，选取能够产生最大体量感的各类植物，以创造出具有野性之美、质感分明、季相鲜明的景观。于2016年完工的布鲁克林丹波区帝国商店绿植屋顶（面积超4 650m²）即为其中一个案例（图11）。

FGS工作室从项目地的植物和生态中汲取灵感，依据建成环境创造的特定生境来进行物种选择。在观察到野生植物在极端恶劣的条件下都能繁荣生长后，工作室惊叹于自生植物极强的适应力。工作室在城市中观察到的植物并非都是入侵种，其中许多是乡土的滨海植物，能够适应干旱、高温、贫瘠的土壤和盐雾。在进行种植设计时，工作室会从项目所在地的植物群落（如橡树林和灌木丛）中选择能够耐受目标生境环境的物种（图12）。该策略已在近期多个项目中使用，包括2019年设计的位于亚特兰大的乔治亚电力公司项目，该项目选用了皮埃蒙特地区 and 海滨平原的植物。另一个进行中的项目位于曼哈顿，是原圣约翰火车总站所在地。建筑设计团队创建了一处穿过废弃工业铁路的“剖面”，后续这里很快会栽种乡土植物（图13）：这种种植设计看似轻松、自然，充满野性，但却不乏工程巧思。工作室综合考虑了实地观测到的能够适应城市环境的物种、曼哈顿

的历史生态^[11]，以及纽约市公园与娱乐管理局自然资源小组发布的植物列表^[12]，总结出植物清单。工作室的许多设计与新型建筑结构融合，在有限的条件下为原本缺乏活力的空间创造出了未来的生态发展可能。尽管既不致力于、也不可能重现当地现存生态的复杂性，工作室的目的是将场地置于具体环境中，再现本土景观风貌（图14）。

总体而言，FGS工作室未来仍有较多工作要做：量化绿色屋顶和城市绿色空间的优势；了解植物的表现，以及对传粉者、昆虫、鸟类和其他野生动物（工作室一直致力于吸引它们进入场地）的供给能力（图15）；另一个工作重点是与城市生态学家、土壤科学家、学生和热心志愿者合作，对这些场地进行监测。野性意味着未知——它充满活力、与众不同，未囿于整齐划一，能够随时间而发展变化，却又易于掌控。

4 结语

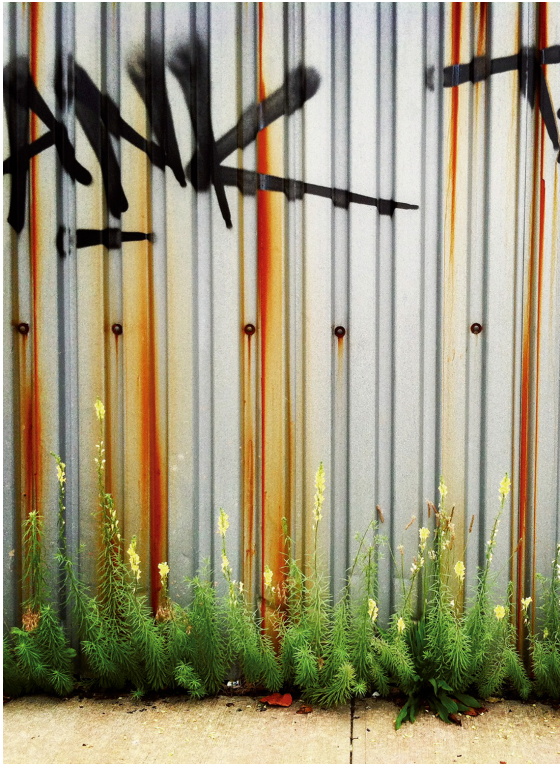
FGS工作室通过一系列城市漫走、演讲、市民科普活动对城市自生植物进行调查，并将成果集结为《城市自生植物：纽约城野草》一书，希望借此促使人们与周边的街道、墙壁、土地和树池等环境互动。这项工作同时为FGS工作室的许多设计贡献了种植理念：探索与沉浸。城市荒野野性、强健且富有魅力的一面激发了工作室创作灵感，野生植物不再被视为破坏城市环境的幽灵；反之，它们是保证人类与其他地球居民健康和福祉的无形资产，展现了城市促进未来生态演进发展的能力。自然过程发生于世界的任何角落，无关政治边界或生物分类。城市各种角落中萌发的栽培或野生植物，时刻提醒着我们——所有生命彼此联系、彼此适应，坚韧而又脆弱。**LAF**

3. 纽约市布鲁克林第三大街上用黄色颜料标记的城市自生植物
4. 布鲁克林红钩区瓦楞板围墙边的城市自生植物
5. 午休漫走和植物识别

3. SUP highlighted on 3rd Street, Brooklyn, New York City
4. SUP along a corrugated fence in Red Hook, Brooklyn
5. Lunchtime stroll and botanical identification



3 © Future Green Studio



4 © Future Green Studio



5 © Nancy Seaton

1 Introduction

Wildness is perhaps best appreciated in contrast to the designed urbanity of cities, a counterpoint to the smooth neutrality of concrete and glass with which they are clad. The urban environment is full of such wildness, as uncultivated plants take root in the interstitial fabric—along roadsides and chain-link fences, between cracks of pavement, and within vacant lots, rubble dumps and highway medians. While many perceive these spontaneous urban plants (SUP) as a sign of dereliction or entropy, others marvel at the intrepid species’ ability to thrive in the unlikely places where they are found, however small the moment of botanical revolt (Fig. 1).

The fascination with wild vegetation taking hold of architectural remnants is hardly a new, post-industrial phenomenon^[1], and can be seen in Piranesi’s 18th-century view of Roman antiquities (Fig. 2). These prints showcased the poetic nature of ruins that served as memento mori^①—a commentary on the transience of human life and civilizations. While the forms

of sublime, often fantastical, architecture and feats of engineering were at the core of these views, they also speak to the parallel interest of documenting plant life encountered by naturalists in European and North American growing within cities^②. The popularity of “discovering” the ruins of Rome was still strong a century after Piranesi produced his studies, and a tourist guide to the 420 wild plants that could be found growing on the Colosseum of Rome was printed in 1855, which included the properties of each species, practical uses, and references in literature and mythology.^[2]

Botanists continued to catalog and refine floras throughout the 19th and 20th centuries, with an emphasis on territories that had not been documented, or that were perceived as pristine. It was not until the 1970s that urban ecology was recognized as its own field of study with scientists identifying a cosmopolitan flora that was common between cities around the globe^[3]. In the United States, institutions became increasingly interested in documenting the species that composed this group of plants. As early as 1974, Harvard University



© Future Green Studio
6



© K. Taro Hashimura for FGS
7

- ① Memento mori, Latin for “remember (that you have) to die,” represents a reminder of mortality.
- ② An incomplete snapshot of early Euro-American urban floras includes *Botanicon Parisiense* (Sébastien Vaillant, 1722); *Species Plantarum* (Carl Linnaeus, 1753); *Flora Londinensis* (William Curtis, 1777); *Compendium Florae Philadelphia* (William Barton, 1818); *Calendarium Florae for the Vicinity of New York* (John Torrey, 1818–1820) ; and *Florula Bostoniensis* (Jacob Bigelow, 1840).
- 6. 自发生长的合欢 (*Albizia julibrissin*) 可为人行道提供遮阴
- 7. 纽约市皇后区如今酒吧外部的荒野，其中无益的城市自生植物已被清除。
- 6. *Albizia julibrissin*, as SUP, providing shade to pavement.
- 7. Managed wilderness (i.e. removing unwanted SUP) at Nowadays, Queens, New York City.

published an issue of *Arnoldia* dedicated to field identification of what they called “wild plants in the city,” significantly not calling them weeds.^[4]

In New York City, two of the botanic gardens have sponsored long-term research projects about the city’s flora. Brooklyn Botanic Garden initiated a study of all plants within a fifty-mile radius of New York City in 1990—New York Metropolitan Flora Project. The work significantly increased data of the city’s flora, filling herbaria with new specimens that documented the shrinking populations of indigenous species and the expansion of non-native plants, represented in a series of comparative maps.^[5] In 2018, The New York Botanical Garden (NYBG) established the New York City EcoFlora Program, which seeks to engage citizen scientists with the preservation and protection of native plants, while also supplementing current data to inform policy decisions. The 2018 publication, “The State of the City’s Plants” projects a multivalent strategy for plant conservation in New York City that includes volunteer participation, alongside the work of NYBG researchers.^[6]

Both projects are embedded in a decades-old, expansive conversation about the detrimental effects of invasive and non-native plants, but plants have no volition—humans have created the conditions in which species thrive or decline and continue to make them.

The urban flora, composed of primarily non-native species and only the most vigorous natives, is commonly dismissed as valueless or simply “bad.” Is it possible to challenge the negative perception of these plants that grow without human cultivation and evaluate positive contributions?

This is not just a provocation—more than half of the world is urbanized; the ability of cities to support historic genera falters as the biotic and abiotic systems are irrevocably altered, becoming novel ecosystems.^{[7][8]} Peter Del Tredici’s *Wild Urban Plants of the Northeast: A Field Guide* emphasizes the significant role this group of plants plays in contemporary urban ecology, not promoting them as a replacement of complex native plant communities, but detailing contemporary realities and scientific trends for a broad public readership.^[9]

2 SUP Explorations

Situated within this continuum of discourse, Future Green Studio (FGS) launched what would become a series of projects around the theme of wild plants found in the urban environment or SUP. Begun in 2011, the first phase of the project included office walks, recorded observations, and identification of the commonly found species. This phase highlighted SUP along a section of the 3rd Street sidewalk near the office. Yellow circles were painted around SUP to draw attention to the ubiquitous, but generally overlooked plants (Fig. 3). One of the intentions of framing these plants was to invite neighborhood residents to look more closely—to start actively noticing the plants that they cohabit in the city with—to upend the perception of weeds as a nuisance by subtly changing the context. In the next steps, the office initiated an art and research project, and engaged a broader audience to interact with their local environments through the application, Instagram #spontaneousurbanplants. The Instagram allowed people to participate in a



new wave of botanical exploration, searching out typical and unusual species in all corners of the city, creating a spectacle of weeds through artful photography (Fig. 4).

The office participated in an additional series of walks (2013 ~ 2016), some full-day explorations, others lunch-time rambles around Red Hook, Brooklyn, a formerly industrial, waterfront neighborhood where the office is situated (Fig. 5). FGS began to compile plant profiles and charts of species grounded in field observations and research into cultural uses and nativity. The appearance of wild vegetation can be an asset, if left to grow in the interstices in between places: mats of vegetation in the sidewalk and tree pits contribute to erosion control—slowing stormwater, reducing the cumulative impact of major storm events; uncultivated trees offer shade to otherwise hot, paved surfaces, lowering the urban heat island effect (Fig. 6). In describing the SUP project, founding principal, David Seiter, states the following (Fig. 7), “[w]hat’s remarkable about all spontaneous urban plants is the fact that they require no human assistance to assert and maintain themselves in extreme, often volatile urban conditions, while providing the same ecologically performative benefits of traditional landscape plants and street trees. Rather than seek to discard and eradicate them, we now have an opportunity to harness their benefits and tell their histories.”^[10]

3 Wild Works

Inspired by the plant adaptations that allow urban flora to survive in a variety of harsh habitats, FGS sees opportunities rather than limitations in the extreme environmental conditions found in urban landscapes. An early project in the office remains a foundational one: 345 Meatpacking, Manhattan, New York City, built in 2013 (Fig. 8-1). The historic loading canopies of the neighborhood along with the

nearby High Line provided precedents for the creation of a dense entrance marquee at the residential building on 14th Street. The constructed landscape has the appearance of one that spontaneously erupted along the facade, bearing the wild demeanor and volume that any number of SUP sites exhibit. The extremely shallow growing media provided, 6 ~ 20 inches, supports clusters of staghorn sumacs (*Rhus typhina*), an herbaceous mix, and cascading plants that spill through the openings and over the edges of the concrete canopy (Fig. 8-2). This project embodies the spirit of SUP in many ways, as the awning is not a site where plants are typically seen, passersby “find” the suspended landscape by accident. Whimsical and idiosyncratic, 345 Meatpacking has introduced many to the office’s work, along with the facade planting at 41 Bond Street (Fig. 9) and 22 Bond Street (Fig. 10).

Most of the studio’s design work has been in cities, on structure, rooftops, and bulkheads, with weight and program restrictions. To bring a sense of identity to sites that have long been stripped of vegetation, native soils, topography, hydrology, and geology—paved over and built upon—FGS looks to the natural history of each site. Plant palettes are assembled to provide maximum volume for the often-limited depth of growing media, to create landscapes that provide a wild beauty, full of contrasting textures and seasonal markers, as in our work at Empire Stores in Dumbo, Brooklyn, with over 4,650 square meters of planted green roof, completed in 2016 (Fig. 11).

FGS embraces the plants and ecologies of project sites for inspiration, using specific habitats created by the built environment to inform species selection. The studio draws on lessons of plant adaptation learned through observing uncultivated plants thriving despite exposed conditions. Not all the SUP encountered by the studio were invasive species; many plants discovered on walks were native, seaside plants



- 8. 曼哈顿肉库区345号及其生长着植物的雨篷
- 9. 2011年竣工的曼哈顿庞德街41号立面种植
- 10. 曼哈顿庞德街22号种植效果图

- 8. 345 Meatpacking, Manhattan and its vegetated marquee.
- 9. Facade planting at 41 Bond Street, Manhattan, completed in 2011.
- 10. Rendering of 22 Bond Street, Manhattan.



© K. Taro Hashimura for FGS 11



© K. Taro Hashimura for FGS 12



© Cook + Fox 13



© Future Green Studio 14

able to withstand drought, heat, lean soils, and salt spray. Species for the studio's projects are selected for their ability to tolerate the proposed habitats created on sites and are often drawn from local plant communities, such as oak barrens and shrublands (Fig. 12). This strategy has been employed on several recent projects, including Georgia Power in Atlanta (designed, 2019), which incorporated plants from the Piedmont and the coastal plain. Another current project is in the site of the former St. John's Terminal in Manhattan. Here, the architectural team has created a sectional cut through the former industrial rail, which will soon support a cultivated ecology of native plants (Fig. 13). The planting is designed to appear effortless, naturalistic, wild—but is a highly engineered

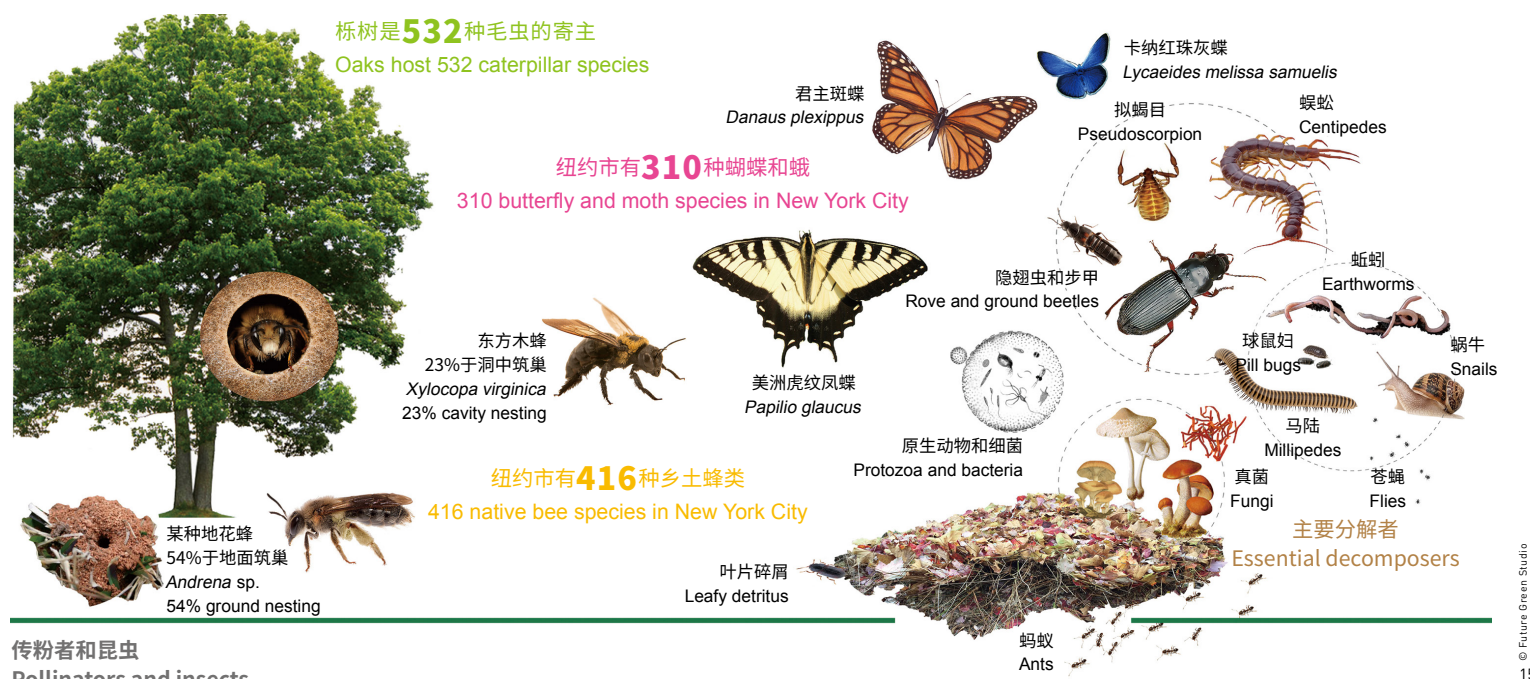
orchestration. The palette was assembled considering field-observations of urban-adapted species, historic ecologies detailed in Manhattan^[11], and plant lists issued by the Natural Resources Group of the New York City Department of Parks and Recreation.^[12] Many of the places FGS designs are incorporated into new construction, composing future ecologies for spaces that would otherwise be inert, for conditions that have never existed. While it is neither possible nor the goal to reproduce the complexity of an extant, native ecology, it is the intention to evoke scenes of local landscapes, to situate places within specific contexts (Fig. 14).

There is much work to be done in quantifying the benefit of green roofs and urban green spaces in general, to understand which

plants are performing well, and are best able to support a rich array of pollinators, insects, birds, and other wildlife—which the studio regularly tries to attract (Fig. 15); monitoring these sites is high on the list of next steps in the studio's practice, in partnership with urban ecologists, soil scientists, students, and

11. 布鲁克林帝国商店的屋顶花园
12. 布鲁克林儿童博物馆的乡土植物花园
13. 工作室设计的曼哈顿圣约翰火车站效果图
14. 布鲁克林海军上将排屋前停车场上的乡土植物混种

11. Greenroof at Empire Stores, Brooklyn
12. Native garden at Brooklyn Children's Museum, Brooklyn
13. Rendering of proposed St. John's Terminal, Lower Manhattan
14. Native mix at Admiral's Row Parking Lot, Brooklyn



enthusiastic volunteers. Wildness is an invitation to the unexpected, which embraces vigor and heterogeneity over manicured monocultures, engagement with time, and often, a light hand in control.

4 Conclusion

FGS's investigations into spontaneous urban plants have aspired to engage people with their neighborhood environments—streets, walls, lots, and tree pits—through a series of walks, talks, citizen science participation, and the publication of a book, *SUP: Weeds in NYC*. This work continues to feed planting concepts behind many of the FGS's designed landscapes, which foster a sense of discovery and immersion. The rugged vision of urban wilderness the studio is inspired by does not see uncultivated plant growth as the specter of disinvestment, but as an asset to the performance, health, and well-being of its inhabitants, human or otherwise, which demonstrates the ability of the city to support the evolving ecologies of the future.

Natural process is not something that happens elsewhere but can be observed in whatever context we may find ourselves; there are no political boundaries or classifications that divide the biotic. Cultivated and uncultivated plants sprouting from all manner of surfaces within cities serve to remind us of the interconnectedness, adaptability, resilience, and fragility of all life. **LAF**

REFERENCES

- [1] Arnold, S. [2015]. Urban Decay Photography and Film: Fetishism and the Apocalyptic Imagination. *Journal of Urban History*, 41(2), 326-339.
- [2] Deakin, R. [1855]. *Flora of the Colosseum of Rome*. London, England: Groombridge and Sons.
- [3] Kowarik, I., & Körner, S. [Eds.]. [2005]. *Wild Urban Woodlands: New Perspectives for Urban Forestry*. Berlin, Germany: Springer-Verlag.
- [4] Page, N. M., & Weaver, R. E., Jr. [1974]. Wild Plants in the City. *Arnoldia*, 32(4). Retrieved from <http://arnoldia.arboretum.harvard.edu/issues/100>
- [5] Moore, G., Steward, A., Clemants, S., Glenn, S., & Ma, J. [2002]. An Overview of the New York Metropolitan Flora Project. *Urban Habitats*. Retrieved from http://www.urbanhabitats.org/v01n01/nymf_full.html
- [6] Atha, D., & Boom, B. [2018]. State of New York City's Plants 2018. Retrieved from https://www.nybg.org/content/uploads/2018/08/SCI_State-of-the-Citys-Plants-2018_Final-8.2_Low.pdf
- [7] Hobbs, R. J., Arico, S., Aronson, J., Baron, J. S., Bridgewater, P., Cramer, V. A., ... Zobel, M. [2006]. Novel Ecosystems: Theoretical and Management Aspects of the New Ecological World Order. *Global Ecology and Biogeography*, 15(1), 1-7. doi:10.1111/j.1466-822X.2006.00212.x
- [8] Morse, N. B., Pellissier, P. A., Cianciola, E. N., Brereton, R. L., Sullivan, M. M., Shonka, N. K., ... McDowell, W. H. [2014]. Novel Ecosystems in the Anthropocene: A Revision of the Novel Ecosystem Concept for Pragmatic Applications. *Ecology and Society*, 19(2), 12. doi:10.5751/ES-06192-190212
- [9] Del Tredici, P. [2010]. *Wild Urban Plants of the Northeast: A Field Guide*. New York, NY: Cornell University Press.
- [10] Seiter, D. [2011]. Profiles of Spontaneous Urban Plants. The Architectural League's Urban Omnibus. Retrieved from <https://urbanomnibus.net/2011/12/profiles-of-spontaneous-urban-plants/>
- [11] Sanderson, E. [2009]. *Manhattan: A Natural History of New York City*. New York, NY: Abrams Books.
- [12] Natural Resources Group, & NYC Department Parks and Recreation. [2019]. *Native Plant Guide* [3rd ed.]. Retrieved from <https://www.nycgovparks.org/greening/natural-resources-group/publication>
15. 《百老汇购物中心协会恢复和维护方案》中计划监测的城市野生动植物
15. Urban wildlife to be monitored in the future, Broadway Mall Association Restoration and Maintenance Plan.